QUEENSLAND COMPETITION AUTHORITY

Draft Report

SEQ Grid Service Charges 2012-13

April 2012

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The Authority wishes to acknowledge the contribution of the following staff to this report

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SUBMISSIONS

Public involvement is an important element of the decision-making processes of the Queensland Competition Authority (the Authority). Therefore submissions are invited from interested parties concerning its assessment of the South East Queensland (SEQ) Bulk Water Grid Service Charges (GSCs). The Authority will take account of all submissions received.

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

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The closing date for submissions is **25 May 2012**.

Confidentiality

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

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

Public access to submissions

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

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

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GLOSSARY

Term	Definition
ADWG	Australian Drinking Water Guidelines
AWTP	Advanced Water Treatment Plant
Capex	Capital Expenditure
CNF	Competitive Neutrality Fee
CSO	Community Service Obligation
DEWS	Department of Energy and Water Supply
DERM	The former Department of Environment and Resource Management
DR	Distributor-Retailer
IT	Information Technology
Investment Guidelines	State Water Authorities Investment Guidelines
kWh	Kilowatt hour
FAMP	Facilities Asset Management Plan
FTE	Full-time Equivalent
GIS	Geographic Information System
GL	Gigalitre (1,000 ML)
GSC	Grid Service Charge
GSP	Grid Service Provider
HR	Human Resources
LinkWater	The Queensland Bulk Water Transport Authority
OH&S	Occupational Health & Safety
O&M	Operations and Maintenance
Opex	Operating Expenditure
Market Rules	The South East Queensland Water Market Rules
ML	Megalitre (one million litres)
MWh	Megawatt hour
NPV	Net Present Value
NRW	(the former Queensland Department of) Natural Resources and Water
PRW	Purified recycled water

RAB	Regulated Asset Base
RBA	Reserve Bank of Australia
R&D	Research and Development
R&M	Repairs and Maintenance
RWSP	Regional Water Security Program
QCA	Queensland Competition Authority
QTC	Queensland Treasury Corporation
QWC	Queensland Water Commission
SCADA	Supervisory Control And Data Acquisition
SEQ	South East Queensland
Seqwater	The Queensland Bulk Water Supply Authority
SEQwater	Trading name of the former South East Queensland Water Corporation Limited
SKM	Sinclair Knight Mertz
SOP	SEQ System Operating Plan
SRWP	Southern Regional Water Pipeline
WACC	Weighted Average Cost of Capital
WAE	Water Access Entitlements
WCRW	Western Corridor Recycled Water
WGM	South East Queensland Water Grid Manager
WTP	Water Treatment Plant
WaterSecure	The former Queensland Manufactured Water Authority, merged with Seqwater as of 1 July 2011.

EXECUTIVE SUMMARY

Direction Notice

Pursuant to a Direction Notice issued by the (then) Minister for Energy and Water Utilities (the Minister) on 20 October 2011, the Authority is required to:

(a) investigate and recommend Grid Service Charges (GSCs) for the Grid Service Providers (GSPs) to apply in 2012-13;

(b) conduct a detailed review of fixed and variable operating costs, including undertaking an appropriate benchmark review; and

(c) develop a process, and appropriate Review Thresholds, for reviewing the 2012-13 Grid Service Charges.

Grid Service Providers (GSPs)

The GSPs are state-owned statutory authorities and comprise:

(a) the Queensland Bulk Water Supply Authority (trading as Seqwater). Seqwater supplies treated water from dams and treatment plants as well as desalinated water from the Gold Coast Desalination Plant and purified recycled water from a network of advanced water treatment plants; and

(b) the Queensland Bulk Water Transport Authority (trading as LinkWater). LinkWater provides water transport services to the SEQ Water Grid Manager (WGM) involving the transfer of water from Seqwater's assets through bulk pipeline networks to Council owned water distributor-retailers.

Limitations on the Authority's Discretion

The Direction Notice, issued by the Minister in accordance with his role as the Price Regulator, outlines key principles for risk allocation. These principles include the following:

(a) GSPs are to be fully immunised from interest rate exposures, through recovery of the actual cost of debt;

(b) GSPs are not to be subject to volume or source risk either in total or across production or dispatch points over the regulatory period; and

(c) the 1 July 2011 regulated asset base (RAB) is to be as advised by the Price Regulator and not to be subject to optimisation. Expenditure on drought assets is to be incorporated in the RAB at project cost.

The Authority is also required to accept that:

(a) the rate of return on drought assets is limited to the actual cost of debt provided by Queensland Treasury Corporation (QTC); and

(b) the rate of return on non-drought assets must be set using parameters specified in the Direction Notice, with the risk-free rate and actual cost of debt advised by the QTC.

Seqwater

The Price Regulator advised that Seqwater's opening RAB for 1 July 2011 was $5.1 billion, comprising $1.9 billion in non-drought assets and $3.1 billion in drought assets.

Seqwater's RAB increased by a further $874.9 million in 2011-12, largely due to the commissioning of two major drought projects - Hinze Dam Raising and Wyaralong Dam. As required by the Direction Notice, drought assets are included in the RAB at project cost.

SKM reviewed a sample of seven of Seqwater's 2011-12 non-drought capital expenditure projects, and considered that insufficient information had been provided by Seqwater to fully justify the efficiency of three. As a consequence, the Authority recommends a reduction of $1.4 million or 4% to Seqwater's 2011-12 non-drought capital expenditure.

In relation to 2012-13, Seqwater's drought capital expenditure program is now largely complete resulting in forecast capital expenditure now only totalling $70.6 million.

SKM reviewed a sample of eight of Seqwater's 2012-13 non-drought capital expenditure projects, and recommended adjustments to four of them, largely due to insufficient information.

Further, the Authority has provided comment on a further six 2012-13 projects that were subject to submissions by the WGM. The WGM's submission was primarily concerned with capital expenditure on Seqwater's Water Treatment Plants, which it submitted currently have more capacity than required. The Authority recommends that prudency has yet to be established by Seqwater for five of the six projects.

In total, the Authority recommends a $6.1 million or 11% reduction to Seqwater's forecast 2012-13 capital expenditure.

In response to submissions from Seqwater and the WGM, the Authority also provided comment on capital expenditure due for commissioning beyond 2012-13, although this has no impact on GSCs in 2012-13. The Authority considers that 13 of the 17 capital expenditure projects are either not prudent or require further justification.

Seqwater's 2012-13 rate of return on non-drought assets, based on parameters provided in the Direction Notice, is 9.91% (pre-tax nominal). This compares with 9.84% in 2011-12 and 9.94% in 2010-11. Seqwater's drought assets earn a rate of return equal to the cost of debt which averages 6.4%.

SKM also reviewed 12 of Seqwater's proposed 2012-13 fixed operating cost items and concluded that three items were not efficient. The Authority therefore recommends a reduction of $654,000 or 2.1% of Seqwater's reviewed proposed fixed operating costs.

SKM also reviewed four of Seqwater's proposed variable operating cost items and concluded that these costs were prudent and had been incurred efficiently. However, the Authority has reviewed Seqwater's variable cost assumptions and concludes that Seqwater has overestimated certain variable costs such as electricity and chemicals. The Authority has reduced Seqwater's costs relating to these items. Electricity costs were a particularly difficult issue, given the introduction of carbon pricing and the review of retail electricity prices currently underway by the Authority. It is expected that electricity cost estimates may well vary in the Final Report.

These cost reductions are offset by the Authority's recommendation that sludge disposal costs should be considered a variable cost rather than fixed. On this basis, the Authority has recommended a $/ML variable charge for each of Seqwater's assets. When also taking into account water volumes forecast

by the WGM, the Authority's forecast variable charges of $39.9 million are slightly higher those anticipated by Seqwater ($39.3 million).

In total, the Authority recommends GSCs for Seqwater in 2012-13 of $719.9 million. This is higher than 2011-12 ($694.0 million), due to increases in capital charges resulting from the commissioning of Wyaralong Dam and Hinze Dam Raising in 2011-12, the correction of a computational modelling error in 2011-12, as well as increased variable operating charges due to increases in input prices.

Capital charges comprise more than 60% of Seqwater's 2012-13 GSCs.

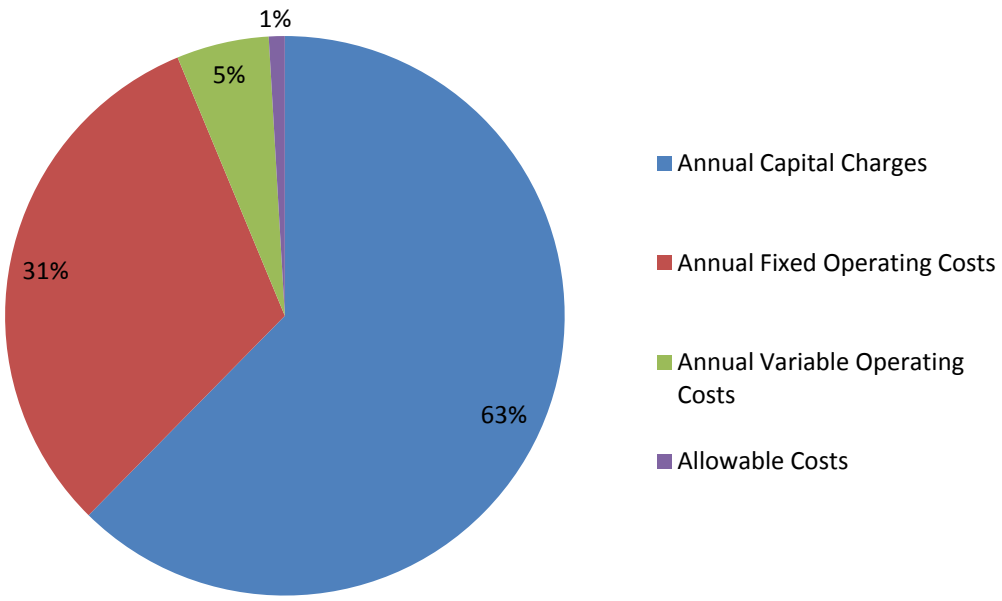
A summary of Seqwater's recommended GSC is provided in Table 1 below while Figure 1 shows the proportions of each component of the GSC.

Table 1: Seqwater's Recommended GSC ($m)

Revenue Component	*Approved 2010-11*	*Estimated Actual 2011-12*	*Seqwater Proposed 2012-13*	*QCA Recommended 2012-13*
Capital Charges	395.5	441.0	N/A	447.3
Fixed Operating Costs	221.7	220.8	235.6	230.6
Variable Operating Costs	45.8	25.8	39.3	39.9
Allowable Costs	24.7	10.3	10.6	6.8
Revenue Offset	-	-4.0	-4.5	-4.7
Total GSC	687.7	694.0	N/A	719.9

Note: these figures may not add due to rounding. 2010-11 GSCs include the former WaterSecure.

Figure 1: Seqwater's Recommended GSC for 2012-13



LinkWater

The Price Regulator advised that LinkWater's opening RAB for 1 July 2011 was $2.0 billion, comprising $1.5 billion in non-drought assets and $0.6 billion in drought assets.

LinkWater's estimated 2011-12 capital expenditure totalled $26.2 million, of which SKM reviewed a sample of four projects. SKM recommended that insufficient information had been provided by LinkWater to justify the efficiency of three projects. As a consequence, the Authority recommends a reduction of $1.4 million or 6% to LinkWater's 2011-12 non-drought capital expenditure.

LinkWater forecast a further $21.8 million of capital expenditure in 2012-13. SKM reviewed a sample of five projects and recommended that insufficient information had been provided in relation to two of them. The Authority therefore recommends a $2.4 million or 11% reduction to LinkWater's forecast 2012-13 capital expenditure.

LinkWater's 2012-13 rate of return on non-drought assets, based on parameters provided in the Direction Notice, is 9.86% (pre-tax nominal). This compares with 9.87% in 2011-12 and 9.71% in 2010-11. LinkWater's drought assets earn a cost of debt rate of return which averages 6.5%.

SKM reviewed a sample of 11 of LinkWater's proposed fixed operating cost items and recommended that one had not been sufficiently justified to be considered efficient. The Authority recommends a cost reduction $241,000 or 0.6% of LinkWater's proposed 2012-13 fixed operating costs. SKM also reviewed one of LinkWater's proposed variable operating cost items, and recommended a small reduction of $27,000, or 0.9% of total variable costs.

In total, the Authority recommends a GSC for LinkWater in 2012-13 of $234.8 million, about 3.1% higher than LinkWater's proposed $227.6 million.

Despite the Authority's recommended downward revisions to several of LinkWater's proposed costs, LinkWater's recommended capital charge is higher than 2011-12, and higher than that proposed by LinkWater, due to the correction of a computational modelling error in 2011-12.

Capital charges account for 75% LinkWater's GSCs.

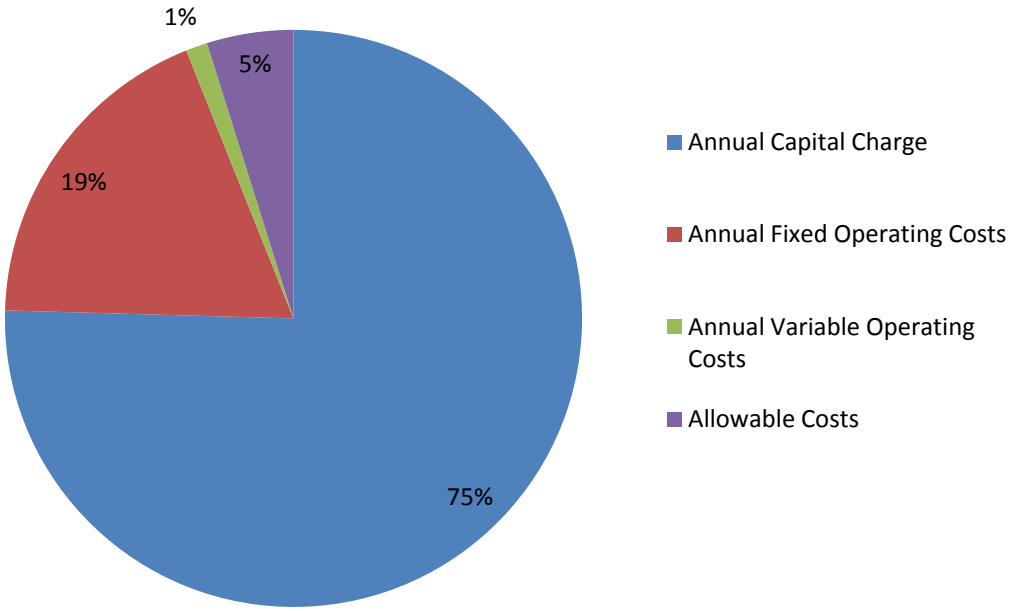
A summary of LinkWater's recommended GSC is provided in Table 2 and Figure 2 below.

Table 2: LinkWater's Recommended GSC ($m)

Revenue Component	*Approved 2010-11*	*Estimated Actual 2011-12*	*LinkWater Proposed 2012-13*	*QCA Recommended 2012-13*
Capital Charge	139.4	147.0	170.5	177.9
Fixed Operating Costs	38.8	43.0	43.0	42.7
Variable Operating Costs	4.5	2.5	2.9	2.8
Allowable Costs	9.8	11.0	11.3	11.2
Revenue Offset	-	-	0.2	0.1
Total GSC	**192.5**	**203.5**	**227.6**	**234.8**

Note: these figures may not add due to rounding.

Figure 2: LinkWater's Recommended GSC for 2012-13



Merger, Duplication of Effort and Benchmarking Review

The Authority engaged Sinclair Knight Mertz (SKM) to estimate any cost savings that may result from the merger of Seqwater and the former WaterSecure on 1 July 2011, provide analysis of any duplication of effort occurring amongst the GSPs, their service providers and the WGM, and to benchmark Seqwater and LinkWater against comparable organisations.

SKM found that currently achievable merger savings had been realised by Seqwater, but expected that further savings will gradually become available from 2013-14 onwards as existing contracts and Queensland Government requirements expire, removing constraints on Seqwater's potential efficiency savings.

SKM's analysis of duplication of effort identified a number of activity areas that were potentially duplicated. The Authority proposes to advance this review prior to the Final Report.

SKM's benchmarking analysis was severely constrained by the lack of comparator organisations. Based on the limited data available, SKM identified that employee costs were potentially higher than benchmark in both Seqwater and Linkwater.

The Authority has not made any direct adjustment to GSCs as a result of SKM's findings regarding merger, duplication of effort and benchmarking. The Authority will progress consideration of such opportunities for the Final Report.

Summary of GSCs

A summary of the GSCs for the GSPs for 2011-12 and 2012-13 is provided in Table 3.

On the basis of the 2012-13 volume forecast provided by the WGM, the total GSCs across both GSPs average $3,355/ML (Table 4). This compares to an approved forecast of $3,299/ML in 2011-12.

Table 3: 2012-13 Grid Service Charges per ML

	GSCs ($m)	*Volume (ML)*	*$/ML*
Seqwater	$719.9	284,533	$2,530
LinkWater	$234.8	230,138	$1,020
Total	**$954.7**	**284,533**	**$3,355**

Note: Total volume excludes LinkWater's transport volumes as they do not add to total water supplied

At $3,355/ML, the GSCs compare to the 2012-13 bulk water price charged by the WGM to Distributor/Retailers which has a weighted average of $2,015/ML. In other words, in respect of bulk water sold to Distributor/Retailers, the WGM is forecast to recover only 60% of the GSCs cost of $3,355/ML.

Review Thresholds

The Direction Notice also instructed the Authority to develop a process, and appropriate Review Thresholds, for reviewing the 2012-13 GSCs. Table 4 below summarises the Review Thresholds proposed by the Authority. The Authority is confident that these thresholds can be adopted without compromising GSPs' financial integrity and stability.

Table 4: 2012-13 Proposed Review Thresholds

Review Event	*Review Threshold for end-of-period review*	*Review Threshold for within-period review*
Change in law or Government policy	Zero	5% of total GSCs
Emergency event	Zero	5% of total GSCs
Feedwater quality event	Zero	5% of total GSCs
Change in demand or source	Zero	5% of total GSCs
Change in cost of debt	Zero	5% of total GSCs
Under- or over-spend of capital expenditure	Zero	5% of total GSCs

Consistent with the requirements of the Direction Notice for the Authority to provide incentives for the entities to invest, innovate and pursue efficiency improvements, the Authority recommends that an incentive structure be implemented to encourage GSPs to achieve efficiency gains.

Under such an arrangement, GSPs will be permitted to retain in 2013-14 50% of any efficiency gains achieved in 2012-13 in GSCs. However, the efficiency gains must be the result of specific initiatives put in place by the GSPs, and should be submitted for consideration as part of the next GSCs review.

1. MINISTER'S DIRECTION

1.1 South East Queensland (SEQ) Water Market Rules

Pursuant to section 10(m) of the *Queensland Competition Authority Act 1997* (the QCA Act), the Authority can be required to perform functions provided to the Authority under an (other) Act or to exercise a power delegated to it under an (other) Act.

The SEQ Water Market Rules (Market Rules) require the Authority to investigate and recommend Grid Service Charges (GSCs) to be paid to the Grid Service Providers (GSPs) in 2012-13 and to provide a report to the Price Regulator setting out its recommendations. The Price Regulator is the State of Queensland or its nominated agent, in this case, the Minister for Energy and Water Supply (the Minister).

The GSCs are charges paid by the SEQ Water Grid Manager (WGM) to GSPs for the provision of water services declared by the Minister under the *Water Act 2000* (Declared Water Services).

1.2 Direction Notice

The Authority received a Direction Notice from the Price Regulator dated 20 October 2011. A copy forms **Appendix A**. The Direction Notice requires the Authority to:

(a) investigate and recommend GSCs for 2012-13;

(b) conduct a detailed review of fixed and variable operating costs, including undertaking an appropriate benchmarking review to provide advice on potential efficiency improvements and business savings based on good industry practice;

(c) assess the prudency and efficiency of capital expenditure and operating cost estimates;

(d) develop a process and appropriate Review Thresholds for reviewing the 2012-13 GSCs; and

(e) provide a report to the Price Regulator setting out recommendations for the GSCs for 2012-13, including identifying opportunities for efficiency improvements in capital and operating costs.

1.3 Conduct of the Investigation

Consistent with the Direction Notice, the Authority has consulted with relevant parties and considered all submissions within the applicable timetable for the investigation.

The Authority is required to provide a Draft Report setting out its recommendations to the Price Regulator by 30 April 2012. A Final Report is to be submitted by 30 June 2012.

2. BACKGROUND

2.1 The SEQ Water Grid

Since 2008, the SEQ urban water and wastewater sector has undergone extensive reform which has involved, among other things, the establishment of the SEQ Water Grid. The Water Grid integrates the water sources, storages and treatment plants across the SEQ region (from Noosa to Coolangatta and out to the Lockyer Valley) with new climate resilient water supplies, such as desalination and purified recycled water.

In addition, 22 separate entities were amalgamated to establish the WGM, two state-owned GSPs (Seqwater and LinkWater) and three council-owned distributor-retailers entities (DRs) (UnityWater, Queensland Urban Utilities and Allconnex Water).

Grid Operation and Planning

The Government sets the water security objectives for SEQ and the infrastructure and demand management programs to achieve those objectives in the Regional Water Security Program (RWSP). The Level of Service objectives in the RWSP describe the desired frequency, severity and duration of water restrictions.

The Queensland Water Commission (QWC) implements the RWSP through the SEQ System Operating Plan (SOP). The SOP contains a series of rules and requirements that affect the operation of the SEQ Water Grid to achieve the desired Level of Service objectives.

To date, drought response has been directed by the *Water Regulation 2002 (Qld)* and the SEQ RWSP, (DERM 2010) which have mandated the construction or upgrade of bulk water assets such as the Gold Coast Desalination Plant (GCDP) and the Western Corridor Recycled Water Scheme (WCRWS). With the completion of Wyaralong Dam and the Northern Pipeline Interconnector Stage 2, the infrastructure mandated by the Government is now largely complete. The QWC's SEQ Water Strategy(QWC 2011) describes the likely next regionally significant sources of water supply.

The WGM holds contracts to provide potable and purified recycled water to the DRs and power stations. To meet its customers' demand for water, the WGM contracts the water services of the GSPs. The prices that the WGM pays for these services are the GSCs.

Subject to the constraints of the SOP, the WGM uses Grid Instructions to direct what services it requires from the GSPs to meet the demands forecast by the DRs. In this way, the WGM directs the short term operation of the SEQ Water Grid. The WGM's Grid Instructions must be consistent with the Annual Operations Plan prepared by the WGM in accordance with the SOP. The Annual Operations Plan describes the WGM's volume forecasts over the coming 12-month period and is approved by the QWC.

The WGM is also required to provide advice to responsible Ministers in regard to new and replacement capital expenditure on infrastructure or information technology projects of $2 million or more. The WGM is to advise whether there is a clear and appropriate need for the proposed expenditure and that a full range of options has been considered including alternative ways of operating the SEQ Water Grid and utilising existing infrastructure.

Capital expenditure projects are also subject to guidance through processes administered by the Department of Energy and Water Supply (previously the Department of Environment and Resource Management (DERM)), including Strategic Asset Management Plans (SAMPs), Dam Safety Guidelines and Drinking Water Quality Management Plans (DWQMPs).

Seqwater

The Queensland Bulk Water Supply Authority (trading as Seqwater) was established in November 2007 under the *South East Queensland Water (Restructuring) Act 2007* and reports to two Ministers, the Treasurer and the Minister for Energy and Water Supply. Seqwater is considered a GSP under the *Water Act 2000*.

Seqwater is responsible for the supply of bulk water in SEQ, and owns a number of assets that provide Declared Water Services. Seqwater's major assets include dams, weirs and water treatment plants (WTPs) and include bulk supply assets transferred from local governments and public water boards under the *South East Queensland Water (Restructuring) Act 2007* and recently constructed drought assets (see Section 2.2), such as Wyaralong Dam.

Seqwater provides potable water by treating the water captured in its water storages and operates assets that are connected to the SEQ Water Grid as well as stand-alone water supply schemes in SEQ. Seqwater is also responsible for management of a substantial catchment area and natural assets. Seqwater holds only very minor water allocations itself. The majority of water allocations for SEQ are held by the WGM.

Seqwater was merged with WaterSecure, the former Manufactured Water Supplier, on 1 July 2011. As a result, Seqwater is also responsible for two recently constructed drought assets that manufacture water in SEQ. The GCDP produces drinking water from seawater, while the WCRWS Scheme is a network of advanced water treatment plants (AWTPs) that produce purified recycled water (PRW) from treated wastewater produced from assets owned by the DRs. An existing Project Alliance Agreement is in place with Veolia Water and John Holland to operate and maintain the Gold Coast Desalination Plant and an Operations and Maintenance Agreement is in place between Seqwater and Veolia Water (the operator) on the WCRW scheme.

LinkWater

LinkWater owns and operates the bulk transport assets that transport potable water around the SEQ Water Grid. LinkWater's assets comprise bulk pipelines, pumping stations and reservoirs, including assets constructed as drought projects such as the Southern Regional Water Pipeline (SRWP) and assets transferred from local governments and public water boards under the *South East Queensland Water (Restructuring) Act 2007*. LinkWater is considered a GSP under the *Water Act 2000*.

LinkWater Projects is a government-owned and incorporated company established as a Special Purpose Vehicle in January 2006 for the design and construction of bulk water pipelines in SEQ. While LinkWater and LinkWater Projects are separate businesses, they are governed by the same Board and Chief Executive Officer.

2.2 Drought Assets

Drought assets are regionally significant capital investments determined by the Queensland Government for the purposes of regional water security and constructed under the *Water Regulation 2002 (Qld)*, as amended by Part 8 of the *Water Amendment Regulation (No 6) 2006 (Qld)*, and Table 1 of the RWSP(DERM 2010).

As directed by the Market Rules (s 8.11) and the Direction Notice, the Authority must include all drought assets in the regulated asset base (RAB) at their project construction cost including any capitalised amounts and allow them to earn a rate of return equal to the cost of debt.

2.3 Bulk Water Prices

The GSCs are distinct from the Bulk Water Prices, which have been set by the Queensland Government until 2017-18 and are paid to the WGM by the DRs.

The 10-year Bulk Water Price Path prevents retail water bills from immediately reflecting the entire cost of the Government's $7 billion of investment in bulk water infrastructure. The WGM's 2010-11 Annual Report (WGM 2011) shows that the revenue shortfall between GSCs paid and Bulk Water Prices received has been largely capitalised as debt.

The Bulk Water Price Path is not reviewed by the Authority. However, the GSCs are an important input into determining the level of debt held by the WGM.

3. FRAMEWORK FOR THE INVESTIGATION

3.1 Changes in Scope since 2011-12

Compared to the 2011-12 GSC investigation, for 2012-13:

(a) there are now two GSPs rather than three;

(b) the Authority is required to undertake a detailed benchmarking review of fixed and variable operating costs to provide advice on potential efficiency improvements and business savings based on good industry practice; and

(c) the Authority is to consider any adjustments required due to any under- or over-recovery of GSCs in 2011-12, consistent with the Review Thresholds approach previously established by the Authority.

3.2 Regulatory Objectives

The Market Rules and the Direction Notice provide guidance as to the key objectives in recommending GSCs for 2012-13. The GSCs should:

(a) establish an environment which fosters prudent and efficient operating and maintenance practices and utilisation of infrastructure;

(b) allow the GSPs to recover a sustainable revenue stream from the provision of Declared Water Services determined on the basis of efficient and prudent expenditure forecasts, recognising that the time horizon may extend beyond a single regulatory period; and

(c) provide appropriate incentives for GSPs to invest, innovate and pursue efficiency improvements consistent with their roles and responsibilities.

In conducting its investigation, the Authority must:

(a) recognise the need to minimise the economic cost of regulatory actions and uncertainty;

(b) to the extent practicable, ensure that:

  (i) the costs to Grid Participants of regulation do not exceed the benefits of such regulation;

  (ii) information requests issued to Grid Participants and procedural requirements which apply to Grid Participants are efficient and effective and that a reasonable time period in which to comply is afforded to Grid Participants; and

  (iii) Grid Participants are afforded a reasonable opportunity to participate; and

(c) take into account the systems, information and organisational capacity of Grid Participants.

The Market Rules and the Direction Notice also set out a range of policy objectives which must be met within the broader regulatory framework in setting GSCs for 2012-13. These are identified in the following sections.

3.3 Grid Service Charges

Under the Market Rules (s 8.8), the components of the GSCs are:

(a) Capital Charges (return of and return on capital);

(b) Fixed Operating Charges;

(c) Variable Operating Charges; and

(d) Allowable Costs.

The Direction Notice also provides key principles for risk allocation. These principles include the following:

(a) GSPs are not required to bear volume or source risk, either in total or across production or dispatch points, over the regulatory period;

(b) the opening RAB and asset lives as at 1 July 2011 are not to be reviewed by the Authority or subject to optimisation;

(c) expenditure on capital projects approved by the Price Regulator prior to 1 July 2011 should be recognised as prudent;

(d) in order to fully immunise GSPs from interest rate exposures, the rate of return earned by GSPs for 2012-13 is to be based on the actual cost of debt;

(e) major capital investment for grid capacity augmentation is to be included in the relevant entity's RAB at the project cost; and

(f) drought assets constructed under the *Water Regulation 2002* (Qld) and the RWSP (DERM 2010) should earn a rate of return equal to the actual cost of debt.

The Direction Notice requires the Authority to assess the prudency and efficiency of capital expenditure and operating costs. Further, the Market Rules requires the Price Regulator to take account of (only) 'prudent and efficient capital expenditure' (s 8.11(e)), and to permit GSPs to recover (only) 'prudent and efficient fixed operation and maintenance costs (s 8.12(a)), 'efficient corporate costs' (s 8.12(b)) and 'efficient variable operating costs' (s 8.13).

Under the Market Rules (s 8.7), the Price Regulator may direct the Authority to review GSCs. GSPs may also submit an application for a review of the GSCs (s 8.15). The Direction Notice requires the Authority to develop a process, and appropriate Review Thresholds, for reviewing the 2012-13 GSCs. The Authority's analysis and recommendations in regard to Review Thresholds are outlined in Chapter 7.

The Authority is also required to consider any adjustments required due to an over- or under-recovery of GSCs in 2011-12, as described in the Authority's Review Thresholds chapter.

3.4 Capital Charges

Opening RAB

The opening RAB of the GSPs includes former local government, SunWater and water board assets – these assets were transferred to GSPs under the *South East Queensland Water (Restructuring) Act 2007(Qld)* and included in the GSPs' RAB on the transfer date (mostly 1 July 2008). The value and life of assets transferred to the GSPs from local governments were determined by the Queensland Government.

Under the Direction Notice, the Authority is required to accept the opening values and asset lives as at 1 July 2011 provided by the Price Regulator.

On 17 February 2012, the Price Regulator provided a 1 July 2011 opening RAB to the Authority. This RAB represents an update on the 1 July 2011 RAB provided to the Authority by the QWC during the 2011-12 investigation. The Authority has accepted this new RAB, and has adjusted its recommended 2012-13 GSCs to take account of any under- or over-recovery in 2011-12 as a result of the updated RAB.

As for 2011-12, for the 2012-13 review, the Authority has:

(a) identified that land assets have been included in the RAB. Where possible to do so, these have been identified separately, to avoid depreciating them. If land assets have been inadvertently depreciated in previous periods, the Authority has ceased depreciation and retained the land in the RAB at the value as provided by QWC; and

(b) found that some negative asset values, although insignificant, were included in the RAB. The Authority proposes to net these from higher value related assets with a similar life. This will leave the overall RAB unchanged but does affect the balance between drought and non-drought assets (only for LinkWater and such an adjustment was accepted by the Minister for the 2011-12 GSCs).

As recommended in the 2011-12 Final Report (QCA 2011), the 1 July 2011 RAB provided by the Price Regulator has been rolled forward to 1 July 2012 by:

(a) adding prudent and efficient capital expenditure that was commissioned in 2011-12;

(b) subtracting straight-line depreciation incurred in 2011-12; and

(c) adding asset appreciation of 2.5% in 2011-12.

The 1 July 2012 RAB is the opening RAB for the 2012-13 regulatory period.

Capital Expenditure

The Market Rules requires the Authority to take account of:

(a) any capital expenditure required to be undertaken to comply with legislative requirements; and

(b) capital costs for assets constructed under Part 8 of the *Water Regulation 2002 (Qld)*, including:

  (i) commissioning costs;

  (ii) capitalised corporate costs; and

  (iii) capitalised interest incurred from commencement of construction to certification of constructed assets.

The Direction Notice requires that the Authority accept that:

(a) expenditure on capital projects approved by the Price Regulator prior to 1 July 2011 should be recognised as being prudent; and

(b) regionally significant capital investment for grid capacity augmentation determined by the Government as part of the SEQ Water Strategy and RWSP (DERM 2010) is to be rolled into the relevant entity's RAB at project cost.

Prudency and Efficiency

As indicated above, the Authority is required to assess the prudency and efficiency of new, non-drought capital expenditure. The Authority proposes to continue to apply the definitions of prudency and efficiency adopted in its 2011-12 GSC investigation, with minor variations.

Capital expenditure is prudent if there is a demonstrated need for the expenditure, for example:

(a) it is required as a result of a legal obligation, growth in demand or renewal of existing infrastructure that is currently used and useful; or

(b) it achieves an increase in the reliability or the quality of supply that is explicitly endorsed or desired by customers or required by a relevant regulatory agency.

Capital expenditure is efficient if it is cost effective when considered against the scope and standard of works required, and assessed against market benchmarks. In particular:

(a) the scope of the works is appropriate having regard to the desired outcomes and the options available, including the substitution possibilities between capital expenditure and operating expenditure and non-network alternatives such as demand management;

(b) the standard of the works conforms with technical, design and construction requirements in legislation, industry and other standards, codes and manuals. Compatibility with existing and adjacent infrastructure is relevant as is consideration of modern engineering equivalents and technologies; and

(c) the cost of the defined scope and standard of works is consistent with conditions prevailing in the markets for engineering, equipment supply and construction.

The Authority engaged SKM to assist with reviewing the prudency and efficiency of capital expenditure. Having regard to the costs and time involved, a sampling approach was adopted to assess the prudency and efficiency of capital expenditure.

To assist with assessing capital expenditure, the GSPs have provided details of forecast capital expenditure against the following investment drivers:

(a) Service – capital expenditure associated with upgrading service outcomes to meet customer desired standards. These can take the form of improved reliability;

(b) Compliance – capital expenditure associated with the replacement and/or enhancement of an asset to prevent non-compliance with legislative requirements such as the *Water Act 2000 (Qld)*, Water Market Rules, Grid Services Contract, Water Quality Guidelines and Occupational Health and Safety (OH&S);

(c) Renewal – capital expenditure associated with the replacement and/or enhancement of an asset that is currently compliant with service performance standards and legislative requirements but faces an unacceptable risk of future non compliance. The renewal will maintain existing levels of service over the life cycle of the asset;

(d) Business efficiency – capital expenditure designed to improve operational efficiency and reduce ongoing costs; and

(e) Growth – capital expenditure designed to provide an increase in the capacity or capability of an asset in response to increased demand, growth or variations required by a customer.

Stakeholder Submissions

LinkWater raised concerns about the interaction between the Authority's review and the development of a Water Supply Asset Plan under the SOP (QWC 2011). LinkWater submitted that any endorsement from the QWC of LinkWater's Water Supply Asset Plan is effectively an endorsement of the prudency of LinkWater's demand driven (growth) Capital Works Program as presented in that Plan. The program of work in the Water Supply Asset Plan will also form a large part of the Capital Works Program and maintenance costs for future submissions to the Authority.

LinkWater considered that the consequence of having two separate assessments is that there is the potential for inconsistency between the respective endorsed programs of work. LinkWater considered that this is particularly the case given that the SOP process will be undertaken annually while the long-term regulatory arrangements will cover multiple years.

LinkWater questioned how, in the event that the QWC issues an endorsement of a program of work after the Authority finalised its assessment, any differences will be treated from a regulatory perspective and which endorsement carries precedence.

Authority's Analysis

The Authority is advised by the QWC that the Authority's regulatory process is intended to be the final discipline in terms of prudency and efficiency of proposed capital expenditure. This is not inconsistent with either the SOP (QWC 2011) or the Direction Notice. LinkWater should liaise with the QWC to resolve any remaining uncertainty in this regard.

The Authority, however, considers that the Water Supply Asset Planning process under the SOP (QWC 2011) will form an important input into any future regulatory reviews of GSPs' capital expenditure programs.

2011-12 Capital Expenditure

The 2011-12 Review Thresholds proposed to take account of any variation between prudent and efficient actual 2011-12 capital expenditure and the forecast of capital expenditure incorporated in the 2011-12 GSCs. The Authority has adjusted the 2012-13 GSCs to account for any under- or over-recovery of 2011-12 capital charges as a result of variation in prudent and efficient 2011-12 capital expenditure.

New Multi-Period Capital expenditure

The Authority's role under the Market Rules only applies to the 2012-13 regulatory period, limiting the ability of the Authority to provide any undertakings or assurances about the future treatment of capital expenditure commencing in the 2012-13 year but to be completed in later years.

This presents some risk to the GSPs, as any assessment by the Authority that capital expenditure was imprudent could occur after several years of capital expenditure. GSPs were invited to identify such projects in their submissions to the Authority.

Stakeholder Submissions

Seqwater submitted that a review of multi-period capital expenditure projects only in the year of completion gives rise to significant regulatory risk. Seqwater considered that the more substantial and financially significant a capital project is, the more likely it is that its construction will occur over multiple years, and the more unmanageable these regulatory risks will become.

Seqwater submitted that its regulatory risk goes beyond that of other regulated businesses, due to the annual regulatory cycle that applies to the GSPs. Seqwater considered that a longer regulatory period would allow for review of at least the prudency of all proposed capital expenditure.

Seqwater proposed that it should be provided with the same level of regulatory guidance afforded to regulated businesses under other, more standardised, regulatory regimes. Specifically, Seqwater requested the Authority's review of a number of multi-period capital expenditure projects.

Authority's Analysis

The Authority agrees that a one-year period represents a regulatory risk to GSPs regarding multi-period capital expenditure. At the same time, the Authority notes that there are mitigating factors that will reduce the risk to the GSPs. For example, GSPs capital expenditure projects are generally required by regulation or service standards, and therefore prudency should be easily assessed by the GSP.

Capital expenditure that is most at risk is large, non-drought, multi-year renewal capital expenditure that is expected to commence in 2012-13.

As the capital expenditure will not be rolled into the RAB until it is commissioned, the Authority's assessment of the prudency of multi-period projects may not be relevant in the event that the Authority is not involved in future recommendations of GSCs. To assist, the Authority has nevertheless provided an assessment of the proposed capital expenditure (wherever possible), and will be bound by its own findings (if it is involved in future reviews), subject to an ex post assessment of the actual expenditure incurred.

While the Authority has not been provided the time to review each of Seqwater's multi-period capital expenditure items, a number of items are reviewed in Chapter 4 below.

Capitalisation of Interest

Stakeholder Submissions

Seqwater submitted that the Authority should continue to capitalise interest costs incurred during construction of multi-period capital expenditure projects. Seqwater considered it appropriate to estimate interest costs by reference to the allowed rate of return, or regulatory weighted average cost of capital (WACC), as project financing is likely to reflect the business gearing.

Authority's Analysis

The Authority notes that the Market Rules (s 8.11) (Queensland Government 2010) require the Authority to allow capitalised interest costs on drought capital expenditure. The Authority considers that a consistent approach is appropriate for non-drought multi-period capital expenditure, and therefore accepts Seqwater's submission. For drought projects, the Authority believes that the appropriate interest rate is the cost of debt. For non-drought projects, the appropriate interest rate is the WACC recommended by the Authority.

Excess Water Treatment Capacity

The WGM provided a submission to the Authority relating to capital expenditure proposed by the GSPs. The WGM submitted that the Water Grid currently has a large amount of surplus capacity, due to dams being near full and customer demand remaining relatively low. The WGM noted that current demand is about 276,000 ML per annum, compared with the system

yield of about 485,000 ML and the installed water treatment capacity of about 750,000 ML. That is, the WGM estimates that current demand is equal to about 57% of the system yield and about 37% of the installed water treatment capacity.

Given these circumstances, the WGM submitted that it is changing the operation of the system to reduce costs. The WGM stated that it is seeking to consolidate the treatment of water, avoiding the need to take water from some WTPs that are expensive to operate and for which new capital expenditure is proposed. The WGM stated that it will primarily source water from seven WTPs, with five additional WTPs available to provide supplementary supplies in response to peak demands, or supply interruptions to other assets.

The WGM stated that service will not be required from 11 WTPs for at least five years, and most likely more than 15 years. The Authority has considered the implications of the WGM's submission in its review of Seqwater's capital and operating expenditure (Chapter 4).

Other Capital Expenditure Issues

In the process of the investigation, a number of issues relating to capital expenditure warranted further attention:

(a) GSPs lost assets in the January 2011 floods, which are to be replaced during 2012-13. Any relevant capital expenditure has been incorporated into the RAB at its estimated efficient cost. Any revenues received from insurance companies and disaster relief are expected to be available and deducted from the RAB for the purpose of determining GSCs by the time of the Final Report. The existing asset remains in the RAB; and

(b) the Floods Commission of Inquiry made a number of interim recommendations which may require a capital expenditure response from Seqwater. The Queensland Government accepted all the interim recommendations of the Commission of Inquiry. Accordingly, the Authority accepts the prudency of all capital expenditure recommended by or as a direct result of recommendations of the Commission of Inquiry.

Return on Capital

The Direction Notice requires that:

(a) for drought assets constructed under the *Water Regulation 2002 (Qld)* (amended 2006) and Table 1 of the RWSP (DERM 2010), the rate of return should be the actual cost of debt inclusive of administration and capital markets charges, but exclusive of a Competitive Neutrality Fee (CNF) as advised by Queensland Treasury Corporation (QTC);

(b) for non-drought assets and post-commissioning expenditure on drought assets, a rate of return equal to the WACC, calculated on a pre-tax nominal basis, is to be achieved. The cost of debt component of the WACC is to be equal to each GSP's forecast cost of debt including administration, capital market charges and CNF, as advised by QTC; and

(c) in order to fully immunise GSPs from interest rate exposures, the rate of return earned by GSPs for 2012-13 is to be based on the actual cost of debt.

Each GSP will have a slightly different WACC applying to non-drought assets and different costs of debt applying to drought assets, reflecting differences in the underlying debt pools managed by QTC that are applicable to their assets.

The Authority has made adjustments to the 2012-13 GSCs to account for any variance between forecast and actual cost of debt during the 2011-12 year to date.

The Authority considers that, at the end of the 2012-13 period, the Price Regulator will need to adjust the returns to ensure that the returns equal the actual cost of debt as provided by QTC. The process for these adjustments is considered in Chapter 7.

Return of Capital

The form of return of capital is not specified in the Market Rules (Queensland Government 2010) or the Direction Notice although the Authority is required to accept the asset lives associated with the RAB at 1 July 2011.

In previous periods, return of capital was calculated on a straight line depreciation basis over the estimated asset useful life. The Authority proposes to continue this approach.

Where possible, the Authority will separately identify land assets, and remove them from the calculation of return of capital.

For assets constructed after 1 July 2011, the Authority has reviewed the asset lives proposed by GSPs for consistency with the asset lives for similar assets in the RAB, and with asset lives used in other regulatory reviews.

Indexation

The Market Rules and the Direction Notice are silent in regard to the method of indexation of asset values throughout the regulatory period.

The Authority recommended a 2.5% annual indexation rate to all assets for the purposes of asset appreciation and for determining the closing RAB in its investigation of 2011-12 GSCs, consistent with the QWC approach in 2010-11.

The Authority has in recent investigations (e.g. SunWater, Gladstone Area Water Board (GAWB), QR Network) also applied a 2.5% indexation factor on the basis that this represents the mid-point of the Reserve Bank of Australia's (RBA's) target inflation band and that there is a reasonable expectation that the RBA will be able to maintain inflation within this band over time.

The Authority therefore recommends an annual indexation rate of 2.5% to apply for 2012-13.

Working Capital Allowance

The Market Rules and Direction Notice do not contain any provision regarding working capital.

In 2011-12, the Price Regulator directed the Authority to recommend a working capital allowance as an Allowable Cost based on the following formula:

> (Annual Accounts Receivable x Average Debtor days/365 - Annual Accounts Payable x Average Creditor days/365) x WACC;

Following a review of the GSPs' invoicing history, the Authority recommended that a benchmark average of 30 creditor days and 45 debtor days apply to each GSP for 2011-12.

The Authority considers that this approach remains appropriate for 2012-13.

The 2012-13 Direction Notice defines Allowable Costs, with the exception of the QWC levy, as once-off costs which cannot reasonably be foreseen, rather than costs that will be incurred on a recurring basis.

On this basis, Seqwater proposed to include the working capital allowance as a component of the Capital Charge, rather than an Allowable Cost. The Authority accepts this proposal.

Capital Charge Structure

Seqwater submitted that it supported the continuation of the structure of the Capital Charge that applied in 2011-12, of a single annual amount which is not disaggregated by asset or service type. The Authority accepts this approach, and recommends a single annual Capital Charge for each GSP, paid monthly.

3.5 Fixed Operating Charge

The Market Rules (s. 8.12) requires the Price Regulator to permit GSPs to recover:

(a) prudent and efficient costs of, and incidental to, the operation and maintenance of the assets required to provide Declared Water Services (Relevant Assets) apportioned on an appropriate basis between the provision of Declared Water Services and other services; and

(b) efficient corporate and related expenses.

The Direction Notice requires the Authority to accept that the current scope of recreation and catchment management activities is prudent.

Prudency and Efficiency

The Authority proposes to retain the tests of prudency and efficiency that were adopted in its recommendation of 2011-12 GSCs.

Under these tests, operating expenditure is prudent if it is required to meet the GSP's relevant requirements relating arising from:

(a) its Grid Contract;

(b) the SOP (QWC 2011);

(c) the forecast required supply consistent with the grid instructions forecast in the WGM's Annual Operations Plan and any relevant information provided to the GSPs in accordance with the SOP (QWC 2011); and

(d) its standard of service.

Operating expenditure is efficient if it is undertaken in a least-cost manner over the life of the relevant assets and is consistent with relevant benchmarks. In assessing efficiency, it is necessary to take account of the conditions prevailing in relevant markets, historical trends in operating expenditure and the potential for efficiency gains or economies of scale.

2011-12 Fixed Operating Charges

The 2011-12 Review Thresholds provided GSPs an efficiency incentive to make efficiency savings in their fixed operating costs. This incentive enabled GSPs to retain 100% of their saving in the year it was achieved and 50% in the following year if achieved as a result of specific initiatives put in place by GSPs. The Authority has reviewed 2011-12 efficiency saving initiatives submitted by the GSPs and incorporated an incentive payment in the recommended 2012-13 GSCs where warranted.

Seqwater submitted that there is no need to change the structure of the Fixed Operating Charge applied in 2011-12, of a single annual sum, paid monthly. The Authority accepts this approach.

QCA Levy

The QCA levy was considered an Allowable Cost during the 2011-12 investigation. However, the Price Regulator's 2012-13 Direction Notice defines Allowable Costs, with the exception of the QWC levy, as once-off costs which cannot reasonably be foreseen, rather than costs that will be incurred on a recurring basis. The QCA levy, which is both foreseeable and recurring, does not fit the description of an Allowable Cost.

While LinkWater's submission included the QCA levy as an Allowable Cost, consistent with 2011-12, Seqwater proposed that the 2012-13 QCA levy be included as a component of the Fixed Operating Charge. For consistency with the Direction Notice the Authority accepts Seqwater's proposal.

The QCA 2012-13 levy of $2.05 million excluding GST is allocated according to the effort expected by the Authority in reviewing the GSPs. Currently, as a separate exercise is required to review each of the previous Seqwater and WaterSecure costs, and LinkWater costs, the QCA levy will be allocated 2/3 to the new Seqwater and 1/3 to LinkWater (as for 2011-12).

3.6 Variable Operating Charge

The Market Rules (s 8.13) require the Price Regulator to permit GSPs to recover efficient variable operating costs relating to assets required to provide Declared Water Services (Relevant Assets) apportioned on an appropriate basis between the provision of Declared Water Services and other services.

The Direction Notice requires the Authority to accept that production forecasts for the regulatory period are to be consistent with the Grid Instructions forecast in the WGM's Operating Strategy (WGM 2011) (or any successor document) and any relevant information provided to the GSPs in accordance with the System Operating Plan (QWC 2011).

Prudency and Efficiency

The Authority proposes to retain the tests of prudency and efficiency that were adopted in its recommendation of 2011-12 GSCs.

Under these tests, operating expenditure is prudent if it is required to meet the GSP's relevant requirements arising from:

(a) its Grid Contract;

(b) the SOP (QWC 2011);

(c) the forecast required supply consistent with the Grid Instructions forecast in the WGM's Annual Operations Plan and any relevant information provided to the GSPs in accordance with the SOP (QWC 2011); and

(d) its standard of service.

Operating expenditure is efficient if it is undertaken in a least-cost manner over the life of the relevant assets and is consistent with relevant benchmarks. In assessing efficiency, it is necessary to take account of the conditions prevailing in relevant markets, historical trends in operating expenditure and the potential for efficiency gains or economies of scale.

2011-12 Variable Operating Charges

In 2011-12, the Authority recommended that Variable Operating Charges be invoiced to the WGM based on actual volumes and the recommended $/ML unit rates. The use of actual volumes in invoicing ensured that GSPs were not exposed to volume or source risk.

The 2011-12 Review Thresholds also allowed for an assessment of the recommended $/ML unit rates at the end of the period. The Authority has conducted an assessment of 2011-12 $/ML variable operating cost unit rates, where submitted by the GSPs. The Authority has made adjustments to the 2012-13 GSCs to account for any variance between forecast and actual prudent and efficient variable operating costs during the 2011-12 year to date.

Stakeholder Submissions

LinkWater submitted that it is responsible to reflect as far as practicable the short-term cost drivers of the business from both a location and usage perspective.

For this reason, LinkWater proposed the following tariffs:

(a) a two-part tariff for each pump station based on the fixed and variable energy costs incurred for the use of each pumping station levied on a $/ML basis;

(b) a charge for treated water at each water quality facility to reflect the $/ML cost of different water treatment requirements; and

(c) all remaining costs recovered via a fixed monthly tariff.

Authority's Analysis

The Authority considers that the Variable Operating Charge should be expressed as a $/ML amount at relevant supply and distribution points, with the charges determined on monthly volumes in arrears. Effectively, the Fixed Operating Charge and Variable Operating Charge form a two-part tariff. The Authority therefore accepts LinkWater's proposed variable tariff structure. This tariff structure is also consistent with the structure of the information provided by Seqwater.

The Authority proposes to recommend volumetric ($/ML) charges for the GSPs' nominated supply and distribution points. For reporting purposes, the Authority will also recommend a forecast Variable Operating Charge for 2012-13 based on the WGM's production forecasts for the full year.

3.7 Allowable Costs

Under the Market Rules, the Price Regulator may permit the GSPs to recover other prudent and efficient costs incurred to provide Declared Water Services which are not recoverable as Capital Charges, Fixed Operating Charges or Variable Charges. This includes the levy payable by the GSPs to the QWC under section 360F of the *Water Act 2000 (Qld)*.

The Direction Notice requires the Authority to recognise that Allowable Costs, with the exception of the QWC Levy, are once-off costs which cannot be reasonably foreseen, rather than costs that will be incurred on a recurring basis.

Stakeholder Submissions

Seqwater submitted that the relationship between Allowable Costs and Review Thresholds needs to be made clear so there is certainty about what events qualify under each regime.

Authority's Analysis

QWC Levy

The QWC has advised that the 2011-12 QWC levy of $20.658 million should be adjusted to account for the 2010-11 financial year where QWC incurred less than the estimated user charges. The extent of this reduction is shown in Table 1.

Table 3.1: 2011-12 QWC Levy ($ Million)

	Seqwater	***LinkWater***	***Total***
Original 2011-12 Levy	10.329	10.329	20.658
2010-11 Adjustment	-3.816	-1.908	-5.724
Net 2011-12 Levy	6.513	8.421	14.934

The Authority has reduced its recommended 2012-13 GSCs to take into account the $5.7 million downward adjustment to the 2010-11 QWC levy.

In relation to 2012-13, the QWC has not finalised its budgeting process, and therefore could not provide a final 2012-13 levy at the time of the Draft Report. The Authority understands that this will be available for the Final Report. In the interim, the Authority has adopted a 2012-13 QWC levy estimate of $10.59 million excluding GST for each GSP. This represents a 2.5% increase on the 2011-12 levy, and is consistent with assumptions made by the GSPs in their submissions.

QCA Levy

The QCA levy was considered an Allowable Cost during the 2011-12 investigation but has been included in the Fixed Operating Charge for the 2012-13 GSCs. See section 3.5 above.

Relationship to Review Thresholds

In response to Seqwater's submission, the Authority considers that the purpose of the Allowable Costs category is to provide a mechanism for GSPs to recover unforeseen and once-off costs, without the need for them to be included in other charges. From the Authority's point of view, this has the benefit of providing a consistent basis for estimating operating and capital charges from year to year. That is, in forming a view of the GSPs' costs over time, the Authority considers it useful to exclude Allowable Costs.

In this regard, the Authority recommends that Review Thresholds are the primary mechanism for reducing GSPs' financial risks by allowing for adjustment to GSCs both within and at the end of regulatory periods. The Authority considers that some Review Events (see Chapter 7) are likely to result in Allowable Costs, such as changes in law or emergency events. However, the eligibility of Allowable Costs for an ex-post adjustment will continue to be recommended by the Authority on a case by case basis.

3.8 Other Services

In recommending the Capital Charge to apply to GSPs, the Market Rules (s. 8.11) require the Authority to take into account an appropriate apportionment of the RAB between the provision of Declared Water Services and other services.

The Direction Notice requires the Authority to accept that expenses and revenues associated with Seqwater's irrigation schemes must be taken into account.

Irrigation Services

In the 2011-12 GSC investigation, the Authority was required to continue the 2010-11 regulatory approach of passing through irrigation revenues and costs in GSCs. As a consequence, all operating costs of the assets servicing irrigators (whether the same assets provide a service to the WGM or not) were included in GSCs, while all irrigation revenues (excluding renewals annuity revenue) were applied as a revenue offset.

Capital expenditure on assets that served both the WGM (by providing water for urban and industrial use in SEQ) and irrigators was included in GSCs, while capital expenditure relating to assets that only served an irrigation purpose was excluded.

Renewals annuity revenue (collected for the purpose of renewing assets that provide irrigation services), was held in escrow by Seqwater to be considered as part of a more detailed review of SEQ irrigation charges.

Stakeholder Submissions

Seqwater submitted that there should be no change to the approach adopted for the 2011-12 GSCs. Seqwater submitted that the cost allocation to other services is a relatively minor issue for GSCs, as irrigation revenues comprise only around 0.5% of total GSCs. Seqwater considered that a comprehensive review of operating and capital expenditure allocation should occur through the Authority's review of irrigation charges, with the outcomes of that review applied for future years commencing with the GSCs in 2013-14.

Authority's Analysis

Pending a more detailed review, the Authority proposes to continue the regulatory treatment of Seqwater's irrigation schemes adopted in previous years. That is, operating expenditure related to the irrigation schemes should be passed through to the GSCs, while any irrigation revenue (excluding renewals annuity) should be offset against GSCs.

Renewals annuity revenue is considered to be revenue reserved on behalf of irrigators to cover the costs of future asset refurbishment and replacement. As a consequence, renewals annuity revenue should be held in escrow and capital expenditure directly attributed or allocated to irrigation services should be excluded from the RAB for the GSCs.

The Authority accepts Seqwater's proposal that a more detailed cost allocation method is preferable to passing all costs and revenues through to GSCs. The Authority considers it appropriate to include this as part of the forthcoming review of SEQ irrigation charges, rather than the current GSC investigation.

Non-Grid Revenues

In relation to other non-grid activities, the Authority has identified the following potential non-regulated revenues:

(a) mini-hydro generators at Wivenhoe and Somerset Dams. In previous years, the Price Regulator treated the mini-hydro assets as non-regulated non-Grid assets, and excluded all direct operating costs and revenues from the determination of GSCs. Seqwater previously submitted that the revenue earned from non-regulated assets is minor. In 2011-12, the Authority recommended that the QWC's approach be continued for the interim regulatory period.

As the quantum is relatively minor ($360,000), the Authority has not considered it necessary to assess whether the returns to Seqwater for this purpose are above those necessary to reward Seqwater for the costs (including risks) involved. Nevertheless, as the water users are incurring the capital costs of the hydro-plant and the non-direct costs involved, there is a case for some revenue from the sale of power be returned to water customers. The Authority notes that to offset the total revenue from hydro against water revenue would remove the incentive for Seqwater to undertake mini-hydro electricity supply and incur the necessary costs involved. For simplicity, 50% of the revenue (net of direct operating costs) is recommended to be offset against water charges while the remaining 50% should be allocated to Seqwater to provide the incentive to utilise assets; and

(b) revenue earned from the leasing of water assets such as reservoirs for placement of third-party telecommunication equipment. The Authority did not recognise revenue from telecommunications facilities in its 2010-11 SEQ Interim Price Monitoring Report (QCA 2010), on the basis that this was non-regulated revenue and that revenues were not significant.

However, the Authority notes that this revenue represents low risk returns to GSPs and no costs (other than the opportunity cost of the land – which is very low) and therefore should at least in part provide some revenue offset to water users. For simplicity, the Authority proposes that 50% of the revenue ($77,347) should be offset against water charges while 50% should be allocated to Seqwater to provide the incentive to utilise assets.

3.9 Efficiency Incentives

In the 2011-12 investigation, consistent with the requirements of the Direction Notice to provide incentives for the entities to invest, innovate and pursue efficiency improvements, the Authority recommended that an incentive structure be implemented to encourage GSPs to achieve efficiency gains. This enabled GSPs to keep any cost savings achieved as a result of specific efficiency initiatives in 2011-12 and retain 50% of the saving in the next year's GSC.

The Authority proposes to continue these efficiency incentive arrangements for 2012-13. GSPs will be permitted to retain all cost savings achieved in 2012-13 relative to recommended GSCs. In addition, the GSP will receive a further 50% of any efficiency gains achieved in 2012-13 in the GSCs for 2013-14.

The Authority will consider efficiency gains affecting any component of the GSCs. However, the efficiency gains must be the result of specific initiatives implemented by the GSPs, and should be submitted for consideration as part of the review of GSCs for 2013-14.

The Authority acknowledges that the WGM's operation of the SEQ Water Grid may have cost impacts for the GSPs. The Authority recommends that cost savings achieved by GSPs as a result of WGM decisions regarding grid operation and planning should not be retained by the GSPs. The Authority will therefore also consider any efficiency measures implemented by the WGM. In the event that the WGM can demonstrate a decrease in a GSP's actual 2012-13 costs (relative to forecast) as a direct result of a WGM initiative, the Authority will recommend an equivalent decrease in GSCs, with a relevant adjustment to the 2013-14 GSCs.

Cost overruns are treated in the chapter relating to Review Thresholds.

4. SEQWATER

4.1 Background

Seqwater is responsible for storing, treating and manufacturing water for supply to the SEQ Water Grid.

Seqwater owns and manages a range of water storage assets, manufactured water assets and WTPs and groundwater assets. These include:

(a) 26 dams and weirs across SEQ, including Wivenhoe, Somerset and North Pine Dams, Hinze Dam on the Gold Coast and Baroon Pocket Dam on the Sunshine Coast. Seqwater also owns the land inundated by the dams up to the flood margin, although at some storages such as Wivenhoe and Somerset Dams, it owns land beyond the flood margin;

(b) 46 operational WTPs, the largest of which are Mt Crosby, Molendinar, Mudgeeraba, North Pine and Landers Shute. Of these, eight are interconnected to the Grid's bulk transport pipelines, while another 31 provide water directly to the distribution network, including standalone WTPs serving regional towns. Seqwater also owns seven minor treatment plants at recreation areas, 46 pump stations and 26 associated pipelines;

(c) a reverse osmosis desalination plant at the Gold Coast;

(d) three AWTPs located at Bundamba, Luggage Point and Gibson Island;

(e) more than 200 kilometres of large-diameter underground pipeline; and

(f) six bores and bore fields, most of which were constructed in response to the drought and transferred to Seqwater.

On 1 July 2011, Seqwater was merged with the former manufactured water provider, WaterSecure.

Purified recycled water from the AWTPs supplies water to the Tarong and Swanbank power stations. The WGM plans to expand the supply of purified recycled water to other industrial and agricultural users, and purified recycled water is identified as a backup mechanism for SEQ's dams should they fall below a combined capacity of 40% under the SOP (QWC 2011).

The Gold Coast Desalination Plant (GCDP) feeds directly into the SEQ Water Grid. The Queensland Government announced in December 2010 that the desalination plant would operate on a "hot standby" mode. This entails production being scaled back to the minimum level required to ensure the plant could come on line at 100% capacity within 72 hours and 33% within 24 hours. This mode of operation allows the WGM to have water capacity on standby to react to water quality incidents, grid asset failures, or planned maintenance.

Seqwater outsources the operation of both the WCRWS and the GCDP. Veolia Water Australia is the appointed operator for the WCRWS, while the GCDP is operated by an alliance consisted of Veolia Water Australia, John Holland Australia, and the owner Seqwater.

4.2 Capital Charge

4.2.1 Opening RAB

Under the Direction Notice, the Authority is required to accept the opening RAB for Seqwater as at 1 July 2011, as provided by the Price Regulator. The Price Regulator has determined a 1 July 2011 RAB of $5.1 billion, comprising $1.9 billion in non-drought assets and $3.1 billion in drought assets.

Seqwater's 1 July 2011 RAB values and asset lives are provided in Table 4.1 below.

Table 4.1: Seqwater RAB as at 1 July 2011

Category	*Asset*	*Value ($'000)*	*Remaining Life (years)*
Non-Drought	Local Government Assets	1,059,995	60.0
	SEQWater assets	487,998	59.6
	Aquagen Assets	123,015	59.7
	Lake Manchester	82,349	47.6
	SunWater/NRW Assets	79,941	60.0
	Actual CAPEX 2008/09	38,740	14.5
	Actual CAPEX - ongoing 2009-10	37,128	21.0
	Ongoing 2010-11 CAPEX forecast	18,683	18.7
	Sth Maclean WTP transfer	2,412	29.1
	IT Equipment	823	4.5
	Office Furniture & Fittings	747	4.0
	Ewen Maddock WTP Upgrades (CAPEX post completion)	250	28.5
	Plant and equipment	31	4.4
	Sub-total	*1,932,649*	*57.2*
Drought	Gold Coast desalination plant (IOP)	813,584	23.2
	Gold Coast desalination plant (Final Assets)	149,763	34.0
	Land for GCDP	3,496	-
	WCRW - Bundamba-Caboonbah Pipeline (Western Pipeline)	365,025	62.4
	WCRW - Eastern Pipeline 1A & 1B	311,552	54.5
	WCRW - Gibson Island AWTP	289,163	24.0
	WCRW - Bundamba 1A AWTP	220,929	25.0
	WCRW - Luggage Point AWTP	212,609	21.2
	WCRW - Bundamba 1B AWTP	198,682	23.2
	WCRW - Eastern Pipeline 2A	126,855	64.3
	Land PRW - WCRW	53,092	-
	WCRW - PRW Wivenhoe Release	35,296	68.8
	WCRW - Eastern Pipeline 2B (Kuraby PS)	31,413	30.8
	WCRW - Eastern Pipeline 2B (LPPS)	28,269	59.5
	WCRW - SRWP	23,262	59.7
	WCRW - Eastern Pipeline 1B (Wacol)	22,734	34.9
	WCRW - Luggage Point - Effluent Div Pump Stn	16,314	45.4
	Land Allocation Cost WCRW -SRWP	7,746	-
	Coominya pipeline transfer from WCRW	6,721	68.2

Esk-Wivenhoe pipeline transfer from WCRW	6,654	68.6
WCRW - Scheme Wide Telemetry	5,695	18.3
WCRW - SBS Dosing	1,068	25.4
Land Allocation Cost - WCRW PRW Wivenhoe Release	297	-
Brisbane Aquifer Project	48,528	17.2
Bromelton Offstream Storage	45,879	28.0
Ewen Maddock WTP Upgrades	42,992	27.9
Bribie Island Groundwater	39,971	17.3
Cedar Grove Weir	26,110	98.0
Enoggera Dam WTP Upgrades	11,635	28.5
Enoggera Project pain/gain liability	249	28.9
Sub-total	*3,145,583*	*34.8*
Total	**5,078,232**	**43.3**

Note: Includes former WaterSecure assets. Totals may not add due to rounding. Remaining life totals are weighted averages.

The opening RAB includes non-drought capital expenditure from 2009-10 and 2010-11, reflecting QWC's approach of adding actual non-drought expenditure into the RAB as it is incurred rather at the commissioning of the capital expenditure. In contrast, the Authority proposes to continue the approach that it was required to accept in the 2011-12 investigation, of including capital expenditure in the RAB as at the commissioning date.

Any multi-period capital expenditure projects that commenced prior to 1 July 2011 and were partially included by the QWC in the 1 July 2011 RAB will be added to the RAB as at the commissioning date. On such projects, only expenditure incurred post 1 July 2011 has been reviewed by the Authority and added to the RAB.

4.2.2 2011-12 Capital Expenditure

The Direction Notice requires the Authority to consider any adjustments required due to an over- or under-recovery of GSCs in 2011-12. The Authority's 2011-12 Review Thresholds committed to allowing GSPs to recover actual (rather than forecast) 2011-12 capital expenditure that was prudent and efficient. The Authority therefore requested Seqwater to provide details of estimated actual 2011-12 capital expenditure[1].

Seqwater's estimated actual 2011-12 capital expenditure, compared to the forecast approved by the Price Regulator, is summarised in Table 4.2 below.

[1] Seqwater's submission date of 29 February 2012 means it could not possibly provide actual capital expenditure for 2011-12. Instead, Seqwater's submission represents estimated actuals. The Authority proposes a further adjustment for actual 2011-12 capital expenditure as part of a subsequent review.

Table 4.2: Seqwater's Proposed 2011-12 Capital Expenditure ($'000)

Category	*Type*	*Approved Forecast*	*Estimated Actual*
Drought	Infrastructure	404.2	844.1
Non-Drought	Infrastructure	40.2	22.9
	Non-infrastructure	7.8	9.4
Total		**452.3**	**876.4**

Note: Totals may not add due to rounding.

2011-12 Drought Capital Expenditure

Hinze Dam

The much greater than forecast level of drought expenditure is almost entirely due to the deferral of the completion date of the Hinze Dam Raising project from 2010-11 to 2011-12. The expected commissioning of Hinze Dam capital expenditure in 2011-12 is offset by a corresponding decrease in the 1 July 2011 RAB. Table 4.3 shows that the net effect is a slight decline in the expected total cost of the Hinze Dam Raising project.

Table 4.3: Hinze Dam Raising cost forecasts ($ million)

	2011-12 GSC investigation	*2012-13 GSC investigation*
1 July 2011 RAB	433.8	-
2011-12 capital expenditure	11.3	443.4
2011-12 land acquisition	9.0	9.0
2011-12 defects liability	10.0	10.0
Total	**464.1**	**462.4**

Note: Totals may not add due to rounding.

Wyaralong Dam

Seqwater submitted that additional information regarding the components of Wyaralong Dam expenditure has become available since the 2011-12 investigation. Table 4.4 refers.

Table 4.4: Wyaralong Dam construction costs ($ million)

	2011-12 GSC investigation	*2012-13 GSC investigation*
Dam Construction	373.4	281.6
Land Acquisition	-	45.1
Road Construction	-	46.7
Total	**373.4**	**373.4**

Note: Totals may not add due to rounding.

Seqwater submitted that the road component of construction attracted a separate cost of debt (see section 4.2.6 below), while the new information regarding the land component will affect Seqwater's depreciation revenue (as land does not depreciate).

Gibson Island AWTP

Seqwater submitted that the revised 1 July 2011 RAB now only includes capital expenditure incurred during 2010-11. As a consequence, 2011-12 works on Gibson Island AWTP have been excluded from the 1 July 2011 RAB and therefore need to be included as 2011-12 capital expenditure. Table 4.5 refers.

Table 4.5: Gibson Island AWTP cost forecasts ($ million)

	2011-12 GSC investigation	*2012-13 GSC investigation*
1 July 2011 RAB	284.8	289.2
2011-12 Change Request capital expenditure	-	1.3
2011-12 Practical Completion capital expenditure	-	6.1
Total	**284.8**	**296.5**

Note: Totals may not add due to rounding.

As required by the Direction Notice, the Authority has included the full project cost of Seqwater's 2011-12 drought capital expenditure in the RAB. As noted above, the Authority included the capital expenditure from the date of commissioning.

2011-12 Non-Drought Capital Expenditure

Seqwater's submission

Seqwater submitted that the lower than forecast non-drought capital expenditure in 2011-12 is largely due to the deferral of commissioning of a large number of approved capital expenditure projects.

Table 4.6: Seqwater's proposed 2011-12 Non-Drought Capital Expenditure ($ million)

Type	*Approved Forecast*	*Estimated Actual*	*Difference*
Approved infrastructure capex	22.3	20.1	-2.2
Approved non-infrastructure capex	7.8	9.4	1.5
Un-forecast capex	-	2.8	2.8
Sub-total	*30.2*	*32.2*	*2.1*
Capex deferred to 2012-13	16.6	-	-16.6
Capex not proceeding	1.1	-	-1.1
Irrigation capex included in error	0.2	-	-0.2
Total	**48.1**	**32.2**	**-15.8**

Note: Totals may not add due to rounding.

Seqwater submitted that it expected approved capital expenditure projects that will be commissioned in 2011-12 to be underspent by $0.7 million, but has included an additional $2.8 million of capital expenditure that was not forecast at the time of the 2011-12 GSC investigation. The net difference is $2.1 million. Table 4.7 has more detail on a project level.

Table 4.7: Seqwater's 2011-12 Proposed Non-Drought Capital Expenditure ($'000)

Capital Expenditure Project	*Approved Forecast*	*Estimated Actual*	*Difference*
Landers Shute Stage 2 Trunk Main	-	1,120	1,120
ICT Merger Related ICT cCosts	-	970	970
North Pine Dam Gates Upgrade	-	873	873
Mt Crosby Eastbank Renewals	670	1,049	379
Mt Crosby Westbank Renewals	384	814	430
Power Supply Review	4,080	4,410	330
Bundamba SCADA & Control Systems	1,500	1,814	314
Access to Critical infrastructure Review (Road and Alternative Access to Sites)	923	509	-414
Treated Water Storage	1,760	100	-1,660
Mt Crosby Eastbank WTP - Raw Water Infrastructure upgrade	2,420	420	-2,000
Other (137)	18,419	20,142	1,724
Total	**30,155**	**32,222**	**2,066**

Note: Totals may not add due to rounding.

Prudency and Efficiency Review

The Authority engaged SKM to review a sample of Seqwater's 2011-12 capital expenditure for prudency and efficiency. Due to the fact that the Authority reviewed 2011-12 forecast capital expenditure as part of the 2011-12 investigation, the Authority focussed its review on capital expenditure that differed from forecast. This included capital expenditure that was not previously forecast, and estimated actual capital expenditure that varied from forecast by more than 30%.

In total, SKM reviewed seven 2011-12 capital expenditure projects for prudency and efficiency, comprising 16% of Seqwater's total submitted 2011-12 capital expenditure.

Item 1: North Pine Dam Gates Upgrade

Seqwater's Submission

Seqwater expended $873,000 on the North Pine Dam Gates Upgrade project in 2011-12, which involved the installation of a new emergency backup system to operate the five radial gates at North Pine Dam. The new backup system will be the second backup operating system for the radial gates.

Seqwater submitted that the new emergency backup system is urgently required to guarantee the operation of the radial gates and the safety of the dam. Seqwater noted that the most recent major dam safety inspection found that the redundancy of the current backup system was such that it was not satisfactory to guarantee the safety of the dam in a flood event.

SKM's Review

SKM noted this project was not submitted as part of last year's review and an assessment of prudency had not been previously completed.

SKM reported that, during the January 2011 floods, floodwaters passed around the dam gates and flowed over areas that are used to operate the gates. Discrepancies were also identified between rainfall quantities and intensities and previous flood studies. Following the floods the Dam Safety Regulator required Seqwater to undertake a review of the flood. The review found that there were four key issues identified that required upgrading at North Pine Dam.

Upon review of these findings SKM noted the need to implement upgrades to the gate operating system to allow the gates to be operated under extreme flood conditions.

SKM also noted that Seqwater discussed the works with the Dam Safety Regulator who agreed this was a satisfactory and necessary method of providing an acceptable flood passing capacity for the dam as required as part of the licence conditions of the dam.

Seqwater identified three options for guaranteeing the operation of the radial gates and the safety of the dam in a major flood event, and chose the option "Design and Install new second backup system". SKM found this to be the only viable option, as the backup system was required to be in place prior to the next wet season.

Based on the above SKM found the project to be prudent. The driver of compliance was demonstrated and an acceptable decision making process had been used. While the normal procedures were not followed, waivers were sought and received from these procedures and this was considered to be appropriate considering the urgency of the project due to significant risk to life and property.

SKM reviewed the scope of works undertaken by Seqwater and found it to be appropriate for the project. SKM noted that the standards of works adopted for this project have not been specified in documentation received to date.

SKM noted that a sole sourced tender approach was adopted to ensure that the completion date could be met. Waivers were sought and received, and SKM considered this to be acceptable due to the risks involved with delaying the project. SKM also found that, as sole tenders were sought consecutively from separate tenderers, de facto testing of the prevailing market conditions had been conducted.

With regards to timing and deliverability, SKM found that based on the available information the project should have been completed and handed over. Whilst no update on the current progress of the project was provided, it was understood that the system is operating. SKM also found the project management costs and supervision costs to be at the upper end of the typical range.

SKM assessed the project as efficient as the scope was appropriate, and the costs were reasonable and were de facto market tested.

Authority's Analysis

The Authority accepts SKM's finding that the North Pine Dam Gates Upgrade is prudent and efficient.

Item 2: Mt Crosby Eastbank WTP High Voltage Renewals

Seqwater's Submission

The Mt Crosby high voltage upgrade project consists of replacing areas of the high voltage electrical installation to improve reliability, serviceability and safety for electrical operations.

Seqwater submitted that the estimated actual 2011-12 expenditure was $1,370,000, an increase of 99% over the costs submitted to the Authority in 2011-12.

SKM's Review

As this project was submitted and reviewed as part of last year's review an assessment of prudency was not required. However, SKM noted that the information provided supported renewal as the cost driver for the project and that a criticality and condition assessment was conducted in order to determine the works required.

Seqwater noted in its sourcing strategy documentation May 2011 that the project budget will be updated after tenders are received and evaluated. SKM noted that the Mt Crosby High Voltage *Upgrade Project Sourcing Strategy* states that Seqwater will seek tender offers from the market through a 'design and construct' contract. However, the tender review report was not provided to SKM.

SKM considered that the increase in costs above those approved by the Authority was most likely justified as a result of an underestimate of the original cost estimate relative to high tender prices within the market. However, another possible explanation for the large variance in budget costs could be due to a change in scope.

SKM concluded that sufficient information was not available to determine whether a change in scope contributed to the increase in expenditure. Nonetheless, SKM found that the project was able to be delivered within the 2011-12 financial year and that the overheads applied to this project were reasonable.

SKM found that an assessment of the efficiency of the project could not be completed until additional information regarding the post contract scope is provided. As such, SKM recommended that there be no increase to the value approved by the Authority in its 2011-12 review (SKM 2011).

Authority's Analysis

The Authority has accepted SKM's finding that there was insufficient information to assess the expenditure as efficient. As such the Authority has not included expenditure on this project in the RAB above the $690,000 approved in 2011-12.

The Authority notes that the provision of additional documentation may demonstrate the efficiency of this expenditure. This documentation includes:

(a) the pre-contract scope of works;

(b) the tender reviews; and

(c) the post contract scope of work.

Item 3: North Pine WTP Fluoride Dosing Point Relocation

Seqwater's Submission

The North Pine WTP Fluoride Dosing Point Relocation project involves the relocation of the fluoride dosing point between the filters and the treated water storages, and to retain the existing lime dosing system (also downstream of the filters).

Seqwater estimated the cost of this project at $1,048,000 for 2011-12, $613,000 (or 141%) above the costs submitted to the Authority in 2011-12.

SKM's Review

As this project was submitted and reviewed as part of last year's review an assessment of prudency is not required.

SKM found that the project design will comply with the Fluoride Code of Practice, relevant Australian Standards and WSAA Standards.

With regards to project costs, SKM noted that Seqwater did advise the reason for the $613,000 variance to date and that Seqwater has forecast capital costs of $55,000 for the 2012-13 financial year.

SKM found that the construction cost estimate from the Design Report was $831,922. SKM noted that the estimate was produced with an accuracy of ±25% and was inclusive of a 20% contingency.

Considering the costing accuracy, SKM found the project could cost up to $1,039,000 (1.25 x $831,922) and that the cost was comparable to the expenditure of $1,048,000 detailed in the Seqwater 2012-13 Information Return.

SKM also found that Seqwater followed its procurement procedures in tendering the works for this project but no information was provided for the project; consequently an assessment of deliverability was not possible.

SKM concluded that the price submitted for the expenditure in 2011-12 was assessed to be efficient as it was comparable to the estimate on the Design Report. The scope was considered to be appropriate and the standard of works was consistent with industry practice.

Authority's Analysis

The Authority accepts SKM's finding that the WTP Fluoride Dosing Point Relocation is prudent and efficient.

Item 4: Mt Crosby Westbank Renewals

Seqwater's Submission

The original scope of the Mt Crosby Westbank WTP renewals made allowance for $383,500 of work to be undertaken that included new valves and pipework at the Mt Crosby Westbank WTP. Subsequent to the Authority's 2011-12 Final Report, Seqwater identified additional components that required renewal or replacement. The components identified by Seqwater were; two Clearwater pumps (12 and 13) which have been identified as requiring refurbishment as they have been in operation for 25 years with no major overhaul, and the refurbishment of Raw Water Pump 5.

In addition, Seqwater indicated that the raw water isolation valves will have to be replaced before work on Raw Water Pump 5 can commence and therefore the refurbishment of Raw Water Pump 5 is on hold and was now not expected to be completed within 2011-12.

Seqwater estimated the cost of this project at $814,000 for 2011-12, $430,000 (or 112%) higher than that submitted to the Authority in its 2011-12 review.

SKM's Review

As this project was submitted and reviewed as part of last year's review an assessment of prudency was not required.

Seqwater submitted to SKM that components 5, 6 and 7 in Table 4.8 below are a result of asset failures and were not included in the original budget submitted to the Authority as part of the 2011-12 Grid Service Charges Review.

SKM found that the cost of the original projects had decreased by $55,667. However this was more than offset by the addition of components 5, 6 and 7 at a cost of $485,800. Seqwater subsequently advised that component 7 was on hold and was not expected to be completed within the 2011-12 and that it was likely to be included in future years' programs.

Table 4.8: Mt Crosby Westbank Renewals Project

ID	*Component*	*Original estimated cost ($)*	*Estimated actual cost ($)*	*Component status*
1	TWB Ren: Pure Water Pump Check Valves	153,370	126,793	
2	DAF Recycle Pumps Discharge Pipe Work Replacement	59,630	51,240	
3	Basin Inlet Valves	26,000	30,000	
4	Filter Rate Control Valves	144,500	120,000	
	Subtotal A	*383,500*	*328,033*	
5	Clearwater Pump 12	New component	85,800	Under construction
6	Clearwater Pump 13	New component	100,000	With procurement
7	Raw Water Pump 5	New component	300,000	On hold
	Subtotal B		*485,800*	
	Total (Subtotal A + Subtotal B)	**383,500**	**813,833**	

Source: SKM (2012)

In its review of the scope of the proposed works SKM found that the refurbishment of the Clearwater Pumps (components 5 and 6) was initially to be funded from operating expenditures. SKM considered that these components were capital expenditure rather than operational expenditure.

SKM reviewed the costs submitted for the Clearwater Pumps (components 5 and 6) and found them to be efficient. SKM also noted that the project costs for Clearwater Pump 13 included a contingency of only 5% which it considered to be low and not sufficient to allow for any

unplanned incidents. SKM concluded that expenditure on the Clearwater Pumps (components 5 and 6) was efficient.

With regards to the Raw Water Pump 5 (component 7), Seqwater did not provide SKM with sufficient information to determine the scope of works for this component. As the refurbishment of Raw Water Pump 5 was on hold, SKM recommended its removal from 2011-12 costs.

SKM found the total prudent and efficient expenditure in 2011-12 to be $514,000.

Authority's Analysis

The Authority has accepted SKM's findings on the prudency and efficiency of this project, and has removed the cost of component 7 ($300,000) from the prudent and efficient amount. Further, the Authority notes SKM's finding that components 5 and 6 were to be initially funded from operating expenditure. As the Authority's 2011-12 recommended GSCs included an allowance for operating expenditure, which has not been reviewed in this report, the Authority considers there is a strong likelihood that Seqwater has recovered these components through operating expenditure. Seqwater should not recover the costs of these components twice. As a consequence, the Authority has also removed components 5 and 6 ($185,800 in total).

In summary, the Authority recommends inclusion of 2011-12 expenditure totalling $328,033 for this item.

Item 5: Asset Management System: P&C - Intranet Stage 2 & 3

Seqwater's Submission

This project is comprised of the two phases of the delivery of a new intranet system for Seqwater.

Seqwater estimated the cost of this project at $400,000 for 2011-12, $280,000 (or 233%) higher than the cost submitted to the Authority in its 2011-12 review.

SKM's Review

As this project was submitted and reviewed as part of last year's review an assessment of prudency was not required.

SKM found that Seqwater had prepared a detailed scope of works for the project within the *Intranet Master List of Requirements No 12*. This document detailed the 62 components that made up the project and tracked their progress. SKM found the scope of the works to be appropriate.

SKM reviewed the cost of the projects and the factors identified by Seqwater as having led to the increase in costs including:

(a) the project commenced late causing implementation costs to spill over into the 2011-12 financial year (budgeting was completed assuming full implementation of stage one of the project on the 2010-11 financial year ($150,000 or greater than 50% of the variance);

(b) the project budget figure was set before the actual costs of the delivery of the business requirements was known; and

(c) the project budget figure did not allow for some known, or any evolving, business requirements.

SKM found that based on the information provided, the project was efficient and that the basis of the increase was that the original 2011-12 budget was estimated in 2009-10.

Authority's Analysis

The Authority has accepted SKM's finding that the project is prudent and efficient.

Item 6: Caboolture WTP Renewals

Seqwater's Submission

This project at the Caboolture WTP consists of two components - the replacement of the main switchboard and the installation of a motorised trolley for the chlorine gas hoist.

Seqwater estimated the cost of this project at $378,000 for 2011-12, $235,000 (or 164%) higher than the cost submitted to the Authority in its 2011-12 review.

The original budget for the project made allowance for costs of $143,000. Seqwater indicated that the original budget was underestimated and did not allow for all the cost components.

SKM's Review

As this project was submitted and reviewed as part of last year's review an assessment of prudency was not required.

SKM found the scope and standard of the works to be appropriate noting that the current switchboard posed an increased risk of failure and was a safety hazard to operations and maintenance staff.

Seqwater advised SKM that the cost estimates provided to the 2011-12 review were developed at a very early stage in scoping the necessary work, which underestimated the likely costs. The current estimate took account of a more thorough scoping, project management cost, necessary inspections and internal costs during commissioning, as well as contingency, all of which were not adequately represented in the initial forecast. The revised costs are detailed in Table 4.9 below.

Table 4.9: Revised Project Costs

Description	***Cost ($)***
Design scope	7,500
Detail design contract	70,000
Supply and install contract	215,000
Internal costs	25,000
Subtotal	*317,500*
Project management	25,000
Contingency (8%)	27,500
Total	**370,000**

Source: SKM (2012)

SKM found the costs to be reasonable and the revised main switchboard replacement cost submitted to the Authority to be more in line with market conditions and realistic overall project costs. SKM also noted that the 8% contingency was below the industry standard contingency of 10% to 15%.

SKM concluded that the project is prudent and efficient.

Authority's Analysis

The Authority accepts SKM's find that the Caboolture WTP Renewals project is prudent and efficient.

Item 7: Esk WTP Renewals

Seqwater's Submission

This project involves a series of works to be carried out at the Esk WTP including;

(a) raw water pump renewal;

(b) replace main switch board;

(c) replace roof Clearwater tank;

(d) replace screen hoist; and

(e) construct chemical unloading bund.

The first three components were not included in the previous review of the 2011-12 budget.

A component relating to an office for the operations manager has been removed from the scope of the project since the previous review of the 2011-12 budget.

Seqwater estimated the cost of this project at $289,000 for 2011-12, $204,000 (or 340%) higher than the cost submitted to the Authority in its 2011-12 review.

SKM's Review

In its review of the project costs SKM found that for the components that were previously reviewed Seqwater did not provide an explanation of why one component had been excluded from the project's current scope.

With respect to the two remaining components, SKM noted that Seqwater did not provide an explanation of why there was a variance between the approved and actual cost.

SKM noted that the cost of replacing the screen hoist was about 8% less than the approved cost and hence was assessed as efficient. The cost of constructing the chemical unloading bund had increased by about 20%. No explanation was provided although it should be noted that the increase was a minor value (i.e. $5,000).

With respect to the three additional components, Seqwater did not provide SKM an explanation as to why the components have been included in the budget nor as to how the cost was calculated. Without additional details, SKM found that the project cost cannot be assessed as efficient.

SKM concluded that the lack of an explanation as to why the project cost had changed prevented the project being assessed as efficient.

SKM found $49,000 to be prudent and efficient in 2011-12.

For the other expenditure to be found to be efficient SKM noted that the following information was required:

(a) the project's programme;

(b) a cost breakdown for each component i.e. provide relevant quotes/ tenders;

(c) an explanation as to why one previously approved component (the office for operation manager renewals) had been excluded; and

(d) an explanation as to why three additional components were included.

Authority's Analysis

The Authority accepted SKM's finding that $49,000 of expenditure in 2011-12 was prudent and efficient, and all other expenditure has been excluded.

Summary of Prudency and Efficiency Review

In total, SKM sampled seven 2011-12 capital expenditure projects and found four to be fully efficient. SKM found that insufficient information had been provided for three projects, which the Authority therefore recommends be reduced to their original 2011-12 budgeted amount.

As shown in Table 4.10, non-drought capital expenditure is reduced by about $1.4 million or 4%.

Table 4.10: Reviewed 2011-12 Non-Drought Capital Expenditure ($'000)

No	*Project Title*	*Proposed Cost*	*Efficiency*	*Draft Recommendation*
1	North Pine Dam Gates Upgrade	873	Efficient	873
2	Mt Crosby Eastbank WTP High Voltage Renewals	1,374	Insufficient information	690
3	North Pine WTP Fluoride Dosing Point Relocation	1,048	Efficient	1,048
4	Mt Crosby Westbank Renewals	814	Insufficient information and some components removed	328
5	AMS: P&C - Intranet Stage 2 & 3	400	Efficient	400
6	Caboolture WTP Renewals	378	Efficient	378
7	Esk WTP Renewals	289	Insufficient information	49
	Total Sample	**5,176**		**3,766**
	Total Non-Drought Capex	**32,222**		**30,812**
	Total Sample/Total Capex	**16%**		

4.2.3 2012-13 Forecast Capital Expenditure

Seqwater has submitted capital expenditure, to be commissioned in 2012-13, of $77.5 million.

Table 4.11: Seqwater's 2012-13 Capital Expenditure

Capital Expenditure	*Cost ($'000)*	*Asset Life (years)*
Drought	19,800	77
Non-Drought	57,673	26
Total	77,473	39

Note: Totals may not add due to rounding. Asset lives are weighted averages.

2012-13 Drought Capital Expenditure

The majority of capital expenditure projects required under the *Water Regulation 2002* or the RWSP (DERM 2010) have now been completed, so the Authority expects the proportion of drought capital expenditure to fall in 2012-13 and subsequent years.

Seqwater's 2012-13 forecast drought capital expenditure is summarised below in Table 4.12.

Table 4.12: Seqwater's Proposed 2012-13 Drought Capital Expenditure

Capital Expenditure Project	*Asset*	*Cost ($'000)*	*Asset Life (years)*
Land Costs and Legal Costs	Wyaralong WTP	800	-
Easement Compensation Payments	Western Corridor Pipeline Network	19,000	80
Total		**19,800**	

Note: Totals may not add due to rounding.

As required by the Direction Notice, the Authority accepts Seqwater's 2012-13 drought capital expenditure values.

However, the Authority has not included costs relating to the Wyaralong WTP in the RAB. The Authority recommends that costs relating to the Wyaralong WTP should be included in the RAB at the commissioning date of the WTP. This is consistent with the Authority's recommendations regarding land acquisition costs and design work at Wyaralong WTP in 2011-12, and mirrors the approach adopted for other drought assets. It also reflects that fact that the 1 July 2011 RAB provided by the Price Regulator does not include any value relating to the Wyaralong WTP, despite Seqwater incurring expenditure during 2010-11.

Any interest incurred on expenditure to date should be capitalised at the cost of debt that applied to Wyaralong WTP.

2012-13 Non-Drought Capital Expenditure

Regulatory Budgeting

Some of Seqwater's forecast capital expenditure projects have been submitted to the Authority prior to the finalisation of a corresponding planning study. The WGM has brought this to the Authority's attention, particularly in relation to the Scenic Rim Regional Planning Study, which involves several participants and is due for completion shortly.

Seqwater submitted that its approach to forecasting capital expenditure is to only include projects that, on the balance of probabilities, it considers are likely to proceed. As such, it considered it was appropriate to include capital expenditure that met this test even if the planning study had not been completed. On the other hand, the WGM considered that proposed expenditure should not include such projects as it effectively sought the Authority's endorsement of a project before the final option (potentially a do-nothing option) has been determined.

Ultimately, only capital expenditure which is prudent (necessary) and efficient (cost effective) will be included in the asset base (see Chapter 3). This cannot be determined with certainty until after the expenditure has been incurred (and any relevant planning studies have been completed). However, as the GSC being assessed is for the year ahead (2012-13 in this case), the Authority cannot wait until expenditure has been incurred before it calculates the GSC if the GSC is to provide the best estimate of the costs of providing services in the relevant year. This militates towards the Seqwater approach and the inclusion of expenditure prior to the completion of a corresponding planning study if it was reasonably likely (i.e. on the balance of probabilities) that the expenditure was prudent and efficient.

At the same time, consideration of proposed capital expenditure before the completion of a corresponding study makes it more difficult to assess the prudency and efficiency of such expenditure. Failure to include proposed capital expenditure in the calculation of GSCs in a particular year does not prevent its inclusion in a subsequent year, even if it is incurred in an earlier year. However, it is more difficult to address the issue of expenditure previously deemed to be prudent and efficient (without the assistance of a corresponding planning study) which is subsequently found not to be so as it could well be argued that the expenditure was incurred in reliance of the assessment of it as being prudent and efficient. This militates against the Seqwater approach and towards the WGM approach.

On balance, it is considered that WGM approach is less risky and, therefore, unless there is other compelling information, the absence of a relevant planning study and options analysis will normally exclude the proposal from inclusion in GSCs in the relevant year, with consideration delayed until such information is available. In assessing whether there are any such compelling reasons otherwise, the Authority will have regard for the views of all stakeholders and the expert technical consultants employed by the Authority to assist it with the assessment of project prudency and efficiency.

While Seqwater's capital expenditure forecasts, which were presented to the Authority in February 2012, should be well-informed regarding expenditure for the 2012-13 period, the Authority notes that relevant planning studies and options analyses are not always available for the Authority's review. As indicated above, this makes the Authority's assessment task more difficult and problematic.

Moreover, it is not appropriate for the Authority to recommend that two competing proposals to address the same service requirement should be included in GSCs. In this regard, the Authority notes that, in the instance of Image Flat, Seqwater and LinkWater have each submitted capital expenditure projects that are effectively mutually exclusive. In addition, it is also possible that on occasions DR entities could submit solutions to service requirements that compete with GSPs' proposals.

To address this issue, the Authority recommends that an attempt should be made between the relevant parties to resolve such competing proposals. Where agreement cannot be reached, the Authority will need to rely on its own analysis.

Prudency and Efficiency Review – Sampled Items

The Authority has conducted a review of prudency and efficiency of Seqwater's proposed 2012-13 capital expenditure. As noted in its 2011-12 Final Report, the Authority has not re-assessed the prudency of projects that were previously reviewed and found prudent by the Authority.

The Authority engaged SKM to review a sample of Seqwater's 2012-13 capital expenditure for prudency and efficiency.

In total, SKM sampled eight 2012-13 capital expenditure projects for prudency and efficiency (Items 1-8 below), comprising 35% of Seqwater's total submitted 2012-13 capital expenditure.

<u>Item 1: Mt Crosby WTP Water Quality Improvement</u>

Seqwater's Submission

The Mt Crosby WTP Water Quality Improvement project involves the upgrading of a number of chemical systems to enable the plants to better manage dirty water events including turbidity and manganese events.

Seqwater's submitted cost and timing of this project have changed substantially relative to the 2011-12 investigation. Table 4.13 refers.

Table 4.13: Mt Crosby WTP Water Quality Improvement ($)

Submission	*2010-11*	*2011-12*	*2012-13*	*Total*
2011-12 Submission	1,086,278	1,000,000	0	**2,086,278**
2012-13 Submission	Not Provided	3,769,000	24,000	**3,793,000**

SKM's Review

SKM noted that, as the prudency of the project was established during the 2011-12 investigation, a re-assessment of prudency was not required.

SKM noted that alternative options were examined, including a do nothing approach. Based on the provided information SKM concluded that the scope presented by Seqwater was the best means of achieving the desired outcomes. SKM found that Seqwater followed its procurement policies and procedures.

The forecast costs for this project provided by Seqwater to SKM are detailed in Table 4.14.

Table 4.14: Mt Crosby WTP Water Quality Improvement

	Cost ($)	*Calculation*
Contract sum	3,300,000	
Contract contingency	495,000	15% of contract sum
Contract Total	*3,795,000*	
Project Contingency	210,000	6% of contract sum
Project management	495,000	15% of contract sum
Original Total	*4,500,000*	
Pre-coagulation caustic dosing system replacement	416,076	
Total	**4,916,076**	

Source: SKM (2012)

SKM found that the contract contingency ($495,000) and project contingency ($210,000) were considered to be for the same purpose. This in effect is a 21% contingency, which is beyond industry standards. However, it noted that as the actual expenditure is entered into the RAB, the overly generous allocation of contingency should not carry through.

Seqwater submitted that there was an opportunity to achieve a significant cost saving, approximately 50%, by adding the Mt Crosby Eastbank Caustic Dosing System Replacement (at a cost of $416,076) to package the works already awarded to a contractor for the Mt Crosby

Chemical Dosing System Upgrade. SKM found that a benefit realisation plan should be implemented to measure the achievement of the efficiencies.

SKM concluded that the project was efficient as the scope was appropriate, the standards of works were consistent with industry practice and the costs were consistent with prevailing market conditions.

Authority's Analysis

The Authority notes SKM's finding that this project is efficient. The Authority notes a disparity between the amount reviewed by SKM and that provided to the Authority. On the basis that Seqwater's submitted amount is lower than that deemed efficient by SKM, even when accounting for a duplication of contingencies, the Authority has accepted Seqwater's submission and included a total of $3,793,000 in its recommended GSCs.

Item 2: Various WTP Chemical Dosing Improvements

Seqwater's Submission

This project involves various improvements to the chemical dosing plants to enable Seqwater to meet the regulatory requirement of fluoridating public water supplies servicing a population of over 1,000 people.

Seqwater estimated the cost of this project at $1,462,000 to be completed in 2012-13. Seqwater had previously expected this project to be completed in 2011-12, and had submitted an amount of $750,000 during the 2011-12 review.

SKM's Review

As this project was submitted and reviewed as part of last year's review an assessment of prudency was not required.

SKM reviewed the Project Management Plan and found the work method to be an appropriate method to ensure a more reliable fluoridation rate, noting that Seqwater identified a total of 112 fluoride improvement items as of 28 November 2011.

SKM found that the standards of works adopted for this project was that all work must meet the following legislative requirements:

(a) the *Water Fluoridation Act 2008 (Qld)*; and

(b) the *Queensland Water Fluoridation Regulation 2008 (Qld).*

SKM noted that the Project Management Plan stated that due to this being a program of works a range of procurement delivery alternatives would be implemented. SKM found that the overarching procurement implementation method in the Project Management Plan conformed to industry practice and ensured that all work undertaken was market tested. However, sufficient information was not provided to determine whether Seqwater followed its procurement procedures in tendering and awarding the works for the various projects.

Seqwater did not provide documentation showing the procurement method implemented for the various projects and consequently it was not possible for SKM to determine whether Seqwater followed the overarching procurement method.

SKM concluded that it did not receive sufficient information to assess whether the cost increase for the various WTP chemical dosing improvement projects undertaken were efficient. The

value of expenditure considered efficient by SKM was the $750,000 amount submitted in 2011-12.

Authority's Analysis

The Authority accepts SKM's finding that there was insufficient information to assess the expenditure as efficient. As such the Authority has not included expenditure on this project in the RAB above the $750,000 included in 2011-12.

The Authority notes that the provision of additional documentation may demonstrate the efficiency of this expenditure. This documentation includes:

(a) a list of projects showing the cost breakdown of the original budget of $750,000 and the actual estimated expenditure;

(b) documentation demonstrating the various procurement methods implemented for the various projects;

(c) documentation demonstrating the method of identifying the various projects;

(d) documentation in regard to the status of the various improvement projects; and

(e) documentation showing how corporate costs have been allocated to the various improvement projects.

Item 3: Mt Crosby Eastbank Renewals

Seqwater's Submission

This project is concerned with the renewal of existing assets at Mount Crosby Eastbank WTP.

The Works comprise 11 components being:

(a) Pump Station Crane renewals;

(b) Camerons Hill flow meter delivered water pipeline outlet;

(c) Asbestos removal;

(d) Sludge pipeline;

(e) Renewals project management;

(f) Flow control valve;

(g) Raw water pump 12;

(h) Backwash pipe work;

(i) Filter bank stage 2;

(j) Pump priming system; and

(k) Switchboards.

Seqwater estimated the cost of this project at $1,434,000, to be completed in 2012-13. This represented a 79% increase on the total project amount of $799,627 during the 2011-12 review. Of the project total, Seqwater submitted that the majority of this expenditure ($1,374,000) was incurred in 2011-12.

SKM's Review

SKM's analysis focussed on the change in expenditure incurred during 2011-12.

Of the 11 components comprising this project, eight components were submitted during the 2011-12 investigation. As such these components did not require a prudency assessment.

SKM noted that the three other components related to "a change in scope of one project, one new project, and one project being brought forwards from 2012-13".

SKM's review of the scope of the works found them to be appropriate but noted that no information was provided on the following components:

(a) Camerons Hill Flow Meter;

(b) Renewals Project Management; and

(c) Pump Priming System.

In reviewing the project costs, SKM noted that budget estimates within the documents received for each subproject were not consistent with the information provided in response to its request for information. The variances are shown in Table 4.15 below.

Table 4.15: Project Cost Variances

Project	*Budget (project specific documents)*	*Revised Budget*	*% Difference*
Pump Station Crane Renewals	-	$65,000	-
Cameron's Hill Flow Meter Delivered Pipeline Outlet	-	$50,000	-
Asbestos Removal	$171,500	$150,000	-13%
Sludge Pipeline	$62,500	$220,000	252%
Renewals Project Management	-	$1,094	-
Flow Control Valve	$131,000	$151,000	15%
Raw Water Pump 12	$200,000	$94,380	-53%
Backwash Pipe Work	$60,000	$56,500	-6%
Filter Bank Stage 2	$61,500	$61,500	0%
Pump Priming System	-	$50,000	-
Switchboards	$102,000	$150,000	47%
Total	**$954,5941**	**$1,049,474**	**10%**

Source: SKM (2012)

Seqwater provided SKM with a justification of these variances and SKM found this to be supported by the scope of works for the various components.

SKM concluded that notwithstanding that insufficient evidence was provided, particularly for the three sub-projects; sludge pipe work, the asbestos removal and the switchboard replacement, the brief scope of works for these three sub-projects was acceptable. SKM therefore assessed the project to be both prudent and efficient.

However, SKM also noted the need to develop a comprehensive audit document trail for this project. For this to occur SKM recommended the following items be provided:

(a) a breakdown of costs by sub-project including project management, design and contingencies;

(b) standards of works;

(c) evidence of procedures used; and

(d) project plan.

Authority's Analysis

The Authority notes SKM's finding as to the prudency and efficiency of this project. However, the Authority notes the substantial information inadequacies identified by SKM, and considers

that this is not acceptable for a project largely completed in 2011-12, for which information should be readily to hand. The Authority therefore excluded three sub-projects totalling $520,000 from recommended GSCs pending the provision of more information.

Item 4: North Pine WTP Filter upgrade

Seqwater's Submission

The North Pine WTP filtration system is to be upgraded to address the decreasing reliability of the existing assets at the North Pine WTP. Seqwater estimated the cost of this project at $4,551,000 to be completed in 2012-13, 98% higher than the $2,297,157 value submitted to the Authority during the 2011-12 review.

SKM's Review

SKM's assessment focussed on the expenditure incurred during the 2011-12 year, of $2,551,000.

As this project was submitted and reviewed as part of last year's review an assessment of prudency was not required.

SKM found that insufficient information was provided to allow an assessment of efficiency, and that no information was provided to explain the cost increase above those reviewed in 2011-12. Additionally no details were received confirming the delivery method, the tender process, the current status of the project's program or the standards of work.

Authority's Analysis

The Authority has accepted SKM's finding that there was insufficient information to assess the expenditure as efficient. As such the Authority has not included expenditure in 2012-13 on this project in the RAB beyond the $2,297,157 value submitted in 2011-12.

The Authority notes that the provision of additional documentation may demonstrate the efficiency of this expenditure. This documentation includes:

(a) an explanation of the cost increase;

(b) the project Cost Plan;

(c) tender process and review;

(d) the project program; and

(e) confirmation of the standard of works.

Item 5: Gold Coast Desalination Plant Autoflush

Seqwater's Submission

Seqwater proposed to undertake upgrades of the GCDP to enable autoflush of SAF pumps and headers, at a cost of $2.0 million in 2012-13.

WGM's Submission

The WGM noted that the desalination facility is required to continue operations in stand-by mode. The WGM considered that, while maintaining availability, expenditure on upgrades should be minimised.

Seqwater's Response to the WGM's Submission

Seqwater submitted that the autoflush proposal is not driven by capacity, but rather potential efficiency and WHS compliance. Seqwater noted that, had it been known that the GCDP would be operating on hot standby (or at 33% utilisation) when it was constructed, these works would have been incorporated in the original design.

SKM's Review

In its initial assessment of costs, SKM noted that the information provided in the preliminary business case was not consistent with the costs within Seqwater's submission to the Authority. SKM was advised by Seqwater that of the total $1.975 million cost of the project, approximately $400,000 was to be funded by the Construction Alliance.

Seqwater nominated renewals as the cost driver for this project. However, Seqwater indicated to SKM that the decision to automate the flushing system was multi-factorial with consideration given to efficiency improvement, safety and reduced pipework deterioration. Based on this SKM found that that business efficiency and service were more appropriate cost drivers for the project.

SKM found the options analysis undertaken by Seqwater included three options including a "do nothing" option. SKM considered this appropriate.

SKM concluded that the project was prudent and that the primary cost driver should be amended to business efficiency.

SKM reviewed documentation including the *Preliminary Business Case for Super Duplex Pump and Header Draining and Flushing at the Gold Coast Desalination Plant*. Based on the information provided, SKM found the scope of works to be appropriate.

The Business Case reviewed by SKM contained the budget estimate for the project. SKM noted that this estimate included a contingency of ±15% for executing the works under the Veolia Water Alliance. It also listed the cost of the manual flushing system to be funded by the Construction Alliance at $431,000. The difference between the submission and the preliminary Business Case was not established.

Whilst SKM found that the preliminary Business Case required updating, it assessed the project as prudent as the primary driver of business efficiency had been demonstrated, a subordinate driver of service was also relevant and an appropriate decision making process was followed.

SKM assessed the project as efficient as the scope (which required further refinement) was acceptable, the standards of works were expected to be consistent with industry practice and the amended costs appeared reasonable.

Authority's Analysis

The Authority accepts SKM's finding that this project is both prudent and efficient, with the exception of $431,000 of costs to be funded by the Construction Alliance.

Item 6: Business Driven Projects from ICT Operations Plan - Plant and Equipment

Seqwater's Submission

Seqwater proposed $1.7 million of expenditure in 2012-13 for seven projects which form part of the ongoing ICT Ops Plan Plant and Equipment program. The seven projects and their 2012-13 costs are outlined in Table 4.16 below.

Table 4.16: 2012-13 ICT Ops Plan Plant and Equipment Programme Expenditure

Project	*Cost 2012-13 ($)*
Website Redevelopment Project	100,000
Facilities and Property Management	100,000
Water Quality Management System	300,000
Citrix Review Architecture Strategy	500,000
Enterprise Compliance and Risk Management	400,000
Seismic Network consolidation	150,000
Water Billing and Trading Solution	150,000
Total	**1,700,000**

Source: SKM (2012).

SKM's Review

SKM found that the drivers of the seven projects ranged from improvement, though renewal to compliance. Improvement comprised the largest value. SKM also reviewed the status of the individual projects and found that the decision making process was appropriate.

SKM concluded that the project was prudent, the primary driver of improvement was demonstrated and an appropriate decision making process was documented.

SKM found for all projects the scope of works to be appropriate for their respective current state and that the standard of works was consistent with industry practice.

In its review of the individual project costs SKM found that most were based on the industry knowledge of the Project Manager and subsequently reviewed by the Project Director. If necessary an informal peer review by industry participants (Gartner) was completed. SKM found this to be an appropriate process.

In its review SKM found that the 2012-13 project (program) expenditure was efficient as the scope was appropriate, the standards of works were expected to be consistent with industry practice and the preliminary costs were reasonable.

However, SKM noted that this was a program of projects and only project schedules for capitalisation in 2012-13 were reviewed. It did not conduct an assessment of the prudency and efficiency of later projects to be completed. Consequently, these amounts cannot be determined as prudent or efficient.

SKM recommended that this budget be reviewed in future years when information is available. In addition, SKM noted that the quantum of increase in 2013-14 expenditure is too large (+ 188%) to allow approval by projection.

Authority's Analysis

The Authority has accepted SKM's finding that the 2012-13 projects of the ICT Ops Plan Plant and Equipment programme are prudent and efficient. The Authority notes SKM's concerns

regarding expenditure beyond 2012-13, and recommends that Seqwater address these issues in submissions to future regulatory investigations.

Item 7: Gold Coast Desalination Plant Repairs and Maintenance Asset Replacement

Seqwater's Submission

Seqwater proposed $3.81 million of expenditure for the supply and installation of new reverse osmosis (RO) membranes and cartridge filters at the GCDP to continue to meet its contractual water quality requirements.

SKM's Review

SKM noted that membranes and filter cartridges by their nature are required to be replaced on a periodic basis, due to deterioration of the filtering material with the consequent increase in consumables and reduction in the quality of water being produced.

The business case for the replacement of the membranes and filter cartridges is currently being developed by Seqwater and was not provided to SKM.

SKM noted that the project included the replacement of 30% of membranes and first pass RO filter cartridges and 2% of second pass RO filter cartridges. SKM received no documentation of the decision making process followed.

However, SKM noted that the level of operation of the plant was significantly less than the design and expected operation. As such no replacement of membranes and cartridges occurred since the plant began operation in 2009. SKM found that an allowance of 5% per annum for the replacement of membranes and cartridges was included in the plant's budget, and on this basis project was found to be prudent.

Based on the available information, SKM found the replacement of 30% of membranes and first pass RO filter cartridges and 2% of second pass RO filter cartridges to be an appropriate scope of works for the project.

SKM found that that the preliminary cost estimate for the project was developed from the RO membranes purchase order from the supplier, dated July 2010. SKM considered that this was an appropriate method to calculate the cost estimate given the project's phase of development.

SKM therefore found the project to be efficient as the scope was appropriate, the standards of works were expected to be consistent with industry practice and the preliminary costs were defendable. It is noted that the cost estimate was based on preliminary estimates only (which should be subject to ex post review once incurred).

Authority's Analysis

The Authority has accepted SKM's finding that this project is prudent and efficient.

Item 8: Holts Hill Chlorine Control Building Foundation Repairs

Seqwater's Submission

Seqwater proposed $2.26 million of expenditure for the Holts Hill Chlorine Control Building Foundation Repairs project commencing in 2011-12, but commissioned in 2012-13. This project includes the construction of a new prefabricated building sited over the existing chemical bund on a suspended concrete deck at road level. The building would house all electrical and control components apart from a new pole-mounted transformer and a skid-

mounted generator. The existing building would be demolished and reforming earthworks undertaken.

SKM's Review

The cost driver nominated by Seqwater for this project was service. SKM found that multiple investigations were conducted over a period of years (Brisbane City Council in 2002, GHD in 2009 and Worley Parsons in 2010) with the consistent recommendation that the chemical building should either be relocated to a safer site at Holts Hill or retained with stabilisation and remediation of the slope and building. SKM concluded that service was an acceptable cost driver for this project.

SKM also found that an acceptable decision making process was documented for the project. Therefore SKM concluded that the project was prudent.

In its review of the scope of the project SKM found that scope of works for the project was considered appropriate.

The 2012-13 project budget was assessed by SKM as efficient as the scope was appropriate, the proposed standards of works were consistent with industry practice and the costs will be market tested by the tender process.

Authority's Analysis

The Authority accepts SKM's finding that this project is prudent and efficient.

Prudency and Efficiency Review – Un-Sampled Items

In addition to SKM's review of Items 1-8 above, the Authority has made comment on a further six individual capital expenditure items (Items 9-14 below), many of which were the subject of a submission from the WGM.

These items were not subject to prudency and efficiency review by SKM and the Authority's findings are therefore of the nature of preliminary observations, based on readily available information. The Authority's observations are offered to promote submissions to enable more detailed review by SKM prior to the Final Report.

Item 9: Woodford WTP Upgrade

Seqwater Submission

Seqwater has proposed a number of minor works to upgrade the Woodford WTP, at an estimated cost of $274,000, to be commissioned in 2012-13.

Table 4.17: Woodford WTP Proposed Capital 2012-13 Expenditure ($'000)

Project Description	*Cost ($'000)*
Old Plant - Filters - Filter 1	140
Chemical delivery Bund	65
Turbidity (Post Primary Filter)	10
Raw Water pH	8
pH - Post Primary Filtered Water	8
Raw Water Turbidity	13
Old Plant - Backwash Pump	30
Total	**274**

Note: Totals may not add due to rounding.

WGM's Submission

The WGM submitted that supply from the Woodford WTP was not required.

The WGM noted that the Woodford demand zone was currently being supplied from the Northern Pipeline Interconnector via Elimbah Reservoir. The WGM submitted that this mode of operation was reflected in the current Annual Operations Plan and Grid Instructions.

The WGM considered that, given that no supply was required, the Woodford WTP could be decommissioned, avoiding the need for any future capital expenditure. The WGM submitted that a decision to decommission the Woodford WTP would have no material impact on water security over the short or long term, as the entitlement from this source was 1,250 ML, compared to current Grid-wide demand of about 290,000 ML per annum.

Seqwater's Response to the WGM's Submission

Seqwater submitted that the proposed capital expenditure for the Woodford WTP in 2012-13 was primarily related to renewal works rather than upgrades. Seqwater submitted that some of this renewals work may still be required irrespective of whether supply is delivered by the plant, in order to maintain compliance with other legislative obligations.

Seqwater noted that, if it was decided that supply was not required from Woodford WTP, there would be a need for operating expenditure associated with the decommissioning works.

Authority's Analysis

The Authority notes that the Direction Notice requires it to accept production forecasts that are consistent with Grid Instructions forecast in the WGM's Annual Operations Plan (WGM 2011) and any relevant information provided to GSPs in accordance with the SOP (QWC 2011). The Annual Operations Plan (WGM 2011) forecasts supply from the Woodford WTP in 2012-13, in contradiction to the WGM's submission (WGM 2012) that supply is not required. However, the Authority notes that the Annual Operations Plan (WGM 2011) pre-dates the WGM's submission (WGM 2012). Furthermore, the Authority considers that the WGM's submission to

the Authority constitutes relevant information provided to Seqwater in accordance with the SOP (QWC 2011).

The Authority notes that Seqwater has considered that some capital expenditure may still be required, but has not provided further justification.

On this basis, the Authority accepts the WGM's submission that supply from the Woodford WTP was not required to meet its obligations under the System Operating Plan (QWC 2011). The Authority therefore recommends that all proposed capital expenditure on the Woodford WTP is not prudent and has excluded $274,000 of capital expenditure in 2012-13.

Item 10: Caboolture WTP Upgrade

Seqwater's Submission

Seqwater has proposed a number of minor works to upgrade to the Caboolture WTP, at an estimated cost of $511,000, to be commissioned in 2012-13.

Table 4.18: Caboolture WTP Proposed Capital Expenditure ($'000)

Project Description	***Cost ($'000)***
Primary Filters 1 and 2	420
Flash Mixing pH	8
Post Dosing pH	8
Sodium Hydroxide System	15
Delivered Water System - Pipework and Valves	60
Total	**511**

Note: Totals may not add due to rounding.

WGM's Submission

The WGM submitted that supply from the Caboolture WTP was not required.

Instead, the WGM noted that the Caboolture demand zone was currently being supplied from the Northern Pipeline Interconnector. The WGM submitted that this mode of operation was reflected in the current Annual Operations Plan (WGM 2011) and Grid Instructions.

The WGM considered that operating without the Caboolture WTP had no material impact on water security over the short or medium term. In relation to system reliability, the WGM submitted that there was sufficient reservoir capacity in this area to continue supply of water in periods when pipelines from Landers Shute or the Northern Pipeline Interconnector were being maintained. The WGM suggested that, given that no supply was required, the Caboolture WTP could be decommissioned, avoiding the need for any future capital expenditure.

Seqwater's Response to the WGM's Submission

Seqwater submitted that the proposed capital expenditure for the Caboolture WTP in 2012-13 was primarily related to renewal works rather than upgrades. Seqwater submitted that some of this renewals work may still be required irrespective of whether supply is delivered by the plant,

in order to maintain compliance with other legislative obligations. Seqwater noted that switching off this plant would lead to a potential loss of water allocation of 4,200ML, which may have impacts on the timing and costs associated with bringing forward future water sources.

Seqwater noted that, if it was decided that supply is not required from Woodford WTP, there would be a need for operating expenditure associated with the decommissioning works.

Authority's Analysis

The Authority notes that the Direction Notice requires it to accept production forecasts that are consistent with Grid Instructions forecast in the WGM's Annual Operations Plan (WGM 2011) and any relevant information provided to GSPs in accordance with the System Operating Plan (QWC 2011). The Annual Operations Plan (WGM 2011) forecasts supply from the Caboolture WTP in 2012-13, in contradiction to the WGM's submission that supply is not required. However, the Authority notes that the Annual Operations Plan (WGM2011) pre-dates the WGM's submission (WGM 2012). Furthermore, the Authority considers that the WGM's submission to the Authority constitutes relevant information provided Seqwater in accordance with the SOP (QWC 2011).

The Authority notes that Seqwater has considered that some capital expenditure may still be required, but has not provided further justification. The Authority notes that water allocation may go unused if WTPs are decommissioned, but they are not permanently lost. The Authority notes that the WGM holds water allocations in SEQ, not Seqwater. The Authority considers that the WGM will bear the consequences of unutilised water allocations resulting from its submission (WGM 2012).

On this basis, the Authority accepts the WGM's submission (WGM 2012) that supply from the Caboolture WTP is not required to meet its obligations under the SOP (QWC 2011). The Authority therefore recommends that all proposed capital expenditure on the Caboolture WTP is not prudent and has excluded $511,000 of capital expenditure in 2012-13.

<u>Item 11: Luggage Point AWTP – BP Connection</u>

Seqwater's Submission

Seqwater proposed to undertake construction of a connection from the Luggage Point AWTP to the British Petroleum (BP) refinery at a cost of $825,000 in 2012-13.

WGM's Submission

The WGM submitted that this project was needed, provided that QUU finalise proposed contracts for supply of PRW to commercial and industrial customers. The WGM considered that further costs should not be incurred until such time as those contracts were executed.

Seqwater's Response to the WGM's Submission

Seqwater submitted that normal commercial arrangements will apply and Seqwater will not go ahead with the project unless and until customers are committed.

Authority's Analysis

Subject to the receipt of further information and assessment, the Authority accepts that the construction of a BP connection is prudent, conditional on a finalised contract for supply of PRW to BP, as accepted by Seqwater.

Item 12: Kooralbyn WTP Clarifier Upgrade

Seqwater's Submission

Seqwater proposed to undertake $0.5 million of upgrades to the clarifier at the Kooralbyn WTP in 2012-13. Seqwater submitted that that these upgrades were required for compliance and service purposes.

WGM's Submission

The WGM recommended that further information is required to demonstrate the need for this expenditure.

The WGM recognised that these works may be required to address water quality risks. The WGM submitted that these water quality risks were highlighted by the WGM in its *2010-11 Annual Market Rules Review* and 18 January 2012 advice to the QWC. The WGM noted in that advice, that the risks related to the presence of protozoa for which, in the absence of detailed guidance, Seqwater has taken a conservative approach. The WGM submitted that the actual risk should be further quantified through detailed water quality monitoring prior to major capital investments being undertaken.

Seqwater's Response to the WGM's Submission

Seqwater submitted that it is currently in the planning stage for the Kooralbyn WTP and has not completed its evaluation of the possible options. Seqwater submitted that the works on the clarifier are intrinsically related to other sludge works and should occur together. Seqwater considered that water quality risks will be identified and investigated through the planning study and later stages of development.

Seqwater submitted that it is not currently planning to increase the capacity of Kooralbyn WTP and indicated that the project will not proceed if the planning study shows that it is not yet required.

Authority's Analysis

The Authority notes Seqwater's submission that the planning study has yet to indicate whether these works are required. Subject to the receipt of further information and assessment, the Authority does not propose to include this item in GSCs.

Item 13: Rathdowney WTP Sludge Handling Upgrade

Seqwater's Submission

Seqwater has proposed to undertake $0.7 million of sludge handling upgrades to the Rathdowney WTP in 2012-13.

WGM's Submission

The WGM recommended that further information was required to demonstrate the need for this expenditure.

The WGM submitted that the existing treatment capacity of the Rathdowney WTP of 0.4 ML per day exceeded forecast requirements over the next three to five years. For comparison, the WGM noted that the forecast production requirement for 2011-12 was 24 ML, which is equivalent to less than 0.07 ML per day.

The WGM submitted that mean day maximum month demand is about 23% of available treatment capacity. The WGM considered that, if sludge handling improvements are shown to be required due to environmental legislation or to maintain supply, then the equipment should be sized for no more than the predicted average demand in 2031 of 0.2 ML/day (based on medium growth forecasts).

Seqwater's Response to the WGM's Submission

Seqwater submitted that it is currently in the planning stage for the Rathdowney WTP and has not completed its evaluation of the possible options.

Seqwater is not currently planning to increase the capacity of Rathdowney WTP and indicated that the project will not proceed if the planning study shows that it is not yet required.

Authority's Analysis

Subject to the receipt of further information and assessment, the Authority does not propose to include this item in GSCs.

Item 14: Bundamba AWTP Chemical Storage Area Covers

Seqwater's Submission

Seqwater has proposed to undertake $1.0 million of capital expenditure to construct chemical storage area covers at Bundamba AWTP in 2012-13. Seqwater submitted that this project, reviewed by the Authority during the 2011-12 investigation, had been deferred from 2011-12 to 2012-13.

Authority's Analysis

The Authority notes that this project was submitted by the former WaterSecure during the 2011-12 investigation at a total cost of $0.8 million, and related to the construction of separate chemical storage area covers at Bundamba 1A and Bundamba 1B AWTPs. Following SKM's review, the Authority recommended that the construction of a cover at Bundamba 1A was prudent and efficient at an expected cost of $457,876 in 2010-11. However, the Authority recommended that the construction of a cover at Bundamba 1B was not prudent, due to the fact that Bundamba 1B is decommissioned.

The Authority has received no new information from Seqwater regarding the prudency of the cover at Bundamba 1B, and notes that 1B remains decommissioned. The Authority considers that the use of chemical storage areas at a decommissioned plant is likely to be minimal. The Authority therefore again recommends that only $457,876 of this capital expenditure project relating to Bundamba 1A is prudent, at the deferred timing of 2012-13.

Furthermore, the Authority encourages Seqwater to only include previously excluded capital expenditure projects in its proposed program if the project justification has improved and is detailed in its submission to the Authority.

Summary of Prudency and Efficiency Review

In total, SKM reviewed eight items and found four to be prudent and efficient, while one is partially efficient and three have insufficient information to establish efficiency. The Authority has also provided comment on six further capital expenditure items, and found two to be not prudent, two to have insufficient information to be considered prudent and one to be only partially efficient. Table 4.19 refers.

Table 4.19: Reviewed 2012-13 Capital Expenditure ($'000)

No	*Project Title*	*Cost Estimate*	*Prudency*	*Efficiency*	*Draft Recommendation*
	SKM Sampled Items				
1	Mt Crosby WTP Water Quality Improvement	3,793	Prudent	Efficient	3,793
2	Various WTP Chemical Dosing Improvements	1,462	Prudent	Insufficient information	750
3	Mt Crosby Eastbank Renewals	1,434	Prudent	Insufficient information	914
4	North Pine WTP Filter Upgrade	4,551	Prudent	Insufficient information	2,297
5	Gold Coast Desalination Plant Autoflush	1,975	Prudent	Partially efficient	1,544
6	Business Driven Projects from ICT Ops Plan Plant and Equipment	1,700	Prudent	Efficient	1,700
7	Gold Coast Desalination Plant - R&M-Asset Replacement	3,812	Prudent	Efficient	3,812
8	Holts Hill Chlorine Control Building Foundation Repairs	2,263	Prudent	Efficient	2,263
	Total SKM Sample	*20,275*			*16,688*
	Total SKM Sample/Total Capex (%)	*35.2%*			
	Un-sampled Items Identified in Submissions				
9	Woodford WTP Upgrades	274	Not Prudent	Not Assessed	0
10	Caboolture WTP Upgrades	511	Not Prudent	Not Assessed	0
11	Luggage Point AWTP – BP Connection	825	Prudent, subject to contract finalisation	Not Assessed	825
12	Kooralbyn WTP Clarifier Upgrade	500	Insufficient information	Not Assessed	0
13	Rathdowney WTP Sludge Handling Upgrade	650	Insufficient Information	Not Assessed	0
14	Bundamba AWTP Chemical Storage Area Covers	1,037	Prudent	Partially Efficient	458

Total Un-sampled Items	*3,797*		*1,283*
Total Reviewed Items	**24,072**		**17,971**
Total 2012-13 Non-Drought Capex	**57,673**		**51,572**

4.2.4 Post 2012-13 Capital Expenditure

Prudency and Efficiency Review – Sampled Items

Seqwater submitted that the addition of capital expenditure into the RAB at the date of commissioning increased the regulatory risk faced by Seqwater for multi-period capital expenditure. Seqwater submitted that it would appreciate feedback from the Authority relating to the 21 capital expenditure projects that are forecast to cost over $1 million in total, involve expenditure in 2012-13, but are not due to be commissioned until 2013-14 or later.

The Authority has taken note of Seqwater's submission in preparing a sample of capital expenditure items for review. The Authority engaged SKM to review a sample of 10 capital expenditure items due for completion post 2012-13 (Items 1-10 below), comprising 28% of Seqwater's total proposed post 2011-12 capital expenditure.

The Authority notes that its findings in relation to post 2012-13 capital expenditure will have no impact on the recommended 2012-13 GSCs, as capital expenditure is included in the RAB as at the commissioning date. However, the Authority will be bound by its own findings in any future investigations, subject to an ex post assessment of actual capital expenditure incurred and no further information being available which would suggest otherwise.

Item 1: Molendinar WTP Backwash Pump

Seqwater's Submission

Seqwater proposed upgrades to the Molendinar WTP to be undertaken over 2012-13 to 2014-15, at an estimated total cost of $11.7 million.

Seqwater submitted that the scope of the Molendinar WTP upgrade was a backwash pump.

WGM's Submission

The WGM considered that the current treatment capacity of the Molendinar WTP, when considered alongside the neighbouring Mudgeeraba WTP, was adequate. The WGM did not foresee a requirement to increase those capacities at any time in the foreseeable future. The WGM noted that the combined treatment capacity of the two plants exceeded both the entitlement, and average Level of Service contribution from Hinze Dam.

The WGM noted that population growth may cause the capacity of the Molendinar and Mudgeeraba WTPs to be exceeded, as was flagged in the 2010-11 Annual Market Rules Review and advice to the QWC. However, to the extent that this occurs, the WGM submitted that additional or excess demand would be supplied from alternative supplies operating within their existing capacity.

In relation to water quality, the WGM noted that the Seqwater submission referred to "changes to certain water quality parameters". The WGM submitted that these statements referred to a

trial of increased disinfectant dosing rates that was requested by Allconnex Water and that the increased dosing rates were being delivered using existing infrastructure. The WGM submitted that the trial had not yet confirmed a need for the change to take place on a permanent basis, or that capital expenditure would be required to maintain the dosing rates that were currently being delivered from existing infrastructure.

Seqwater's Response to the WGM's Submission

Seqwater submitted that the driver for the proposed works was not capacity augmentation, but rather renewals and water quality compliance. Seqwater submitted that the current sub-regional planning work will consider both network and WTP solutions. As such, the backwash pump is considered probable, and has been included in Seqwater's budget.

SKM's Review

SKM was unable to determine that the compliance cost driver identified by Seqwater was appropriate as the scope of the project was yet to be determined. The key document required to demonstrate the appropriateness of the cost driver and prudency as a whole was the *Molendinar and Mudgeeraba Issues and Options Development study* which was unavailable. Seqwater expected to receive the finished study shortly, and will then prepare a business case to be signed off in September/October 2012. Once these steps are completed, an assessment of the prudency of the expenditure and suitability of the driver can be completed.

With regards to the scope and cost of the project, SKM found that only the two pages of the KBR report were available for review. It was noted that for the Molendinar WTP a minimum capacity upgrade of 45 ML/day was inferred in the report.

Based on the information provided by Seqwater, the SKM review concluded that:

(a) prudency was yet to be established however it was prudent to conclude the options assessment in order to determine the most appropriate path going forward. An appropriate decision making process had been documented to date, including the commissioning of a comprehensive options study; and

(b) efficiency was not assessed as prudency was yet to be established.

SKM found that to enable an assessment to be completed the following information was required:

(a) details of the completion of Options Assessment;

(b) an Options Report;

(c) date of approved Business Case; and

(d) a Business Case.

Authority's Analysis

The Authority accepts SKM's conclusion that this project cannot currently be considered to be prudent.

Item 2: Mudgeeraba WTP Storage

Seqwater's Submission

Seqwater proposed upgrades to the Mudgeeraba WTP to be undertaken over 2012-13 to 2014-15, at an estimated total cost of $11.2 million.

The scope of the Mudgeeraba WTP upgrade is a 20 ML storage.

WGM's Submission

As noted in Item 1 above, the WGM considered that the current treatment capacity of the Mudgeeraba WTP, when considered alongside the neighbouring Molendinar WTP, was adequate. The WGM did not foresee a requirement to increase those capacities at any time in the foreseeable future. In relation to water quality, the WGM considered that changes to water quality parameters had not yet been confirmed.

Seqwater's Response to the WGM's Submission

As noted above, Seqwater submitted that that the driver for the proposed works was not capacity augmentation, but rather renewals and water quality compliance. Seqwater submitted that the current sub-regional planning work will consider both network and WTP solutions. As such, the storage works are considered probable, and have been included in Seqwater's budget.

SKM's Review

As with the Molendinar WTP project above, SKM found that it was unable to determine that the compliance cost driver identified by Seqwater was appropriate as the scope of the project was yet to be determined. The key document required to assess appropriateness of the cost driver and prudency as a whole was the *Molendinar and Mudgeeraba Issues and Options Development study* which was unavailable. Seqwater expected to receive the finished study shortly, and will then prepare a business case to be signed off in September/October 2012. Once these steps are completed, an assessment of the prudency of the expenditure and suitability of the driver can be completed.

Based on the information provided by Seqwater, the SKM review concluded that:

(a) prudency was yet to be established however it was prudent to conclude the options assessment in order to determine the most appropriate path forward. An appropriate decision making process had been documented to date, including the commissioning of a comprehensive options study; and

(b) efficiency had not been assessed as prudency was yet to be established.

To enable an assessment to be completed the following information was required:

(a) details of the completion of Options Assessment;

(b) an Options Report;

(c) date of approved Business Case; and

(d) a Business Case.

Authority's Analysis

The Authority accepts SKM's conclusion that this project cannot currently be considered to be prudent.

Item 3: Kilcoy WTP Upgrade

Seqwater's Submission

The Seqwater submission reflected that an upgrade of the Kilcoy WTP was underway, at an estimated total cost of $16.1 million to be commissioned in 2013-14.

WGM's Submission

The WGM noted that it had previously provided advice about this project to Seqwater, the Authority and responsible Minsters. The WGM submitted that advice remains extant.

In summary, the WGM:

(a) agreed that improvements to the existing supply are required in order to meet its contractual obligations;

(b) noted that the project cost appeared to be high, compared to benchmark rates for similar WTPs;

(c) noted that the project specifications were more stringent that what is required under its Grid Contract with Seqwater or, to the best of its knowledge, a direction from the Office of the Water Supply Regulator;

(d) recommended that the upgrades to the Kilcoy WTP be deferred by three months to enable a more fulsome comparison with a pipeline option; and

(e) requested urgent advice as to the risks associated with such a delay.

The WGM noted that the Authority considered this project in its 2011-12 investigation and encouraged Seqwater to instigate further discussions with the WGM. The WGM submitted that the recommended discussions had not occurred, and no further information or advice was provided about the concerns raised.

Seqwater's Response to the WGM's Submission

Seqwater submitted that a review of the business case was undertaken following assessment of the tenders in order to:

(a) re-estimate the net present value using the 'revised project budget' as the capital cost component for the options considered in the Business Case;

(b) re-assess the cost estimated for the grid connection option to improve the level of accuracy for capital cost estimate. The grid connection option capital cost increased from $30 million to $35 million with the level of accuracy putting the range between $25 million and $55 million;

(c) re-evaluate the assumptions and risks associated with the grid connection option to make an improved comparison with the Kilcoy WTP; and

(d) re-evaluate the scheduling for the grid connection option to identify the likely programming based on the revised timing.

Seqwater submitted that the Kilcoy WTP was still the prudent and efficient option compared to a pipeline grid connection option involving a 45 km pipeline. Seqwater concluded that a new WTP at the Kilcoy Somerset site remained the best site to treat water from Somerset Dam to supply to Kilcoy.

SKM's Review

Seqwater nominated the cost driver for this project as compliance. SKM found that this to be appropriate based on the following:

(a) the project involved the increase in treated water capacity to allow the WGM to comply with contractual obligations to Queensland Urban Utilities to address water security, quality and reliability issues;

(b) the existing water supply was vulnerable to both peak demand and asset failure, evidenced by two Level 3 emergencies during 2009 resulting in water supply and quality issues;

(c) the existing Kilcoy WTP operated in excess of 20 hours per day for 20 out of 27 days in May 2011; and

(d) Seqwater's risks assessments have identified a number of high risks with the existing treatment process.

SKM found that Seqwater conducted two phases of options analysis which included the review of both a "do nothing" option and a number of pipeline options. Based on its review of the options analysis SKM found the processes to be appropriate.

In response to the concerns raised by the WGM, SKM reviewed the revised NPV costs for pipeline options contained in the *Kilcoy Pipeline Addendum Report Update*. SKM found that in this report that the revised NPV costs for pipeline options were higher than in previous reports.

In its review of the scope of the works SKM found that there had been some significant changes to the scope of works previously proposed which were found not to be efficient by the Authority in its 2011-12 review. These scope changes and their associated costs are outlined in Table 4.20 below.

Table 4.20: Kilcoy WTP Upgrade Additional Cost Items

Additional Item	*Cost ($)*
Additional WTP Equipment Required	600,000
Upgrade to the Access Road	1,020,000
Lime/CO2 Dosing Facility	564,000
Raw Water and Treated Water Pipeline Duplications	512,000
Electricity Supply Increase	80,000
Increase in the Clear Water Storage Volume (CWS)	57,000

Source: SKM (2012).

SKM reviewed the treated water quality targets adopted by Seqwater and found that the relaxed specification for the plant of 0.3 NTU (95th percentile) and 0.5 NTU (limit) was consistent with current guidelines.

As the costs provided by Seqwater were determined through competitive tender, SKM believed that they accurately represented the current market value of the project. SKM also noted that the preferred tender selected by Seqwater was the second cheapest, with a base price of $11.31 million.

Table 4.21 below provides a breakdown of the different elements of the project cost and how each relevant element was priced as part of the tender, i.e. fixed price, pre-agreed variation or contract variation/separate contract.

SKM found the processes followed during the development of the Kilcoy WTP upgrade to be reasonable. A business case, business case review and number of revisions of the business case review have been produced to reflect the changing scope of the project.

SKM found that the outstanding question from its 2011-12 review of the project, is whether these processes were applied at the right time in the development of the project. Based on timeframes being critical to maintaining supply and advised instances of supply shortfall within the last 12 months, SKM concluded that the timing of review activities did not appear unreasonable.

Table 4.21: Kilcoy WTP Upgrade Additional Cost

Description	*Amount ($'000)*
Original Contract	
Design and Construction of WTP	10,686
Clear Water Storage Upgrade to 400kL (from 200kL)	57
Lime/CO_2 Dosing Facility	564
Contract Contingency	1,696
Total of Original Contract Budget	*13,004*
Additional Contract Budget	
Raw Water Pipeline	406
Treated Water Pipeline	106
New Access Road and Existing Road Upgrade	1,020
Subtotal of Additional Contract Budget	*1,532*
Contingency	473
Total of Additional Contract Budget	*2,005*
Total Contract Budget	**15,009**
Project Delivery	
Preliminaries and Tender Phase	281
WTP D&C Implementation	1,091
Project Implementation	668
Contingency	192
Total of Project Delivery	*2,233*
Total Cost	**17,242**

Source: SKM (2012).

With regards to the timing of the project SKM noted that Seqwater's key reason for proceeding with the construction of a new WTP at Kilcoy rather than spending more time analysing the viability of a grid supply pipeline, as suggested by the WGM, was the time constraint.

Further, SKM noted that the further development of the pipeline option would have taken additional time and construction of the pipeline option would also have had programme risks, particularly associated with required approvals in a non-drought situation.

SKM also noted that insufficient information on cost breakdowns was provided to make a full assessment of the project's overheads and contingencies but it appeared that there may have been some double counting of contingencies.

SKM concluded the project was prudent, that the primary driver was demonstrated and an acceptable decision making process was documented.

SKM concluded that project was efficient as the scope was appropriate, the standards of works were consistent with industry practice and the costs were consistent with prevailing market conditions.

Authority's Analysis

The Authority notes the WGM's submission that further discussions between Seqwater and the WGM regarding this project have not occurred. The Authority notes that these discussions were explicitly recommended in its 2011-12 Final Report (QCA 2011) which was subsequently accepted by the Price Regulator.

The Authority does not consider that Seqwater's obligations regarding customer consultation are particularly onerous, and recommends that it immediately reviews its program of consultation with the WGM to address this shortcoming.

The Authority notes SKM's recommendation that this project is prudent and efficient. The Authority would propose to accept SKM's recommendations, provided that the outcomes of the further discussions between Seqwater and the WGM do not alter SKM's findings.

Item 4: Boonah-Kalbar WTP Upgrade

Seqwater's Submission

Seqwater has proposed to upgrade the Boonah-Kalbar WTP at an estimated total cost of $9.3 million, to be undertaken from 2012-13 to 2014-15.

WGM's Submission

The WGM noted that this project was referred to in the interim statement from Seqwater to the QWC, dated 28 February 2012. That statement included advice that the project will address the key drivers of water quality and supply reliability, and peak capacity demands. The WGM noted that it also stated that total costs were estimated to be $5.3 million.

The WGM recommended, based on current information, that this capital expenditure was not required at this time.

The WGM considered that existing treatment capacity of 3.5 ML per day exceeded forecast demand over the short to medium term. For comparison, the WGM noted that forecast annual requirement for 2011-12 was about 1.7 ML per day. The WGM submitted that mean day maximum month demand was about 50% of available treatment capacity.

The WGM considered that augmentation options analysis was not expected to be required until 2021 at the earliest, for 2024 implementation.

The WGM was not aware of any water quality or reliability issues at the Boonah-Kalbar WTP.

Seqwater's Response to the WGM's Submission

Seqwater submitted that addressing raw water quality was the primary driver for Stage 1 of these works and involved removal of pathogen risk, rather than capacity. Seqwater submitted that Stage 1 accounted for 80% of the project cost, and would allow for a new raw water intake at the Gorge, with a new pump station and raw water pipeline to Kalbar WTP. A risk analysis of the Kalbar WTP indicated the risk of the raw water being contaminated with pathogens such

as bacteria, viruses and protozoa to be very high to extreme. It also indicated that the risk of the plant not having the capacity to manage viruses and protozoa was high to very high, related to chlorination contact time and the filters.

The remaining 20% of stage 1 related to plant automation and dosing system upgrade ($670,000, 2012-2014) and sludge treatment improvements ($520,000, 2012-2014), both aimed at ensuring compliance with water quality and quantity requirements. Seqwater submitted that, where demand forecasts proved to be lower than those currently suggesting capacity upgrades by 2019, then Seqwater would take advantage by deferring further capex until needed.

SKM's Review

Seqwater identified a number of cost drivers for this project including; contractual compliance, regulatory compliance, demand growth and renewals. SKM found although Seqwater have identified a number of cost drivers that the project relates to, compliance is the most prominent.

SKM noted that the information provided by Seqwater in its business case was not consistent with the costs within Seqwater's submission to the Authority. Table 4.22 shows the costs included in the business case.

Table 4.22: Boonah Kalbar WTP Upgrade Business Case

Component	*Description*	*Cost ($'000)*
1	New Raw Water Pump and Pipeline	5,558
2	Improved Control Systems to Allow Unmanned Dosing	670
3	Improvement of Sludge Treatment Facilities	520
	Total	**6,448**

Source: SKM (2012).

Regarding the timing of the project, SKM noted that the capacity of the Boonah-Kalbar WTP is likely to be exceeded in two stages:

(a) approximately 2013-14 – when demand exceeds the capacity based on the current 8-10 hour manned operation of the plant; and

(b) approximately 2019 – when demand exceeds the capacity of the plant even when operating full time.

However, SKM noted that the justification for component 1 related to raw water quality, rather than production capacity (as queried by the WGM). SKM noted that both upstream and downstream of the extraction point are substantial areas of agricultural and pastoral activities. These activities have been identified as high risks to water quality and compromise the raw water quality through the introduction of pathogens and additional sediment loads. SKM noted that, according to treated water quality presented in an options study, exceedance of the ADWG guidelines for 2-MIBs and Manganese have been detected.

While SKM found that of the three project components only component 1 was subject to detailed options analysis, SKM concluded that all three components were prudent.

With regards to the scope of the works, SKM found that for component 1 a preliminary design report detailed the scope of the works including the preliminary design, pipe route and cost

estimate details. For the remaining components SKM found that there was insufficient information to assess the appropriateness of the works.

Seqwater submitted that cost estimates were based on similar sized projects carried out in SEQ (with Rawlinson construction cost index applied), SKM's internal cost database, industry data and quotations for similar components. The estimates include a 20% contingency for component 1 and 25% for components 2 and 3 and have an accuracy of ±30%.

SKM found that the use of similar sized projects carried out in SEQ (with Rawlinson's construction cost index applied), SKM's internal cost database, industry data and quotations for similar components was an appropriate method for determining preliminary cost estimates.

SKM noted that Seqwater indicated that for component 1 a design-then-construct delivery method was to be utilised and that for components 2 and 3 a design-and-construct, delivery method utilised. SKM found this to be appropriate noting that going to the market during the design-then-construct or design-and-construct process will result in competitive pricing.

Based on the above SKM assessed component 1 to be efficient as the scope was appropriate, the standards of works were consistent with industry practice and the costs were reasonable and will be market tested.

SKM was unable to assess the efficiency of components 2 and 3 as there was insufficient information. SKM noted that the additional information required to allow the efficiency assessment of these components included finalised investigations with costs and timeframes.

Authority's Analysis

The Authority considers that Seqwater's submission and SKM's review have addressed the WGM's concerns regarding component 1 of this project, and accepts SKM's recommendation that component 1 is prudent and efficient. The Authority notes that further information is required before the Authority can accept that components 2 and 3 are efficient.

The prudent and efficient expenditure for the Boonah Kalbar WTP is detailed in Table 4.23 below.

Table 4.23: Boonah Kalbar WTP Recommended Capital Expenditure ($'000)

	2011-12	***2012-13***	***2013-14***	***Total***
Component 1	300	2,500	2,758	**5,558**
Component 2	0	0	0	**0**
Component 3	0	0	0	**0**
Total	**300**	**2,500**	**2,758**	**5,558**

Source: SKM (2012).

Item 5: Lowood WTP Upgrade

Seqwater's Submission

Seqwater has proposed to undertake sludge handling improvements and other works at the Lowood WTP, at an estimated combined cost of $3.3 million. The works are proposed to be undertaken for compliance purposes in 2012-13 and 2013-14.

WGM's Submission

The WGM recommended that further information was required to demonstrate the need for this expenditure.

The WGM submitted that the treatment capacity of the Lowood WTP exceeds forecast mean day maximum month demand to the year 2031, and potentially beyond. The WGM noted that average day demand was about 7 ML per day, compared to the treatment capacity and entitlement of 20 ML per day.

If sludge handling improvements are shown to be required due to environmental legislation or to maintain supply, the equipment should be sized for no more than the predicted average demand at 2031 of 8.4 ML per day based on medium growth.

There are also no known water quality or reliability issues.

Seqwater's Response to the WGM's Submission

Seqwater submitted that planning work is currently underway on this project, which was not an upgrade of capacity but was due to environmental requirements relating to sludge handling.

Seqwater noted that the plant had been operating at below 50% capacity and had been struggling to deal with sludge at this load. Wet weather createed significant issues and there had been a recent overflow incident.

SKM's Review

The cost driver nominated by Seqwater for this project was compliance. SKM found this to be supported by the *Needs Analysis: Lowood WTP Sludge Handling Options Assessment (Seqwater, October 2011).*

SKM found that Seqwater conducted an options analysis for the project. However, SKM noted that this did not include a "do nothing" option and that the final outcome of this analysis will not be completed until May 2012.

Based on the above SKM concluded that the project was prudent and that an appropriate decision making process had been documented to date, including the commissioning of a comprehensive options study.

SKM found that the scope of works for this project was yet to be determined. SKM also noted that no information was provided on the standard of works to which the project will conform.

With regards to efficiency, SKM found that the project was not sufficiently progressed to demonstrate the selection of an efficient option. Similarly, the scope and standard of works were not defined. Consequently, the continued investigation was prudent however the capital expenditure of the solution could not be confirmed as efficient.

Authority's Analysis

The Authority accepts SKM's finding that this project is prudent and would require further information before concluding that an efficient option has been selected. Nevertheless, the Authority notes that these findings have no direct impact on 2012-13 GSCs as it would only be recognised upon commissioning.

Item 6: Jimna WTP Upgrade

Seqwater's Submission

Seqwater proposed $1.9 million of upgrades to the Jimna WTP for compliance purposes, in 2012-13 and 2013-14.

WGM's Submission

The WGM recommended that further information was required to demonstrate the need for this expenditure.

The WGM understood that this plant has had operational improvements made since Seqwater took ownership of it, resolving many of the initial water quality issues. The WGM stated that it was not aware of any water quality or supply issues since these improvements were undertaken.

In relation to capacity, the WGM noted that current annual demand is about 13 ML (0.04 ML/day). Treatment capacity is 0.2 ML per day.

Seqwater's Response to the WGM's Submission

Seqwater submitted that the main drivers for the work were renewals, compliance and efficiency. Seqwater did not intend to expand the capacity of Jimna WTP, and the capital works did not include fluoridation capability.

SKM's Review

While Seqwater nominated compliance as the key driver of this project it noted that there were a number of different cost drivers including:

(a) renewal – purchase of the site (the current permit to occupy expires in 2016), and the installation of a new filter cell;

(b) service – automated de-sludging, intake pump replacements, and raw water main replacement; and

(c) improvement – upgrade of SCADA system.

SKM found that Seqwater had undertaken a detailed options analysis which included the examination of a "do nothing" option.

Based on its analysis SKM concluded that the project was prudent. SKM reported that the primary driver of compliance was demonstrated, primarily based on their works being the conclusion of temporary works, for which compliance was the primary driver, along with a number of supporting drivers. An appropriate decision making process was documented although SKM noted that additional information should have been provided.

With regards to the scope of the proposed works, SKM found that the need for the majority of the works was clear from the condition of the treatment plant. However, SKM noted that it was not clear if Seqwater had considered off-site sludge handling or disposal as an alternative to the new sludge handling system.

SKM concluded that scope of the works were appropriate noting that the consultant's brief for the detailed design of the upgrade works had only recently been released and the issues identified above would be addressed through the design process.

SKM reviewed the detailed project cost provided by Seqwater and found that escalation allowance of 9.4% of the total construction cost to be high.

Additionally, SKM noted that the project could be considered to have a disproportionately high cost of treatment per capita given the proposed expenditure and small number of permanent customers. However, SKM noted that Seqwater submitted that it had an obligation to supply water to recreational users as its Grid Contract is simply to supply the area, regardless of the status of the connection.

With regards to contingencies, SKM found that contingencies of 20%, 25% and 30% were used in the preparation of the cost estimate. Overall this resulted in an average contingency of 26%. This was at the upper end of a reasonable range for this stage of the project.

With regards to the WGM's submission, SKM noted that there was still design optimisation works required, which should have been undertaken as part of the detailed design phase, and that additional information needed to be provided to create a complete audit trail.

SKM also reiterated that the basis of its assessment was the assertion by Seqwater that the works were required to complete the temporary works that were undertaken to improve the facility from the non-compliant condition that it was in at the time of transfer. SKM also noted that incomplete works had created poor outcomes in the past as illustrated by several facilities transferred to Seqwater in delivery of the SEQ water reforms.

SKM concluded that the project was efficient as the scope was appropriate, the standards of works should be consistent with industry practice and the costs were consistent with prevailing market conditions.

Authority's Analysis

The Authority accepts SKM's finding that this project is prudent and efficient.

Item 7: North Stradbroke Island WTP Upgrade

Seqwater's Submission

Seqwater proposed to undertake a $4.1 million upgrade to the North Stradbroke Island WTP, to be completed in 2013-14, for the lime system and sludge lagoon.

WGM's Submission

The WGM endorsed any works required to maintain the ability to consistently access its full entitlement from the borefield. In relation to Herring Lagoon, the WGM recommended that no major expenditure occur until the future role of the supply was agreed by all parties, including both the scope of any required works and the timing of those works. The WGM considered that, based on information provided, this would appear to include the proposed lime system and sludge lagoon.

The WGM considered the North Stradbroke Island WTP was a critical WTP, providing base load supply for use in the Redlands and Cleveland demand zones and for transfer west through the Eastern Pipeline Interconnector.

The WGM noted that the North Stradbroke Island WTP accesses water from a number of bores, as well as surface water from Herring Lagoon. Water from Herring Lagoon is typically high in colour and turbidity due to vegetation tannins leeching into the water, particularly after rainfall events. High colour and turbidity make this water more costly and complicated to treat than water taken from the borefields. Specifically:

(a) treatment of water from Herring Lagoon typically involves the use of the dissolved air flotation unit. Water sourced from the borefields generally only requires pH correction and disinfection; and

(b) the Herring Lagoon WTP has two sludge pools to dry the sludge that comes from the treatment process when sourcing water from Herring Lagoon, which requires the use of a coagulant. This sludge, once dried, needs to be transported off the island for disposal with associated operational costs and environmental impacts. Sludge volumes increase with production.

The WGM noted that it, the QWC and Seqwater are currently reviewing the future role and function of the Herring Lagoon source, in consultation with DERM.

Seqwater's Response to the WGM's Submission

Seqwater submitted that DERM recently delayed its decision regarding Herring Lagoon water allocations and source extraction delaying works until 2013-14.

Due to DERM's delayed decision, Seqwater will now delay capital expenditure on North Stradbroke Island WTP in its budget until 2013-14. This project will be included in Seqwater's 2013-14 submission to the Authority.

Consequentially, Seqwater has budgeted $1.1 million for the North Stradbroke Island WTP in 2012-13.

SKM's Review

In conducting its review of the prudency of the project, SKM found that Seqwater proposed that in order to efficiently meet future demands, it required a transfer of water entitlements and extraction capacities from Herring Lagoon to bore fields to create a more reliable and consistent source of water.

Both the WGM and Seqwater have been in communication with DERM regarding the benefits and efficiencies associated with the transfer of extraction entitlements. However, DERM has indicated that it will not address the issues of the transfer of extraction entitlements until February 2013.

As the primary source of water will be a key determinant to the decision making process and the scope of the proposed works, SKM concluded that in the absence of advice from DERM it is unable to determine the prudency of the project. However SKM noted that the intent to source higher quality raw water was appropriate.

As the scope, standard and project design had not been documented it was unable to assess the efficiency of the project.

SKM recommended that additional information be provided by Seqwater to enable a complete assessment. This information should include:

(a) confirmation from DERM regarding the ability to transfer existing water extraction licences;

(b) information regarding the choice of pH correction chemical compound;

(c) a detailed scope of works;

(d) information indicating the capacity of the sludge lagoon with accompanying justification and preliminary drawings; and

(e) a cost breakdown of Seqwater's supply and install costs for the lime dosing configuration.

SKM recommended all expenditure on this project be excluded.

Authority's Analysis

The Authority accepts SKM's recommendation that further information is required before it can be determined that the project is prudent and efficient.

Item 8: Maroon Dam - Stage 1 Safety Upgrade

Seqwater's Submission

In its submission Seqwater proposed a total expenditure of $7.25 million, to be completed in 2013-14, to raise the crest of the Maroon Dam by 1.5 metres to comply with the *Acceptable Flood Capacity Guidelines* issued in February 2007 by the DERM.

SKM's Review

SKM reviewed the decision-making process adopted by Seqwater for this project and noted that a detailed multiphase options analysis was undertaken including the consideration of a "do nothing" option and the commissioning of independent advice. SKM found this decision-making process to be appropriate.

SKM found the project to be prudent.

SKM found that the scope of the works included in the budget estimate included the detailed design of the works and their construction and found that these were appropriate for the project.

SKM developed cost estimates for the project using the unit rates within the SunWater (the owner of the Dam prior to its transfer to Seqwater in 2008) *2005 Spillway Adequacy Assessment* which were escalated to current industry rates using a 4% annual escalation over seven years. SKM calculated the expected budget value to be $3.75 million for the 2011-12 financial year. Where possible, Rawlinson's 2011 Australian Construction Handbook was used by SKM for comparison. In support of SKM's calculation, a cost estimate for the 2010-11 financial year of $3.5 million was considered by Project Support Pty Ltd.

Notwithstanding the above, Seqwater's project business case showed an estimated capital expenditure of $7.9 million whilst the Grid Service Charges Information Return Spreadsheet listed a total cost of $7.25 million. Both these values are significantly larger than the SKM cost estimate of $3.8 million. SKM found that the reason for the different values in the business case and Grid Service Charges Information Return Spreadsheet was unclear. However, SKM noted that all cost estimates included project management, construction management and design costs, as well as contingency.

Utilising the information available, SKM considered that an allowance of $3.8 million inclusive of design costs was acceptable for the Stage 1 upgrade. SKM noted that more information was required detailing why Seqwater requested at least $7.25 million for Stage 1.

Furthermore, SKM noted that in the project business case it was stated that "DERM advised that funding of $12 million has been made available to Seqwater for the Maroon and Moogerah Dam spillway upgrades during 2011-12". Of this, $6 million was allocated to Seqwater for Maroon

Dam in the form of a grant. It was not apparent to SKM how this funding fitted into the spending timetable.

SKM found $3.8 million of expenditure to be efficient for 2012-13. With regards to the remaining expenditure SKM recommended that additional information be provided by Seqwater including:

(a) confirmation of the scope of the project that was being implemented in Stage 1;

(b) justification of the budget allowance of $4 million and $3 million in 2012-13 and 2013-14 respectively to implement Stage 1, when compared to the other estimates, which indicated a substantially lower amount; and

(c) explanation of why the project business case and the grid service charges information return spreadsheet showed capital expenditure which differ ($7.9 million and $7.25 million respectively).

Authority's Analysis

The Authority accepts SKM's finding that this project is prudent. The Authority recommends that all expenditure to be funded via the DERM grant be removed from GSCs. In this regard, the Authority notes the disparity between Seqwater's proposed business case ($7.9 million), Seqwater's submission ($7.25 million), SKM's recommendation of efficient capital expenditure ($3.8 million) and DERM's grant ($6 million). The Authority considers that it cannot provide an opinion on the efficient cost of this project to be recovered from water users until these disparities are reconciled.

Item 9: Beaudesert WTP Upgrade

Seqwater's Submission

Seqwater proposed to upgrade the Beaudesert WTP at an estimated cost of $9.0 million to be commissioned in 2014-15, with $2.5 million to be expended in 2012-13. The capital expenditure relates to an upgrade of the plant for compliance purposes, including raw water infrastructure.

WGM's Submission

As with the Canungra WTP and off-stream storage above, the WGM submitted that proposed capital expenditure presupposed the outcomes of a planning study that was being undertaken for Canungra and Beaudesert, led by the QWC and involving all relevant stakeholders. The WGM considered that planning investigations in relation to whether the preferred option was either a pipeline connection to the grid or a local WTP should be concluded, and a preferred strategy for servicing the Canungra and Beaudesert townships agreed by all parties, prior to any significant capital expenditure being undertaken.

The WGM noted that its previous assessments identified the potential for raw water quality risks. The WGM understood that some limited capital expenditure may be required in 2012-13 to reduce those risks until the planning study was concluded, without increasing treatment capacity to more than 4 ML per day. However, the WGM also noted that those risks have not been reflected in subsequent planning reports or in the results from water quality testing undertaken over the last 18 months - including during the major flooding events of January 2011.

Seqwater's Response to the WGM's Submission

Seqwater submitted that should the Scenic Rim Regional Planning study not demonstrate the need for this project, it would not proceed. Seqwater considered that, at the time of budgeting, the Beaudesert WTP upgrade was perceived as a component of the most likely options. Seqwater submitted that works may still be required based on other drivers such as Environmental and Water Quality compliance and renewals.

Seqwater acknowledged the more recent information provided by the WGM that the forecast demand figures were suggesting a lower than expected rebound in demand following the severe drought.

SKM's Review

SKM was unable to establish whether the cost driver nominated by Seqwater for this project (growth) was appropriate as the need for and the scope of the project was yet to be documented or provided to SKM.

It was noted by SKM that Seqwater had engaged an external consultant (Hunter Water Australia) to undertake a study to determine what options are available for the future of the Beaudesert WTP.

Given the lack of available information, SKM concluded that the prudency of the total investment was yet to be established, however it was prudent to complete the options assessment in order to determine the most appropriate path forward.

SKM was unable to conduct an assessment of the efficiency of this project as the project was not at a stage where the scope, cost and standards had been determined.

Authority's Analysis

The Authority has accepted SKM's finding that there is insufficient information to assess the prudency or efficiency of this project. Nevertheless, the Authority notes that these findings have no direct impact on 2012-13 GSCs as it would only be recognised upon commissioning.

Item 10: Flood Damage Assessment and Repairs

Seqwater's submission

In its submission Seqwater proposed $19.4 million of expenditure for the Flood Damage Assessment and Remediation Works, expected to be completed in 2013-14. These works involve remediation work at six sites to repair damage caused by the January 2011 flood event. Table 4.24 below summarises the scope of works to be conducted at each of the sites.

Table 4.24: Scope of Flood Repairs

	Removal of Debris	***Spillway remediation works***	***Embankment works***	***Road repair works***
Borumba Dam	✓	✓		
Mt Crosby Weir			✓	
Somerset Dam			✓	✓
Wilson Weir			✓	
Wivenhoe Dam	✓	✓		✓

Source: SKM (2012).

SKM's Review

Seqwater nominated renewal as the cost driver for this project. SKM found that although not specifically mentioned, the cost driver of renewals was supported by the *Dams and Weirs – Overall Seqwater Flood Damage Assessment and Remediation Works Design and Summary Report (Undated)*. SKM noted that damage sustained by the assets included in this project presented a risk of future non-compliance of the assets, especially in the event of another significant flood.

SKM concluded that the nature of the works and the justifications provided supported renewals as the relevant cost driver.

With regards to the decision-making process, SKM found that an options assessment was undertaken for each of the sub-projects, and these all included numerous options (ranging from 3 to 13 in number) with each one considering a "do nothing" option. Capital cost estimates were provided for each of the options.

In light of the above, SKM concluded that the expenditure was prudent.

SKM noted that the scope of works was developed from a shortlist of options for each sub-project. These shortlists were then assessed based on cost and non-cost criteria and a preferred option was recommended for each sub project. The options assessment process was conducted in consultation with the relevant stakeholders, and a structured and quantitative assessment process was used.

Seqwater provided SKM with detailed capital cost estimates for five of the six project components. SKM noted that the method used for the estimate of cost varied by project as a result of different consultants working on the different projects. SKM reviewed costing data across the sub-projects and found there was consistency across the sub-projects. Where a comparison was possible the variance of costs was not unreasonable.

Crucially, SKM also found that Seqwater submitted a total of approximately $19.4 million for the Flood Damage Assessment and Remediation Works, whereas the information provided for the repair of each individual dam or weir equated to a total expenditure of approximately $14.9 million, as outlined below in Table 4.25 below. Information to resolve this difference was not provided.

Table 4.25: Flood Repair Costs by Site

Location	*Total cost ($)*
Borumba Dam	1,939,200
Mt Crosby Weir	3,905,250
Somerset Dam	3,356,735
Wilson Weir	904,600
Wivenhoe Dam	4,779,000
Lake Manchester	Not Provided
Total	**14,884,785**

Source: SKM (2012).

SKM also noted that approximately $6.6 million had been included in the budget for 2011-12 and no information was provided to SKM to reconcile this expenditure. However SKM suggested this expenditure may be associated with urgent repairs required after the flood event.

With regards to efficiency, SKM concluded that the scope of the works was appropriate, the standards of works were consistent with industry practice and the costs appeared to be reasonable and should be market tested. However, SKM stated that due to the significant discrepancy in costs between the *GSC Information Return Capex 2012-13* and the detailed supporting documentation, it could not find the expenditure to be efficient at this time.

SKM noted that in order to complete its assessment of the efficiency of this project Seqwater must supply a complete breakdown of the costs associated with the project across the three years to 2013-14.

Authority's Analysis

The Authority has accepted the SKM finding that the expenditure is prudent. The Authority is unable to establish a view on the efficiency of the project until such time that Seqwater provides a full reconciliation of the costs associated with this project

Prudency and Efficiency Review – Un-sampled items

In addition to SKM's review of Items 1-10 above, the Authority has commented on seven other capital expenditure projects that were the subject of a submission from the WGM (Items 11-17 below).

These items were not subject to prudency and efficiency review by SKM and the Authority's findings are therefore of the nature of preliminary observations, based on readily available information. The Authority's observations are offered to promote further submissions to enable more detailed review by SKM prior to the Final Report.

Item 11: South Maclean WTP Upgrade Works

Seqwater's Submission

Seqwater has proposed an upgrade to the South Maclean WTP, at an estimated cost of $4.4 million, to be commissioned in 2013-14.

WGM's Submission

The WGM submitted that supply from the South Maclean WTP was no longer required.

Instead, the WGM submitted that the forthcoming Annual Operations Plans and all subsequent Grid Instructions will direct that the South Maclean Demand Zone be supplied from the Southern Regional Water Pipeline. The WGM submitted that, given that no supply is required, the WTP could be permanently decommissioned, avoiding the need for any future capital expenditure.

The WGM submitted that it does not need the water supply yield from the South Maclean Weir to comply with its obligations under the System Operating Plan and noted that, on an annualised cost basis, the South Maclean WTP is one of the highest cost WTPs in the Water Grid.

The WGM stated that it had previously provided advice to this effect to Seqwater, Allconnex Water (the relevant DR) and the QWC.

Seqwater's Response to the WGM's Submission

Seqwater submitted that, while the South Maclean WTP was not included in the option analysis for the Scenic Rim planning study, this does not, in and of itself, suggest that the South Maclean WTP is no longer required. Seqwater submitted that there were a myriad of factors to be considered before proceeding with decommissioning of the asset. For example, pump capacities and reservoir capacities in the region would need to be confirmed with the DR entity.

Seqwater also submitted that decommissioning the plant would result in loss of water allocations and notes that the South Maclean WTP is not necessarily a high cost WTP when compared to other WTPs in the regional areas adjacent to Scenic Rim.

Seqwater considered that any decision would best be made after a collaborative review by the QWC, the WGM, LinkWater and Seqwater, following the completion of the Final Report for the Scenic Rim Regional Study.

Authority's Analysis

The Authority notes that the Direction Notice requires it to accept production forecasts that are consistent with Grid Instructions forecast in the WGM's Annual Operations Plan and any relevant information provided to GSPs in accordance with the SOP. The Annual Operations Plan forecast supply from the South Maclean WTP in 2012-13, in contradiction to the WGM's submission that supply was no longer required. However, the Authority notes that the Annual Operations Plan (November 2011) pre-dates the WGM's submission (February 2012). Furthermore, the Authority considers that the WGM's submission to the Authority constitutes relevant information provided to Seqwater in accordance with the SOP.

The Authority agrees with Seqwater's submission that there are factors that need to be confirmed with the DR before decommissioning a WTP. The Authority also considers that Seqwater's concerns regarding unutilised water allocations are a matter for the WGM, as holder of the water entitlements. Finally, the Authority agrees with Seqwater's submission that the outcome of the Scenic Rim Regional Study should be considered, but is not prepared to recommend $4.4 million of capital expenditure on a WTP that the WGM will not be requiring in its Grid Instructions.

Subject to the receipt of further information and assessment, the Authority would accept that the WGM's submission that supply from the South Maclean WTP is no longer required to meet its

obligations under the SOP (QWC 2011). That is, the Authority concludes that the proposed capital expenditure on the South Maclean WTP is not prudent.

Item 12: Image Flat WTP Upgrade

Seqwater's Submission

Seqwater proposed to upgrade the Image Flat WTP at an estimated cost of $11.5 million, to be undertaken over 2012-13 to 2015-16. The purpose of the upgrade is for sludge handling and chemical dosing.

WGM's Submission

The WGM submitted that, once the connection to the Northern Pipeline Interconnector (being proposed by LinkWater – see Chapter 5) was constructed, the WGM will not require supply from the Image Flat WTP.

From that time, the WGM intended that the Sunshine Coast be primarily supplied from the Landers Shute and Noosa WTPs. The WGM submitted that these supplies will be augmented by supply from the Ewen Maddock WTP and Northern Pipeline Interconnector during peak demand periods and when supply from the other plants was constrained, including due to maintenance or poor raw water quality.

The WGM considered that, once supply was no longer required, the Image Flat WTP could be decommissioned until the year 2025, avoiding fixed operating costs and deferring the need for the proposed capital expenditure.

The WGM noted that a decision to decommission the Image Flat WTP will have no material impact on water security over the short or long term and that system reliability would increase following the connection to the Northern Pipeline Interconnector.

The WGM submitted that this advice has been provided to Seqwater during planning discussions for the Image Flat WTP during 2011.

Seqwater's Response to the WGM's Submission

Seqwater submitted that it was only proposing to spend $1.0 million in 2012-13 and the expenditure in the forward years would be conditional on the future of the plant. Seqwater considered that the work identified for 2012-13 would remain necessary, even if supply was only to continue for two to three years longer. The 2012-13 proposed works were for sludge handling and chemical dosing, much of which was required in order to maintain compliance with other legislative drivers, including environmental obligations.

Seqwater reported that decommissioning would lead to a potential loss of water allocation of 16,500ML and recommended further planning be undertaken to determine the impact of decommissioning.

Seqwater submitted that the planning study *Options Study for Bulk Supply to the Image Flat Sub-Region (2011)* recommended augmenting Image Flat with a grid supply, but rejected using the grid as a sole source of supply.

Authority's Analysis

The Authority notes capital expenditure relating to a new connection is being proposed by LinkWater that, once complete, the WGM submits will remove the need for supply from Image Flat WTP. The new connection is expected to be completed in 2012-13, while Seqwater's proposed upgrade will be commissioned in 2015-16. Further, the Authority notes that LinkWater's project is estimated to cost $2.1 million, compared to $11.6 million proposed by Seqwater.

The Authority notes Seqwater's submission that a planning study recommended that using grid supply as a sole source of supply to Image Flat was not recommended. The Authority has reviewed the report and found that the option of a grid connection was not shortlisted due, in part, to its expected cost. However, the Authority notes that LinkWater's proposed grid connection is expected to be substantially cheaper than Seqwater's proposed WTP works.

Subject to the receipt of further information and assessment, the Authority considers that the timing, cost and WGM endorsement of the grid connection option implies that Seqwater's proposed capital expenditure is not prudent.

Item 13: Canungra WTP Upgrade and Off-Stream Storage

Seqwater's submission

Seqwater proposed to construct off-stream storage at Canungra, at an estimated cost of $4.3 million, and to upgrade the Canungra WTP, at an estimated cost of $1.2 million. The works were proposed to be undertaken between 2011-12 and 2015-16, with expenditure of $1.4 million in 2012-13. Seqwater submitted that the project was due to population growth in the Canungra area, more high priority water from Canungra Creek, and required an off-stream storage.

WGM's Submission

The WGM submitted that the proposed capital expenditure presupposed the outcomes of a planning study that was being undertaken for Canungra and Beaudesert, led by the QWC and involving all relevant stakeholders. The WGM considered that planning investigations in relation to whether the preferred option was either a pipeline connection to the Water Grid or a local WTP should have been concluded, and a preferred strategy for servicing the Canungra and Beaudesert townships agreed by all parties, prior to any significant capital expenditure being undertaken.

The WGM noted that the interim statement from Seqwater to the QWC, dated 28 February 2012, stated that Seqwater would await the outcome of the planning process before then making appropriate determinations regarding its assets. However, Seqwater also stated that it may determine that expenditure was required due to issues associated with asset condition or the meeting of peak demand capacities as differentiated from average demand.

The WGM indicated that it had undertaken a demand assessment for the purposes of the planning study, including of peak demand. The WGM noted that the assessment highlighted that demand at Canungra was highly uncertain, with annual growth projections of between 5-15% from a base population of 740 people, or approximately 300 connections. To achieve these growth rates, in the order of 15 to 50 new connections would be required each year. However, recent consumption trends have been negative, with the actual number of new connections closer to zero. While a subdivision had been approved with the potential to almost double the population, construction work had not commenced and as such the take up rate was unknown. The results of that assessment were provided in previous advice to Seqwater and the QWC.

On that basis, the WGM submitted that that it would be prudent to adopt a staged approach to any upgrade of the WTP, with the initial upgrade triggered by:

(a) demand being consistently above 0.22 ML per day on a rolling year average; and

(b) the number of new connections in a rolling year average exceeding 10 per year.

Seqwater's Response to the WGM's Submission

Seqwater submitted that should the Scenic Rim Regional Planning study not demonstrate the need for this project, it would not proceed. Seqwater considered that, at the time of budgeting, the Canungra WTP upgrade was perceived as a component of the most likely options. Seqwater submitted that works may still be required based on other drivers such as Environmental and Water Quality compliance and renewals.

Seqwater acknowledged the more recent information provided by the WGM that the forecast demand figures are suggesting a lower than expected rebound in demand following the severe drought.

Authority's Analysis

The Authority notes the considerable uncertainty related to this project and does not consider that Seqwater's submission that work may still be required based on other drivers has been substantiated.

Item 14: Kooralbyn WTP Sludge Handling Upgrade

Seqwater's Submission

Seqwater proposed to undertake $1.15 million of upgrades for sludge handling at the Kooralbyn WTP, to be commissioned in 2013-14.

WGM's Submission

The WGM recommended that further information was required to demonstrate the need for this expenditure.

The WGM considered that if improvements were shown to be required due to environmental legislation or to maintain supply, then the equipment should be sized for no more than the predicted average demand by 2031 of 1.2ML per day (based on medium growth). For comparison, the WGM's forecast production requirement for 2011-12 was 168 ML (less than 0.5 ML per day). The WGM noted that the stated capacity of the existing WTP was 1.9 ML per day.

Seqwater's Response to the WGM's Submission

Seqwater submitted that it was in the planning stage for the Kooralbyn WTP and had not completed its evaluation of the possible options. Seqwater submitted that the works on the sludge handling were intrinsically related to clarifier works (Item 9 in the review of 2012-13 items above) and should occur together. Seqwater considered that water quality risks will be identified and investigated through the planning study and later stages of development.

Seqwater submitted that it had not planned to increase the capacity of Kooralbyn WTP and indicated that the project will not proceed if the planning study shows that it would not be required.

Authority's Analysis

The Authority notes Seqwater's submission that the planning study has yet to indicate whether these works are required. The Authority therefore does not consider that it is appropriate to accept the proposal for the purpose of the GSCs.

Item 15: Wyaralong WTP Design and Capitalised Interest

Seqwater's Submission

Seqwater proposed to undertake a preliminary design for the Wyaralong WTP of $2.0 million over 2012-13 and 2013-14. The WTP would connect the recently constructed Wyaralong Dam to the Water Grid.

Seqwater's capital expenditure program also included an amount of between $672,000 and $752,000 per annum relating to capitalised interest on $10 million of costs incurred on Wyaralong WTP to date.

WGM's Submission

The WGM submitted that the Government announced that the Wyaralong WTP will be constructed from 2014-15.

On this basis, the WGM recommended that Seqwater and LinkWater seek clarification of project timing from the Government prior to undertaking any further planning for the Wyaralong WTP or Kuraby Interconnector.

The WGM considered that the Wyaralong WTP and associated infrastructure would not be required over the short to medium term, due to ongoing water use efficiency and other storages being full or near full. The WGM considered that it could be deferred until around 2024-25, depending upon actual demand growth.

Seqwater's response to WGM's Submission

Seqwater submitted that it was complying with Government instructions relating to drought projects and reported that there had not been any formal notification to Seqwater that planning and design work for this treatment plant was not to continue. Seqwater noted that if Seqwater were to receive formal contrary instructions this work will not proceed.

Authority's Analysis

The Authority notes that the Wyaralong WTP is required under the RWSP and is therefore a drought asset. The Authority has therefore not assessed the Wyaralong WTP for prudency and efficiency, and will include the project in the RAB at its total cost on its commissioning date.

The Authority notes the submission from the QWC to its 2011-12 GSC investigation that stated that construction of the Wyaralong WTP was not expected to begin until 2013-14 at the very earliest. The Authority has not been made aware of any Government instructions that require Seqwater to complete the Wyaralong WTP in the coming years. The guidance provided by the QWC and the WGM's submission warrants a delay to the design of the Wyaralong WTP.

The Authority considers that if the WGM's submission that the Wyaralong WTP is not required until 2024-25 is agreed to by the Government, Seqwater's proposed design work is premature and should be delayed until construction of the WTP is imminent.

The Authority notes that Seqwater has proposed to include the design costs of the Wyaralong WTP in the RAB upon completion of the design in 2013-14. The Authority recommends that all costs relating to the Wyaralong WTP, including design work and capitalised interest, are included in the RAB at the commissioning date of the WTP, not at the completion of the design work.

This is consistent with the Authority's recommendations regarding land acquisition costs and design work at Wyaralong WTP in 2011-12, and mirrors the approach adopted for other drought assets. It also reflects the fact that the 1 July 2011 RAB provided by the Price Regulator does not include any value relating to the Wyaralong WTP, despite Seqwater incurring expenditure during 2010-11. Any interest incurred on expenditure to date should be capitalised at the appropriate cost of debt.

Item 16: Lake MacDonald Dam Safety Upgrade

Seqwater's Submission

Seqwater has proposed to undertake safety upgrades to Lake MacDonald, at an estimated cost of $25.8 million from 2011-12 to 2015-16. The safety upgrade is a regulatory requirement of the DERM. Seqwater submitted that the works relate to a new 200m wide auxiliary spillway, improvements to the existing spillway, foundation treatment and new filter zone and earth fill on the embankment.

WGM's Submission

The WGM recommended to Seqwater that the business case include options to lower the spillway. The WGM noted that these options would reduce the supply yield and that the impacts of this would need to be discussed with the QWC.

The WGM noted that it holds an entitlement to take 3,500 ML from this dam. It contributes about 2,600 ML per annum of the overall system yield of 485,000 ML per annum, measured on a Levels of Service basis. The WGM noted that the actual contribution depends upon the operating strategy in place at any specific time.

By lowering the spillway, the WGM considered that it may be possible to defer much of the proposed capital expenditure until demand approaches system yield. The WGM forecast this to occur between 2035 and 2041, based on the low demand forecast and depending upon the impact of climate change. At that time, the WGM submitted that the dam could be reinstated to the current level or the next supply brought forward by about six months.

Seqwater's Response to WGM's Submission

Seqwater submitted that during planning, the WGM's suggestion of lowering the full supply level was investigated, however it is not a viable option. Lowering the full supply level of Lake Macdonald Dam would not sufficiently reduce the factors of safety due to the area's high rainfall.

Authority's Analysis

The Authority accepted the prudency of this project in its 2011-12 Final Report. While the Authority accepts that Seqwater has considered the WGM's suggestion regarding cost minimisation, this project has not yet been subject to a review of efficiency.

Item 17: Capalaba WTP upgrade

Seqwater's Submission

Seqwater proposed to undertake a $15 million upgrade to the Capalaba WTP, between 2011-12 and 2015-16.

WGM's Submission

The WGM understood, based on Seqwater's interim statement that was provided to the QWC on 28 February 2012, that this project would address the key drivers of maintenance renewals and water quality compliance for trihalomethanes.

The WGM submitted that this capital expenditure was not required at that time, based on information that it then held.

The WGM noted that the Capalaba WTP was designed to treat up to 52 ML per day, but that production was currently limited to around 18 ML per day due to instrumentation limitations and the need for manual operation. In addition, the WGM noted that there had been instances of elevated turbidity and disinfection by-products in treated water during wet weather.

The WGM submitted that the system can be operated around these constraints over the short to medium term. The WGM submitted that supply from the Capalaba WTP would continue to be minimised, with the majority of water supplied to the Redlands area being sourced from the North Stradbroke Island WTP, due to its superior raw water quality. This was the dominant operating mode under the existing Annual Operations Plan (WGM 2011).

The WGM undertook an investigation into disinfection by-product issues in the Redlands demand zone in 2011, in partnership with Seqwater and relevant Grid Participants. The WGM noted that a number of largely operational improvements had since been implemented, including blending with alternative supplies and reservoir management by LinkWater and Allconnex.

The WGM considered that improvements implemented by LinkWater, Seqwater and Allconnex proved to be effective over the 2011-12 wet season, including during a number of poor raw water quality events. WGM submitted that there were no exceedences of target values for trihalomethanes from the Capalaba WTP over that period.

Also as an outcome of that investigation, the WGM wrote to Seqwater on 23 December 2011, seeking that the Capalaba WTP:

(a) by 2016, be capable of supplying average day demand of 7-14 ML and mean day maximum month demand of 14-30 ML; and

(b) limit trihalomethanes levels to less than 185 milligrams per litre, 95% of the time (compared to the contractual requirement of 250 milligrams per litre).

The WGM communicated to Seqwater that, due to available storage in the area and ability to supply from other sources, the WGM understood that the Capalaba WTP may cease operation for up to a week based on raw water triggers to minimise treated trihalomethanes levels above 185 milligrams per litre. The WGM noted that this would enable the WTP to be turned off when raw water exceeds 40NTU for turbidity. The WGM noted that discussions with Seqwater had indicated that WTP is currently capable of the above requirements.

The WGM noted that, in time, the Capalaba WTP will need to be made more reliable, but forecast that this would not be required for at least five years. The WGM submitted that any

upgrades for trihalomethanes compliance should only be undertaken once the above operating strategies have been demonstrated not to be effective and once all of the options recommended by the investigation have been considered in detail.

The WGM noted that it was involved in early discussions with Seqwater and other parties about maintenance requirements for the Capalaba WTP and the scope of future upgrades. In those discussions, the WGM noted that it was agreed that a sub-regional supply strategy was required in this area prior to any capital expenditure being undertaken.

Seqwater's Response to the WGM's Submission

Seqwater submitted that its primary reasons for the proposed Capalaba WTP works were to:

(a) renew individual assets at the end of their economic life;

(b) alter some equipment to meet environmental regulations; and

(c) improve some equipment to meet WH&S requirements.

In the process of this planned work Seqwater submitted that it would increase the capacity slightly as it was most efficient to do so whilst addressing the actual driver of renewals. The increase in capacity was a small part of the planned expenditure in stage one.

Seqwater included some capital expenditure ($100,000) in stage one of the Capalaba WTP for a trial of possible treatments of THM's in the stage two development. Seqwater submitted that WGM had previously agreed with the additional capacity parameters.

Authority's Analysis

In its 2011-12 GSC investigation, the Authority recommended that $0.6 million of expenditure in 2011-12 relating to an options study for this capital expenditure project, but that further expenditure could not be deemed prudent or efficient until the final project scope was defined.

The Authority has not reviewed the Capalaba WTP for prudency and efficiency in its 2012-13 investigation, and has therefore maintained its 2011-12 conclusion, pending Seqwater's provision of detailed information regarding the final project scope.

Summary

In summary, SKM reviewed items totalling $83.7 million in value or 28% of the proposed capex. Of these, items totalling $27.4 million were considered prudent and efficient.

Further items totalling $68.9 million that were specifically identified in submissions were also reviewed, and $32.0 million was considered prudent and efficient.

The Authority notes that these items do not have an impact on the calculation of GSCs as all relate to projects that will be commissioned after 2012-13.

Table 4.26: Reviewed Post 2012-13 Capital Expenditure ($'000)

No	*Project*	*Proposed*	*Prudency*	*Efficiency*	*Draft Recommendation*
	SKM Sampled Items				
1	Molendinar WTP - Backwash Pump	11,715	Insufficient information	Not assessed	0
2	Mudgeeraba WTP - Storage Works	11,165	Insufficient information	Not assessed	0
3	Kilcoy WTP - New WTP Works	16,148	Prudent	Efficient	16,148
4	Boonah Kalbar WTP Plant Automation / Pipeline Upgrade	9,300	Prudent	Insufficient information to assess all expenditure as efficient	5,558
5	Lowood WTP - Sludge Handling Improvements and Other Works	3,300	Prudent	Insufficient information	0
6	Jimna WTP - Upgrade Works	1,911	Prudent	Efficient	1,911
7	NSI WTP - Lime System & Sludge Lagoon	4,075	Insufficient information	Not assessed	0
8	Maroon Dam - Stage 1 Safety Upgrade	7,250	Prudent	Insufficient information. Excluded due to funding from DERM.	0
9	Beaudesert WTP Upgrade	9,000	Insufficient Information	Insufficient Information	0
10	Flood Damage Assessment and Repairs	9,848	Prudent	Insufficient information	0
	Total SKM Sample	*83,712*			*23,617*
	Total SKM Sample/Total Capex (%)	*27.9%*			
	Un-sampled Items Identified in Submissions				
11	South Maclean WTP Upgrade Works	4,375	Not Prudent	Not assessed	0
12	Image Flat WTP Upgrade	11,500	Not Prudent	Not assessed	0
13	Canungra WTP Upgrade and Off-Stream Storage	5,500	Not Prudent	Not assessed	0
14	Kooralbyn Sludge Handling Upgrade	1,150	Insufficient information	Not assessed	0
15	Wyaralong WTP Design and Capitalised Interest	5,647	Request clarification of timing	Not assessed	5,647

No	*Project*	*Proposed*	*Prudency*	*Efficiency*	*Draft Recommendation*
16	Lake MacDonald Dam Safety Upgrade	25,750	Prudent	Not assessed	25,750
17	Capalaba WTP upgrade	15,000	Insufficient information	Insufficient information	600
	Total Un-sampled Items	*68,922*			*31,997*
	Total Reviewed Items	**152,634**			**55,614**
	Total Post 2012-13 Non-Drought Capex	**300,533**			**203,513**

4.2.5 Summary of Capital Expenditure

Table 4.27: Recommended Capital Expenditure ($'000)

Period	*Capital Expenditure*	*Proposed*	*Draft Recommendation*
2011-12	Drought	844.1	844.1
	Non-Drought	32.2	30.8
	Total	*876.4*	*874.9*
2012-13	Drought	19.8	19.0
	Non-Drought	57.7	51.6
	Total	*77.5*	*70.6*
Post 2012-13	Drought	26.4	26.4
	Non-Drought	274.1	177.1
	Total	*300.5*	*203.5*

4.2.6 Return on Capital

Drought Assets

Under the Direction Notice, the return on drought assets is to be set at the actual cost of debt incurred by Seqwater for its drought assets.

The cost of debt for drought assets is the book interest rate provided by QTC for each asset plus administration and capital market charges. The Authority is required to adopt the QTC rates.

QTC submitted the cost of debt for Seqwater's drought assets as shown in Table 4.28. In applying these costs of debt, the Authority has made the following assumptions:

(a) QTC provided actual costs of debt for the first three quarters of 2011-12. The Authority has adopted a simple average of the three quarters of actual 2011-12 costs of debt as an estimated actual for the 2011-12 year; and

(b) QTC provided two debt accounts relating to WCRWS assets, with different costs of debt. The Authority has not been able to distinguish which assets the different costs of debt are applied to (despite efforts to do so). The Authority has instead adopted a weighted average cost of debt based on the book values provided by QTC to apply to all WCRWS assets.

Table 4.28: Cost of Debt Rates for Drought Assets

Asset	*2011-12 Forecast*	*2011-12 Estimated Actual*[1]	*2012-13 Forecast*
Brisbane Aquifer	6.44%	6.44%	6.34%
Bribie Island Aquifer	6.21%	6.21%	6.16%
Enoggera WTP	6.38%	6.38%	6.30%
Ewen Maddock WTP Upgrades	6.38%	6.38%	6.30%
Cedar Grove Weir	6.73%	6.73%	6.58%
Bromelton Off-Stream Storage	6.73%	6.73%	6.58%
Esk-Wivenhoe Pipeline	6.58%	6.58%	6.46%
Coominya Pipeline	6.58%	6.58%	6.46%
Hinze Dam Raising	6.20%	6.14%	6.09%
Wyaralong Dam	6.13%	6.13%	6.09%
Wyaralong Dam Access Road[2]	6.13%	6.13%	6.12%
Wyaralong WTP	6.06%	6.06%	6.02%
Gold Coast Desalination Plant	6.52%	6.52%	6.35%
Western Corridor Recycled Water Scheme	6.52%	6.52%	6.45%[3]

Note: [1]Estimated Actual calculated as a simple average of the actual cost of debt for the first three quarters of 2011-12. [2]Wyaralong Dam Access Road was not separately defined in the 2011-12 forecast, but included as part of the broader Wyaralong Dam asset. [3]Forecast cost of debt for WCRWS is a weighted average of two costs of debt that cannot be distinguished by asset.

QTC advised that the differences in interest rates represented differences in market interest rates when the borrowings were made and when the Water Infrastructure Debt Pool (WIDP) was rebalanced. The WIDP has a mix of fixed and floating rate debt instruments and is adjusted each quarter.

The Authority notes that the only significant change in estimated actual costs of debt for 2011-12, relative to forecast, is Hinze Dam Raising which has fallen from 6.20% to 6.14%. As the Direction Notice requires the GSPs' rate of return to be based on the actual cost of debt, the Authority has retrospectively adjusted Seqwater's 2011-12 recommended GSCs to account for this change.

Non-Drought Assets

For non-drought assets, the Authority must determine a pre-tax nominal WACC for non-drought assets based on parameters detailed in the Direction Notice. The cost of debt used in the WACC is the book interest rate forecast by QTC for each asset plus an administration and capital market charge and a Competitive Neutrality Fee. The inputs provided by QTC and the resulting WACC adopted by the Authority are shown in Table 4.29.

Table 4.29: QTC Input Parameters and Seqwater's WACC

Parameter	*2011-12 Forecast*	*2011-12 Estimated Actual*	*2012-13 Forecast*
Non-Drought Cost of Debt	8.01%	7.97%	8.04%
Risk Free Rate	5.96%	5.86%	5.92%
WACC	9.91%	9.84%	9.91%

As the Direction Notice requires the GSPs' rate of return to be based on the actual cost of debt, the Authority has retrospectively adjusted Seqwater's 2011-12 recommended GSCs to account for the fall in the 2011-12 estimated actual WACC.

Return on Assets Summary

In total, the changes to 2011-12 estimated actual capital expenditure, costs of debt and WACC result in a fall in estimated actual 2011-12 return on capital. Table 4.30 refers.

Table 4.30: Return on Capital ($m)

Asset	*Forecast 2011-12*	*Estimated Actual 2011-12*	*Forecast 2012-13*
Return on Existing Drought Assets	233.4	202.5	198.8
Return on Existing Non-Drought Assets	184.3	187.8	190.1
Return on New Capex Depreciation	25.6	39.8	55.9
Total Return on Assets	**443.2**	**430.0**	**444.7**

Note: these figures may not add due to rounding.

4.2.7 Return of Capital

The Authority proposes to continue to adopt straight-line regulatory depreciation based on each asset's estimated useful life. The Authority will not depreciate land assets, consistent with its approach in 2011-12.

Estimated useful lives along with the written down asset values have been provided by the Price Regulator as part of the 1 July 2011 RAB. The Authority has accepted Seqwater's proposed asset lives for 2011-12 and 2012-13 capital expenditure (see sections 4.2 – 4.4).

As per the Authority's 2011-12 Review Thresholds, the Authority has included actual capital expenditure in Seqwater's RAB as at the actual commissioning date. The changes to 2011-12 estimated actual capital expenditure, relative to forecast, cause corresponding adjustments to Seqwater's depreciation revenue. Table 4.31 refers.

Table 4.31: Return of Capital ($m)

Asset	*Forecast 2011-12*	*Estimated Actual 2011-12*	*Forecast 2012-13*
Existing Drought Assets Depreciation	108.4	103.9	106.5
Existing Non-Drought Assets Depreciation	37.5	37.8	38.7
New Capex Depreciation	3.5	4.8	9.7
Total Depreciation	**149.4**	**146.4**	**154.9**

Note: these figures may not add due to rounding.

4.2.8 Asset Appreciation

The Authority's GSC modelling includes an allowance for inflation of the value of Seqwater's RAB. The Authority has adopted an inflation rate of 2.5% (the mid-point of the RBA's target range) in both 2011-12 and 2012-13. The Authority considers that the increase in Seqwater's RAB values due to inflation should be removed from Seqwater's annual GSCs to prevent an over-recovery of revenues. The Authority's recommended asset appreciation is included in Table 4.32.

Table 4.32: Asset Appreciation ($m)

Asset	*Forecast 2011-12*	*Estimated Actual 2011-12*	*Forecast 2012-13*
Existing Drought Assets Appreciation	90.0	77.7	77.0
Existing Non-Drought Assets Appreciation	46.5	47.7	48.0
New Capex Appreciation	10.1	16.2	22.2
Total Appreciation	**146.6**	**141.6**	**147.2**

Note: these figures may not add due to rounding.

4.2.9 RAB Roll-Forward

Seqwater's RAB value has been rolled forward from the 1 July 2011 values provided by the Price Regulator to the closing value as at 30 June 2013, utilising the Authority's recommended capital expenditure, appreciation and depreciation. Table 4.33 refers.

Table 4.33: RAB Roll-forward ($m)

	Drought	*Non-drought*	*Total*
Opening RAB (1 July 2011)	**3,146**	**1,933**	**5,078**
plus 2011-12 Capital Expenditure	844	31	875
less Depreciation	109	39	148
plus Asset Appreciation	95	48	143
Opening RAB (1 July 2012)	**3,975**	**1,973**	**5,948**
plus 2012-13 Capital Expenditure	20	57	77
less Depreciation	114	43	157
plus Asset Appreciation	99	50	149
Closing RAB (30 June 2013)	**3,981**	**2,037**	**6,018**

Note: these figures may not add due to rounding.

4.2.10 Working Capital

Working Capital was included as an allowable cost in 2011-12, but as discussed in section 3.4, it has been re-categorised as a component of the Capital Charge in 2012-13.

2011-12 Working Capital

Seqwater was paid a $6.3 million working capital allowance in 2011-12, and submitted that no adjustment was required.

The Authority notes that the Direction Notice requires that the rate of return earned by Seqwater is based on the actual cost of debt. As the calculation of return on working capital utilises the WACC determined by QTC's submitted actual cost of debt, the Authority recommends that Seqwater's 2011-12 working capital allowance be updated. Table 4.34 refers.

2012-13 Working Capital

Seqwater submitted no change to the working capital assumptions contained in the Authority's 2011-12 Final Report of 45 average debtor days and 30 average creditor days. Seqwater submitted that it was not seeking an allowance for critical spares in the 2012-13 year.

The Authority accepts Seqwater's submission, and has calculated a working capital allowance as per Table 4.34.

Table 4.34: Seqwater's Working Capital Requirements ($m)

Working Capital Requirement	*Approved Forecast 2011-12*	*Estimated Actual 2011-12*	*Forecast 2012-13*
Average Accounts Receivable	86.9	86.7	88.7
Average Accounts Payable	21.1	21.9	22.8
Average Debtor Days	45	45	45
Average Creditor Days	30	30	30
Critical Spares	0.9	0.9	-
Total Working Capital Requirement	66.6	65.6	66.0
Rate of Return (WACC)	9.91%	9.84%	9.91%
Return on Working Capital	6.6	6.5	6.2

Note: these figures may not add due to rounding.

4.2.11 Summary of Capital Charge

Seqwater's final recommended capital charge is shown in Table 4.35 below. The increase in Capital Charges in 2012-13 largely reflects the recent commissioning of drought assets Wyaralong Dam and the Hinze Dam Raising.

In its review of the 2012-13 GSC modelling, the Authority detected a computational error relating to the timing of cash flows comprising the 2011-12 Capital Charge. The error caused an under-estimation of 2011-12 Capital Charges of $7.3 million for the pre-merger Seqwater, and $4.2 million for the former WaterSecure.

In presenting revised 2011-12 Capital Charges, which incorporate estimated actual capital expenditure and costs of debt, the Authority has also included an allowance to correct for this error.

Table 4.35: Capital Charge Summary ($m)

	Forecast 2011-12	***Estimated Actual 2011-12***	***Forecast 2012-13***
Return on Assets	443.2	430.0	444.7
plus Depreciation	149.4	146.4	154.9
less Asset Appreciation	146.6	141.6	147.2
plus Working Capital	6.6	6.5	6.7
less Historic Adjustment	-	-	-11.3
Recommended Capital Charge	**452.3**	**441.1**	**447.3**

Note: these figures may not add due to rounding.

4.3 Fixed Operating Charge

The Direction Notice requires that the Authority assess the prudency and efficiency of all fixed 2012-13 operating costs proposed by the GSPs. As documented in the 2011-12 Review Thresholds, the Authority has not made any adjustment for over or under-expenditure of Fixed Operating Charges in 2011-12.

4.3.1 Overview

Seqwater has proposed fixed operating charges of $235.6 million in 2012-13.

Comparison to 2011-12

Seqwater submitted that 2012-13 fixed operating costs were forecast to increase from that approved for 2011-12 GSCs by $14.7 million. Seqwater attributed the increases to:

(a) inflation, at an assumed rate of 2.5%;

(b) re-categorisation of former Allowable Costs and variable costs as fixed opex; and

(c) step-change increases in costs that are largely outside of Seqwater's control.

Accounting for the above factors, Seqwater submitted that its proposed costs of $235.6 million represented a 4.6% increase in real terms relative to estimated actual costs in 2011-12. Table 4.36 refers.

Table 4.36: Seqwater Proposed Operating Costs relative to 2011-12 ($m)

Adjustments	*Specific Item*	*$ million*
2012-13 Proposed Fixed Operating Charge		**235.6**
Less costs previously treated as allowable costs or variable costs, and now in fixed	QCA Levy	-1.4
	Gold Coast Desalination Plant electricity costs now correctly re-classified as fixed	-1.2
Less one-off cost increases outside Seqwater's control that are forecast for 2012-13 but not included in 2011-12	Stage Government Waste Levy and additional levies for trade waste	-1.3
	Implementing Flood Commission of Inquiry outcomes	-1.2
	New assets (Wyaralong and Hinze dams)	-1.2
Plus costs considered fixed in 2011-12 and treated as variable for 2012-13		+1.7
Total adjustments		-4.6
2012-13 Fixed Operating Costs (adjusted)		231.0
2011-12 Fixed Operating Costs (estimated actual, in 2012-13 dollars)		220.9
Real increase in Fixed Operating Charge		**10.1 (4.6%)**

Seqwater submitted that a real increase in costs of only 4.6% has been achieved despite increases in costs, cost inputs and new costs impositions. Examples include:

(a) labour cost increases in accordance with the EBA and staff contracts ($3.8 million);

(b) increases to contractor rates for maintenance services ($1.0 million)

(c) increases to insurance premiums ($1.8 million);

(d) increasing costs for water quality monitoring and testing ($1.0 million);

(e) an increase in the minor works and renewals stemming from the 2011 flood event ($4.2 million);

(f) increasing costs associated with implementing a more robust environmental compliance framework ($1.2 million);

(g) additional asset management costs, largely driven by changes to the SOP ($2.2 million); and

(h) new initiatives to mitigate water quality risks in catchments ($2.7 million).

Offsetting these cost increases are cost saving initiatives, including:

(a) replacing staff contractors with full time employees ($3.8 million); and

(b) implementation of a handover strategy and close-out strategy in relation to WCRWS and GCDP ($9.1 million).

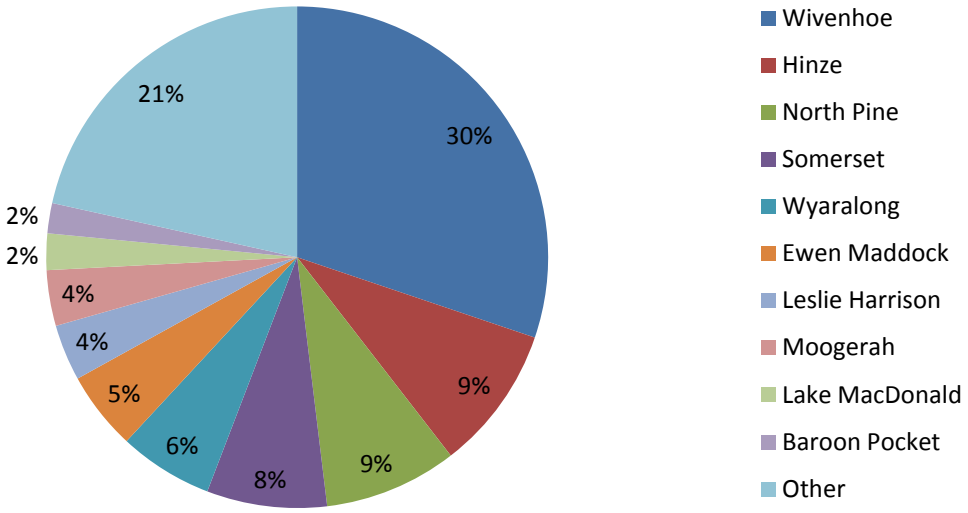
Seqwater submitted that the largest contribution to the increase in fixed operating costs was employee expenses, with an additional 62.5 FTEs budgeted for 2012-13. The basis for this increase is addressed in the review of subsequent costs items below. Seqwater noted that this cost increase has been moderated by a decline in contractor costs, which are being replaced by permanent employees.

Direct Dam Costs

Seqwater's Submission

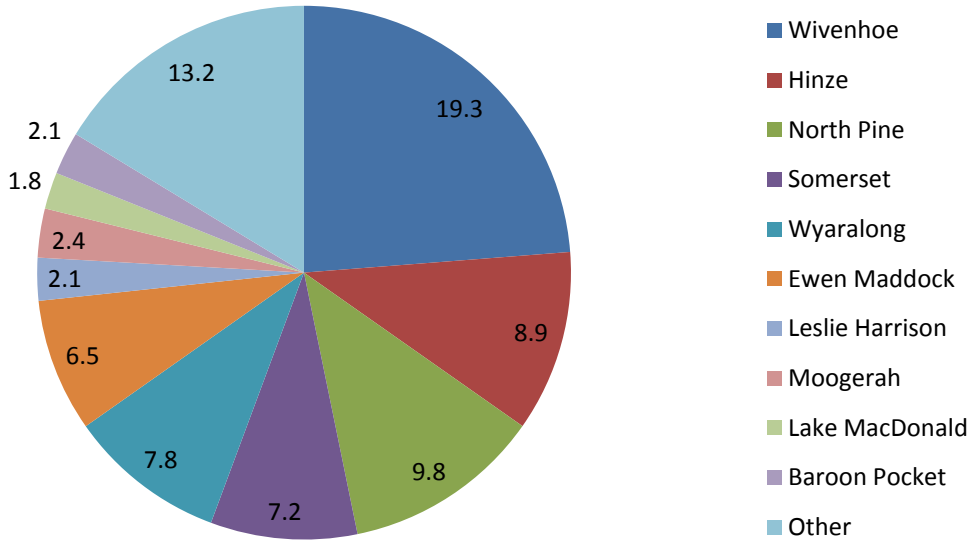
Seqwater submitted that direct costs are those that can be allocated at an asset level. Seqwater submitted $28.3 million of direct costs associated with its dams. Seqwater presented costs and FTEs for each of the 10 largest dams by costs, as well as a total of the remaining dams. Wivenhoe Dam is the largest dam by cost, comprising 30% of Seqwater's total direct dam costs.

Figure 4.1: Direct Dam Costs by Dam



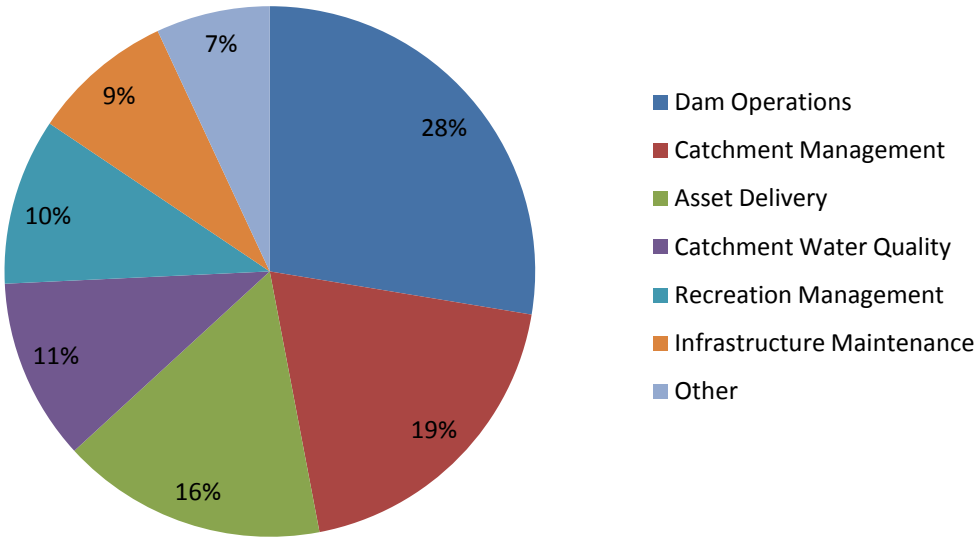
Seqwater employs 81 FTEs that are directly allocated to dam operations, 19.3 of which are allocated to Wivenhoe Dam.

Figure 4.2: Direct FTEs by Dam



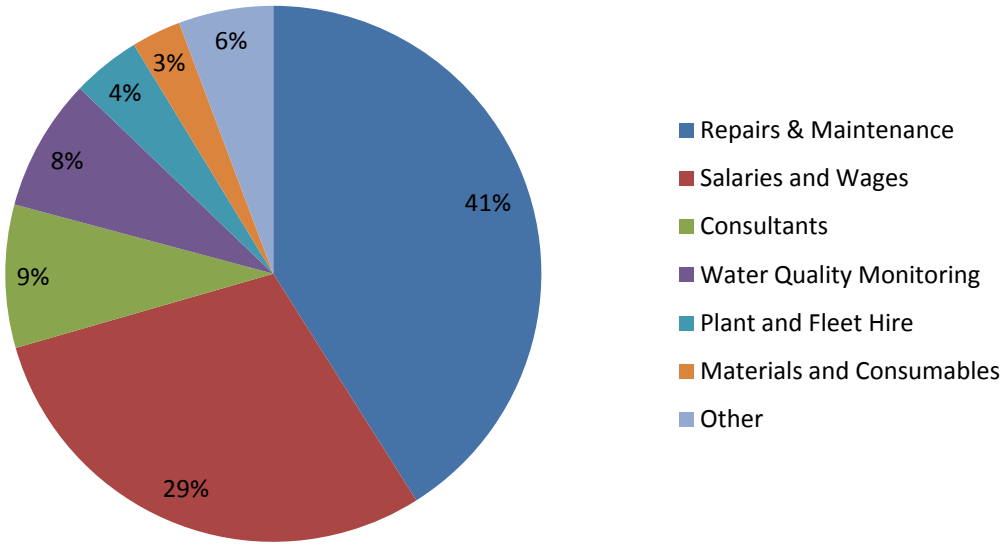
Seqwater categorised its fixed operating cost submission to the Authority by cost activity or function. This categorisation displays the purpose that the proposed expenditure is intended to achieve. Seqwater categorises almost 50% of direct dam costs as relating to either Dam Operations or Infrastructure Maintenance activities.

Figure 4.3: Dam costs by Activity



Seqwater provided additional detail of direct dam costs by cost type. Repairs and Maintenance costs are the largest cost category, followed by Salaries and Wages.

Figure 4.4: Dam Costs by Type

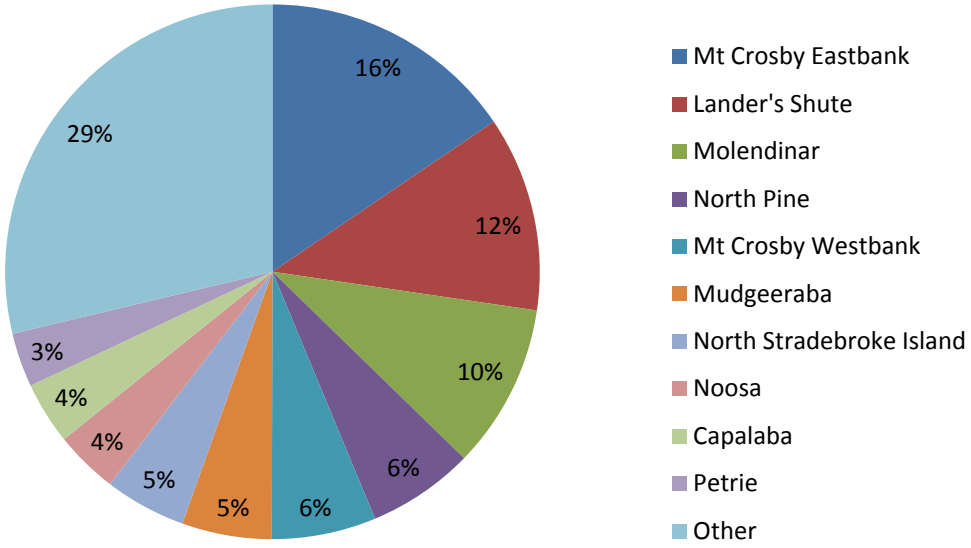


Direct Water Treatment Plant Costs

Seqwater's Submission

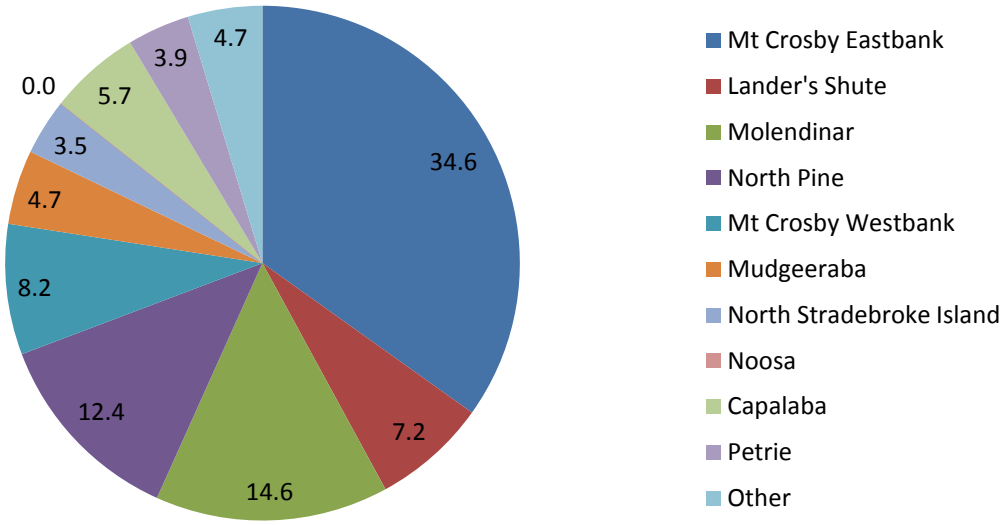
Seqwater submitted $48.7 million of direct costs associated with its WTPs. Seqwater presented costs and FTEs for each of the 10 largest WTPs by cost, as well as a total for the remaining WTPs.

Figure 4.5: Direct WTP Costs by WTP



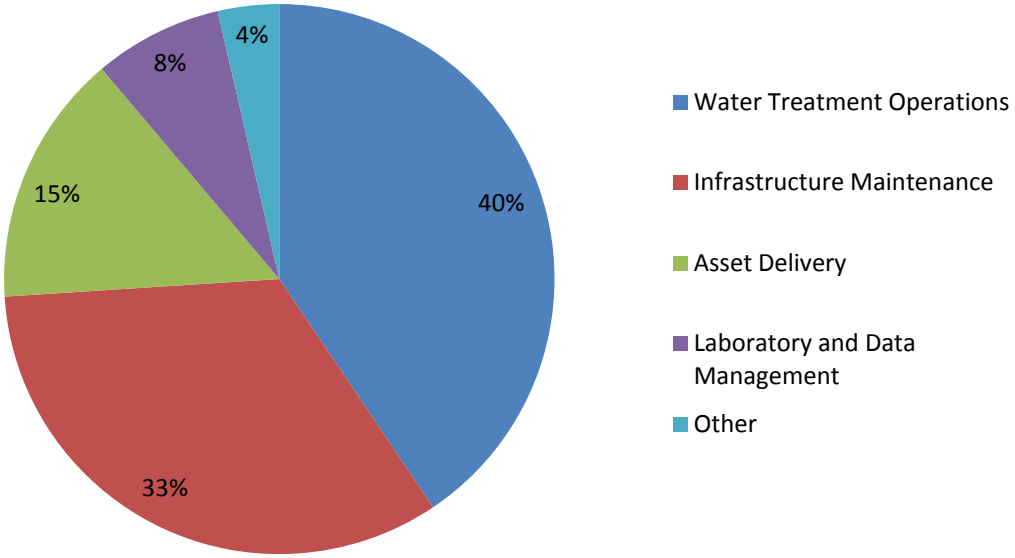
Seqwater provided information on the allocation of 99 FTEs that are directly attributed to WTPs. Mt Crosby Eastbank employs over one-third of all direct FTEs in the WTPs.

Figure 4.6: Direct FTEs by WTP



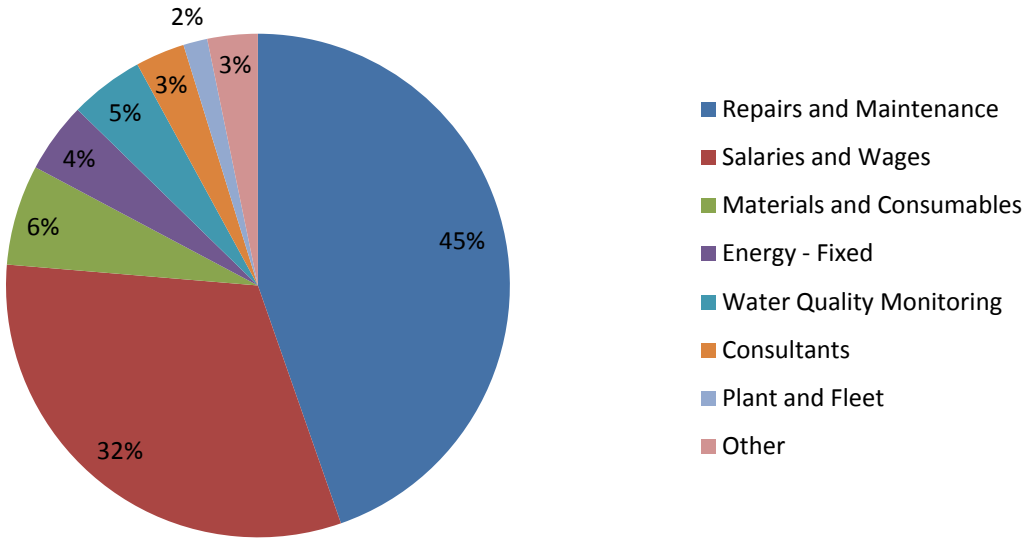
Seqwater also provided a breakdown of direct WTP costs by activity or function. Seqwater categorises almost three-quarters of direct WTP costs as either WTP Operations or Infrastructure Maintenance (Figure 4.7 below).

Figure 4.7: WTP Costs by Activity



Seqwater provided additional detail of direct WTP costs by cost type, of which, almost half is contributed by Repairs and Maintenance costs (Figure 4.8 below).

Figure 4.8: WTP Costs by Type



Direct Purified Recycled Water Costs

Seqwater incurs fixed operating costs relating to the operation of the WCRWS, which includes three AWTPs (Bundamba, Luggage Point and Gibson Island) and PRW network pipelines. The large majority of direct PRW costs are incurred by the scheme operator, Veolia. As a consequence, Seqwater's classification of costs by activity varies slightly from costs incurred directly by Seqwater. Over 95% of direct costs at the GCDP relate to operation of the plant. Forecast direct costs at Gibson Island AWTP are comparatively low, due to the fact that the plant is mothballed and not forecast to produce any water in 2012-13. Table 4.37 refers.

Table 4.37: PRW Costs by Activity ($'000)

	Network	***Bundamba***	***Luggage Point***	***Gibson Island***	***Total***
Operational Integration	7,153	6,305	5,933	1,910	**21,301**
Engineering Support	-	469	44	200	**714**
Strategic Asset Readiness	-	50	100	55	**205**
Total	**7,153**	**6,825**	**6,077**	**2,165**	**22,219**

Note: Totals may not sum due to rounding.

The costs of operating the WCRWS largely relate to employee expenses and repairs and maintenance. Seqwater also included a cost relating to the Operator Margin, which is the profit margin earned by Veolia in operating the WCRWS. Table 4.38 refers.

Table 4.38: PRW Costs by Type ($'000)

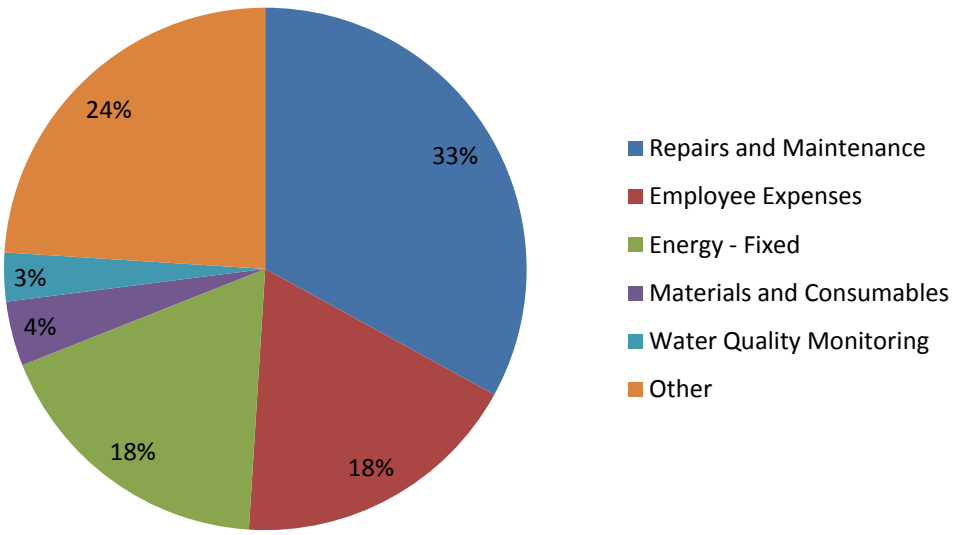
	Network	*Bundamba*	*Luggage Point*	*Gibson Island*	*Total*
Employee Expenses	1,263	2,419	2,226	320	**6,228**
Repairs & Maintenance	2,997	1,279	1,365	464	**6,104**
Water Quality Monitoring	260	543	404	80	**1,286**
Energy - Fixed	480	90	45	348	**963**
Consultants	-	519	144	255	**919**
Other	2,153	1,974	1,893	699	**6,719**
Total	**7,153**	**6,825**	**6,077**	**2,165**	**22,219**

Note: Totals may not sum due to rounding.

Direct Desalination Costs

Seqwater submitted forecast direct costs associated with the GCDP of $15.9 million in 2012-13. Seqwater's cost allocation by activity for the GCDP is not as detailed as for dams and WTPs, as the vast majority of direct costs associated with GCDP are incurred by the operator, Veolia. Seqwater provided direct desalination costs by type, over half of which relate to repairs and maintenance and employee expenses.

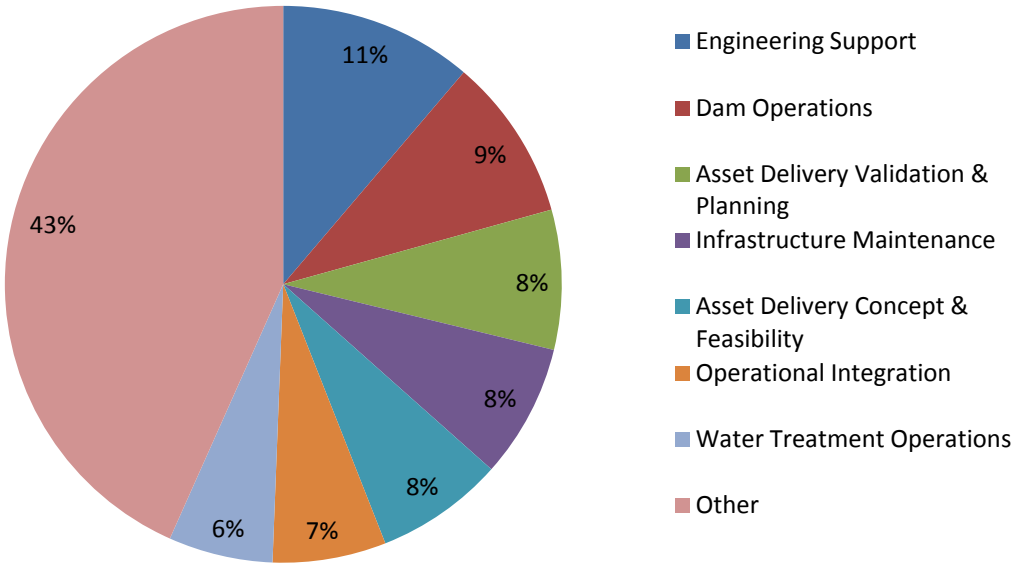
Figure 4.9: Desalination Costs by Type



Non-Direct Costs

Seqwater submitted Non-Direct costs (that are asset related, but not directly allocated to an asset) of $52.8 million in 2012-13. Significant cost activities include Engineering Support and various components of Asset Delivery.

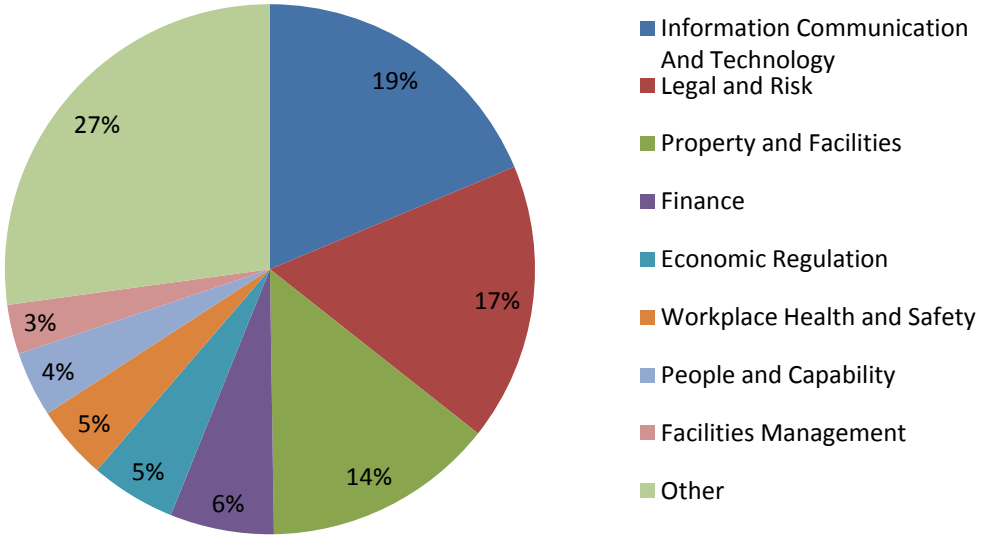
Figure 4.10: Non-Direct Costs by Activity



Corporate Overheads

Seqwater submitted that it expects to incur corporate overheads of $62.1 million in 2012-13, with the largest cost categories being Information Communication and Technology and Legal and Risk.

Figure 4.11: Corporate Overhead Costs by Activity



4.3.2 Prudency and Efficiency Review

The Authority engaged SKM to review the prudency and efficiency of Seqwater's fixed operating costs.

For opex to be included the GSCs, it is required to be prudent (demonstrated need for the expenditure) and efficient (least cost and consistent with relevant benchmarks, having regard to prevailing market conditions, historical trends and the potential for efficiency gains or economies of scale).

SKM and the Authority sampled 12 fixed operating cost items for detailed review of prudency and efficiency. The sample accounted for 14% of Seqwater's proposed fixed operating costs.

Item 1: Wivenhoe Dam – Catchment Management

Seqwater's Submission

Seqwater included a 2012-13 forecast of $746,000 for salary and wage costs ($299,478) and repairs and maintenance ($446,350) relating to catchment management at Wivenhoe Dam.

SKM's Review

SKM noted that the salary and wage budget for the Wivenhoe Dam included two FTE staff associated with Catchment Management and Maintenance while the cost for Repairs and Maintenance was contracted to external parties.

Table 4.39: Catchment Management Costs at Wivenhoe Dam ($'000)

Cost	*2011-12*	*2012-13*	*% change*
Salaries and Wages	61	299	+387%
Repairs & Maintenance	420	446	+6%

Prudency Review

SKM noted that catchment management was a necessary function of water storage management and Seqwater must comply with legislative obligations which would not be possible without effective catchment management. SKM also noted that the Direction Notice requires the Authority to accept the current scope of catchment management activities as prudent.

SKM therefore accepted that this expenditure was prudent.

Efficiency Review

SKM noted that the forecast 2012-13 expenditure for Salaries and Wages ($299,500) was a significant increase from that incurred in 2011-12 when $61,500 was budgeted. SKM reported that this large increase was attributable to an improved cost allocation process of labour resources that was implemented during 2011-12. As a result more allocation was made directly to the assets rather than to the overhead costs.

SKM reported that the costs for Repairs and Maintenance contracted to external parties increased slightly from $420,000 to $446,000, an increase of about 6%. SKM stated that most of the increase was due simply to the indexation of existing contracts. However, some contracts were due for renewal and Seqwater had allowed a larger increase in these new contracts to reflect market conditions. SKM considered this a reasonable expectation.

SKM noted that a panel of service providers was in place for Seqwater repairs and maintenance services, and the 2012-13 budget was built up based on the work order history. SKM considered that the costs were in accordance with Seqwater's procurement policies and procedures. SKM considered that the salary and wage costs, which relate to 2 FTEs that service a catchment area of 7,020 km2, appeared reasonable.

SKM concluded that this expenditure was efficient.

Authority's Analysis

The Authority accepts SKM's conclusion that this expenditure is prudent and efficient.

Item 2: Hinze Dam – Catchment Management

Seqwater's Submission

Seqwater forecast $490,717 for catchment management expenditure at Hinze Dam in 2012-13. Table 4.40 provides a breakdown of the budgeted costs.

Table 4.40: Catchment Management Cost Breakdown ($)

Description	*Cost ($)*
Fire Management	30,000
Lyons Property Maintenance	30,000
Compensatory Habitat Maintenance	239,000
Erosion Control Works	10,000
Land Management for Hinze Catchment	55,000
Pest Management	10,000
Terrestrial Weed Management	117,000
Total	**490,717**

Note: Totals may not sum due to rounding.

SKM's Review

SKM noted that this cost item increased by 126% relative to 2011-12.

Prudency Review

SKM noted that the Ministerial Direction requires the Authority to accept the current scope of catchment management activities as prudent.

SKM therefore accepted this expenditure as prudent.

Efficiency Review

SKM noted that Seqwater ascribed the increase in cost to additional requirements of compensatory habitat maintenance. SKM reported that these new requirements were imposed by the Coordinator General, and therefore accepted the increase in activities.

SKM noted that 100% of the proposed tasks were to be performed by external parties, and that the Panel Contract under which external parties were engaged was let in accordance with Seqwater's procurement policies and procedures.

SKM concluded that this expenditure was efficient.

Authority's Analysis

The Authority accepts SKM's conclusion that this expenditure is prudent and efficient.

Item 3: North Pine Dam – Employee Costs

Seqwater's Submission

Seqwater forecast $342,000 of employee costs at North Pine Dam in 2012-13, based on 3.4 FTE employees.

SKM's Review

SKM noted that the employee costs relate to three FTEs at North Pine Dam (including a trainee) and 0.4 of an FTE relating to a Coordinator who supervised all Dams in Seqwater's North District. SKM noted that the employee costs included wages and salaries as well as on-costs such as superannuation, leave, overtime, etc.

Table 4.41: North Pine Dam Employee Costs ($)

Cost	*2011-12*	*2012-13*	*% change*
Salaries and Wages	267,201	339,771	
Protective Items	-	2,000	
Fringe Benefits Tax	150	-	
Uniforms	1,200	-	
Total	**268,551**	**341,771**	**+27.3%**

Note: Totals may not sum due to rounding.

Prudency Review

SKM noted that North Pine Dam required daily inspections and one full-time dam operator on call at all times. Hence two staff was the minimum needed to meet this requirement. SKM also noted that North Pine Dam was classified as an extreme hazard dam with gates and a regulated Flood Mitigation Manual. SKM considered that this was the reason for the high allocation of the Dam Coordinator's time (0.4 FTE) to this dam.

SKM advised that Seqwater had a program to provide training for trainee dam operators with a view to long term employment. Seqwater indicated to SKM that the age profile among

Seqwater dam operators was very high and the trainee program of one trainee operator per District was intended to provide a succession plan.

SKM concluded that this expenditure was prudent.

Efficiency Review

SKM noted that Seqwater provided all resources for the operation of North Pine Dam internally, rather than using contractors. SKM considered that utilising contractors to operate dams that have significant risk issues relating to dam safety, flood operations and the provision of water supply was not appropriate.

SKM noted that about half of the 27% increase from the 2011-12 level was due to the employment of the trainee ($33,400) as Seqwater implemented its trainee program as part of its succession planning. Another $16,000 increase was due to an increase in the allocation of the Dam Operations Coordinator's time from 30% in 2011-12 to 40% to reflect the increase in time required for spillway management and monitoring given the high risk nature of the North Pine Dam where a number of events recently occurred where water levels breached the spillway gate mechanism which was located above the top of the gate.

The remaining increase was due to the expected increase in overtime due to flooding. SKM noted that the previous 2011-12 budget was based on dry conditions where overtime was low. With the end of the drought, and the return of floods, increased overtime was expected to be required.

SKM also noted that resources employed at North Pine Dam were hired through normal recruitment processes including advertising and interviews. SKM considered that the employment cost details provided to SKM appeared to be reasonable.

During flood events, North Pine Dam requires a team of six to eight operators, who were sourced from standby operators seconded from other areas. SKM noted that this reduced the number of full time staff required at the dam to provide for ad hoc flood duty.

SKM concluded that this expenditure was efficient.

Authority's Analysis

The Authority accepts SKM's conclusion that this expenditure is prudent and efficient.

Item 4: Gold Coast Desalination Plant – Water Quality Monitoring

Seqwater's Submission

Seqwater forecast $520,040 for water quality monitoring at the GCDP in 2012-13, an increase of 4% relative to 2011-12. Table 4.42 provides a breakdown of the budgeted costs.

SKM's Review

SKM noted that although the GCDP s operated by Veolia, more of the Water Quality Monitoring costs re outsourced to other providers, including:

(a) routine testing of feed water (sea water) and water at various stages of production undertaken by Brisbane Water Technologies; and

(b) testing required for environmental monitoring undertaken with FRC Environmental.

Prudency Review

Seqwater stated in the development approval for the GCDP that it required a testing regime for the following streams:

(a) water discharged to the environment;

(b) waters in the receiving environment;

(c) groundwater;

(d) landfill gas; and

(e) marine ecosystem monitoring.

Seqwater submitted that WGM's Operating Strategy required Seqwater to be able to deliver water within 24 hours during hot standby mode and that certain water quality tests required three days turnaround. Seqwater therefore argued that Seqwater was not afforded a reduced testing regime.

Seqwater submitted to SKM that testing was required under the SEQ Water Grid Quality Management Plan and Seqwater's approved Drinking Water Quality Management Plan (Seqwater 2010).

SKM agreed that continued testing was required under Hot Standby mode and that water quality monitoring was a legislative requirement.

SKM concluded that this expenditure was prudent.

Efficiency Review

SKM noted that Seqwater differentiated between the testing required during hot standby mode and the testing required during normal operations. SKM provided a detailed cost breakdown (Table 4.42).

Table 4.42: Water Quality Monitoring Cost Breakdown ($)

Description	***Cost ($)***
Hot standby external analyses – Brisbane Water Laboratories	100,205
External analyses - tanks	53,354
Environmental analyses	319,741
Hot standby internal analyses	34,534
Internal analyses – Normal operations (6 weeks of 2012-13)	12,196
Total	**520,030**

Note: Totals may not sum due to rounding.

Seqwater provided SKM with a full list of all the types of tests that were undertaken and the number of tests per year required. SKM found that the cost per test varied considerably. However, SKM considered that in light of the contract between Seqwater and GCDP Alliance

and Seqwater's scrutiny of the procurement process of Veolia, the overall cost of the testing was efficient.

However, SKM noted that a longer lead-in time for production from the GCDP during Hot Standby could potentially result in cost efficiencies relating to water quality monitoring.

SKM concluded this expenditure was efficient.

Authority's Analysis

The Authority accepts SKM's conclusion that this expenditure is prudent and efficient.

Item 5: Gold Coast Desalination Plant – Repairs and Maintenance

Seqwater's Submission

Seqwater forecast $5,167,444 for repairs and maintenance at the GCDP for 2012-13.

SKM's Review

Table 4.43: Gold Coast Desalination Plant Repairs and Maintenance ($)

Cost	*2011-12*	*2012-13*	*% change*
Repairs and Maintenance	4,655	5,167	+11.0%

Prudency Review

SKM noted that the Gold Coast Desalination Plant was to operate in Hot Standby Mode for most of 2012-13. Under Hot Standby Mode, Seqwater must be able to deliver water to the water grid from the plant within 24 hours of a request. SKM considered that Seqwater must maintain the plant in a state where it can produce water at any time to meet its Grid Contract obligations.

SKM concluded that this expenditure was prudent.

Efficiency Review

In its review of 2011-12 GSCs, SKM examined the scope of work and costs for repairs and maintenance at the GCDP and concluded that these costs were prudent and efficient.

SKM noted that the schedule of work and assumed hours had not changed since this review, and remained based on the schedule developed in 2010-11. However the maintenance requirements varied year to year depending on scheduled refurbishments in line with manufacturers' recommendations. The changes to the budget from last year can be explained by:

(a) a 3.6% increase in unit rates;

(b) an increase in the preventive maintenance budget due to scheduled pump overhauls; and

(c) a corresponding increase in the corrective maintenance budget which was set at 13% of the preventive maintenance budget.

These increases were partly offset by:

(a) the removal of the cost centre referred to as R & M Asset Replacement – Mechanical; and

(b) a reduction in the Spare Parts budget.

SKM considered that comparison with Wage Price Index and Consumer Price Index increases indicated that the rates negotiated with Veolia were reasonable, and the original scope of work and costs for repairs and maintenance for 2011-12 were assessed as efficient.

SKM concluded that this expenditure was efficient.

Authority's Analysis

The Authority accepts SKM's conclusion that this expenditure is prudent and efficient.

Item 6: Western Corridor Pipeline Network – Repairs and Maintenance

Seqwater's Submission

Seqwater forecast $2,997,198 for repairs and maintenance of the pipeline network in 2012-13.

SKM's Review

SKM found that there was a 79% increase in forecast expenditure between 2011-12 and 2012-13. SKM reported that this was mainly due to $726,000 worth of pipeline easement vegetation control being inadvertently excluded from last year's submission. If this had been included correctly in 2011-12, the increase between years would be 36%.

The remainder of the increase was due to:

(a) an increase in unit rates across all sections as a result of negotiations with Veolia (3.6%);

(b) an increase in preventive maintenance budget due to structural inspections and tank cleaning in accordance with maintenance schedules ($241,000);

(c) new provisional allowances in the corrective maintenance budget for pipeline failure and swale repair following heavy rain events ($200,000); and

(d) an increase in the Spare Parts budget due to a supplier change and need for electrofusion couplings ($40,000).

Prudency Review

SKM noted that the WCRWS was supplying industrial users such as power stations, and there was a possibility of purified recycled water being delivered to the Wivenhoe Dam to augment drinking water supplies in the case of a drought.

SKM considered that expenditure on repairing and maintaining the Pipeline Network was required to enable Seqwater to meet its obligations under the Grid Contract.

SKM concluded that this expenditure was prudent.

Efficiency Review

During the 2011-12 investigation, SKM examined the scope of work and costs for repairs and maintenance of the Pipeline Network, and concluded that these costs were prudent and efficient.

Seqwater's submission stated that the schedule of work and assumed hours had not changed since this review.

SKM established that the reason for the large increase in cost between 2011-12 and 2012-13 was that a large portion of costs for vegetation control of pipeline easements was not included in the 2011-12 submission. This accounted for around half of the cost increase between years.

In relation to unit rates, SKM noted that the Wage Price Index rose by an average of 3.7% between December quarter 2010 and December quarter 2011, and the Consumer Price Index rose by 3% over the same period. SKM considered that this indicated that the unit rate increase of 3.6% for 2012-13 as negotiated with Veolia was reasonable.

SKM noted that the new provisional allowances in the corrective maintenance budget for pipeline failure and swale repair formed almost 40% of the total corrective maintenance budget. SKM recommended that an appropriate proportion was 10-15%. On this basis, SKM recommended that the total efficient cost for the provisional allowances was $75,600, calculated as 15% of the total corrective maintenance budget of $504,000. This equated to a reduction to Seqwater proposed expenditure of $124,400.

SKM therefore concluded that this expenditure was efficient, with the exception of $124,400 relating to provisional allowances for breakdowns.

Authority's Analysis

The Authority accepts SKM's recommendations and has included a revised efficient cost of $2,872,798 in its recommended GSCs.

Item 7: Bundamba AWTP – Employee Costs

Seqwater's Submission

Seqwater forecast $2.4 million of employee costs at Bundamba AWTP in 2012-13.

SKM's Review

SKM indicated that operation of the Western Corridor Recycled Water Scheme (of which Bundamba AWTP is a part) was outsourced to Veolia Water Australia (Veolia) under an operations and maintenance agreement. SKM noted that the employee costs at Bundamba AWTP related to Veolia's labour costs. These labour costs were for plant operations, including maintenance tasks that were not outsourced to specialist third party maintenance contractors.

Table 4.44: Bundamba AWTP Employee Costs ($)

Cost	*2011-12*	*2012-13*	*% change*
Employee Expenses	2,053,999	2,418,984	+17.8%

Prudency Review

SKM noted that labour was a necessary input to the operation of the Bundamba AWTP, which was required under the Grid Contract. The WGM's Annual Operation Plan forecast demand of 4,380 ML for 2012-13 and SKM indicated that labour resources were required to operate and maintain the plant.

SKM concluded that this expenditure was prudent.

Efficiency Review

SKM noted that the hourly rates were based on the rates that applied in 2011-12, indexed at 3.5%. SKM reported that this rate of increase was subject to negotiation with Veolia, and was the same rate as Seqwater's Enterprise Bargaining Agreement. Employee costs were derived from an agreed schedule of Veolia employees, their hourly rates, and the total number hours of work for the year. These included four hours overtime per operator per month.

SKM noted that Seqwater required Veolia to model its labour requirements for the various tasks, representing good practice given the information that is available. Seqwater undertakes analysis of Veolia's staffing resources as part of the budget review with Veolia. The analysis includes:

(a) a comparison of the FTE numbers proposed by Veolia against the actual number employed in 2010-11 and 2011-12; and

(b) analysis of employee costs, hourly rates and FTE numbers.

SKM examined Seqwater's process and considered it to be adequate. SKM noted that due to constraints of the contractual arrangement with Veolia, there were no other alternative methods for delivering this service in 2012-13.

SKM advised that, for 2012-13, the FTEs proposed for operation of the WCRWS (of which Bundamba AWTP is a part) totalled 66.5, compared to 67.8 in 2011-12 and 78 in 2010-11.

According to SKM, Seqwater did not explain why the employee cost allocated to Bundamba increased by almost 18% in 2012-13, while the number of FTEs employed by the WCRWS in total reduced by 1.9% from 67.8 in 2011-12 to 66.5 in 2012-13.

Seqwater indicated to SKM that 2012-13 included a provision for an increase in the number of FTEs for Project Management work, to reflect the proposed program of capital work. However, as this increase was directly related to the capital works program, SKM considered that there should be no impact on the operating expenditure and employee cost at Bundamba AWTP.

In the absence of additional information explaining the cost increase, SKM concluded that the cost increase was not justified. Instead, SKM recommended an efficient amount of $2,085,127 for 2012-13. SKM based this amount on a 3.5% increase in hourly rates and a 1.9% decrease in the required number of FTEs, relative to 2011-12 costs. The net effect was an increase of 1.5%.

Authority's Analysis

The Authority accepts SKM's conclusion that this expenditure is prudent but not efficient, on the grounds that insufficient information is available to assess all the cost components, and has included an amount of $2,085,127 in its recommended GSCs, 13.8% less than proposed by Seqwater.

Item 8: North Pine WTP – Planned Infrastructure Maintenance

Seqwater's Submission

Seqwater forecast $627,535 for planned infrastructure maintenance at North Pine WTP in 2012-13, a 7% increase relative to 2011-12. Table 4.45 provides a breakdown of the budgeted costs.

Table 4.45: Planned Infrastructure Maintenance – Cost Breakdown ($)

Description	*Cost ($)*
Salaries and Wages	191,813
Repairs and Maintenance	392,150
Consumables	43,572
Total	**627,535**

Seqwater submitted that its asset maintenance program was influenced by having only piecemeal asset history for assets transferred to Seqwater in 2008.

SKM's Review

Prudency Review

SKM considered that should planned maintenance not be performed the operations of the infrastructure would deteriorate to a point where Seqwater will no longer be able to fulfil its regulatory requirements.

SKM concluded that this expenditure was prudent.

Efficiency Review

SKM noted that the staff costs related to Planned Infrastructure Maintenance were based on an allocation of six FTEs split three ways between scheduled maintenance, planned maintenance and reactive maintenance. SKM considered the staff allocation and roles to be appropriate for a WTP of this size, but expected the amount allocated to planned maintenance to decrease as Seqwater develops a better understanding of its assets.

SKM noted that Seqwater included a 10% increase for the repairs and maintenance component due to an expected increase in Panel of Providers price schedules which is being renewed in July 2012. SKM considered it prudent to allow for additional increases in light of uncertainty and an expected change in market conditions.

SKM concluded that this expenditure was efficient.

Authority's Analysis

The Authority accepts SKM's conclusion that this expenditure is prudent and efficient.

Item 9: Mt Crosby Westbank WTP – Scheduled Infrastructure Maintenance

Seqwater's Submission

Seqwater forecast $508,280 for scheduled infrastructure maintenance at Mt Crosby Westbank WTP in 2012-13, a 10% increase relative to 2011-12. Table 4.46 provides a breakdown of the budgeted costs.

Table 4.46: Planned Infrastructure Maintenance Cost Breakdown ($)

Description	*Cost ($)*
Repairs and Maintenance	457,452
Consumables	50,828
Total	**508,280**

SKM's Review

Prudency Review

Seqwater indicated that the scheduled maintenance tasks identified are time based and were determined by:

(a) statutory obligations (e.g. fire system testing) or industry standards (e.g. voltage tests for some electrical items);

(b) the maintenance requirements that were specified by the equipment manufacturer; and

(c) in the cases where none of the above was applicable the Strategic Maintenance Team relied on the experience and knowledge of the maintenance staff.

SKM considered that should scheduled maintenance not be performed the operations of the infrastructure will deteriorate to a point where Seqwater will no longer be able to fulfil its regulatory requirements.

SKM concluded that this expenditure was prudent.

Efficiency Review

Seqwater advised SKM that most maintenance tasks were outsourced to some 49 contractors (drawn from a panel of providers) performing maintenance services full time at some sites, and other contractors employed on an as-needs basis depending on workloads.

SKM noted that Seqwater included a 10% cost increase due to an expected increase in Panel of Providers price schedules which is being renewed in July 2012. SKM considered it prudent to allow for additional increases in light of uncertainty and an expected change in market conditions.

SKM noted that although no allowance was made for internal staff to manage contractors, Seqwater advised that a labour budget was allocated to Mt Crosby Eastbank WTP which covered nearby asset locations including Mt Crosby Westbank WTP.

SKM concluded that this expenditure was efficient.

Authority's Analysis

The Authority accepts SKM's conclusion that this expenditure is prudent and efficient.

Item 10: Molendinar WTP – Repairs and Maintenance

Seqwater's Submission

Seqwater forecast $1,288,530 for repairs and maintenance at Molendinar WTP in 2012-13. Seqwater submitted that a large component of the cost associated with this item was related to the removal and disposal of sludge from the clarifiers. At present the Molendinar WTP discharges the sludge from the clarifiers into an Allconnex owned and operated waste pipeline. Table 4.47 refers.

Table 4.47: Repairs and Maintenance cost breakdown ($)

Description	*Cost ($)*
Sludge Removal (Allconnex Charge)	1,263,530
Garbage Pick-up	1,500
Annual Site Clean	500
Contingency for Clean-up of Environmental Spill	23,000
Total	**1,288,530**

SKM's Review

SKM noted that due to an increased level of cost reporting in 2012-13, this cost item could not be directly compared to 2011-12.

Prudency Review

SKM considered that for the effective operation of a WTP it was a requirement that the sludge be removed at regular intervals.

SKM concluded that this expenditure was prudent.

Efficiency Review

SKM noted that Seqwater's proposed sludge removal costs included a contingency of $23,000 for the event of an environmental spill based on experience and recent history, including an alum incident in 2011-12. SKM considered that this was efficient in areas that have a high concentration of chemicals within a confined area.

SKM noted that the amount that Allconnex charges to its customers was subject to regulation by the Authority.

SKM concluded that this expenditure was efficient.

Authority's Analysis

The Authority accepts SKM's conclusion that this expenditure is prudent and efficient. However, as noted in section 4.2.4 below, the Authority has recommended that sludge disposal costs be included as a variable cost, rather than the fixed operating cost submitted by Seqwater. The Authority has therefore accepted a fixed operating cost relating to repairs and maintenance totalling $25,000 and transferred the sludge disposal component ($1,263,530) to variable costs.

Item 11: People and Culture Costs (HR costs)

Seqwater's Submission

Seqwater forecast costs of $4.3 million related to its People and Culture team in 2012-13. Seqwater submitted that the People and Culture team was responsible for designing and delivering the services and programs to enhance the availability and capability of its human resources to deliver the strategic and operational objectives of the business.

SKM's Review

SKM noted that Seqwater has proposed a 13% increase relative to 2011-12.

Table 4.48: Seqwater's proposed People and Culture Costs ($'000)

Cost	*2011-12*	*2012-13*	*% change*
Salaries and Wages	1,392	1,477	+6%
Recruitment Fees	198	460	+132%
Training	1,720	1,870	+9%
Other Supplies and Services	540	543	+1%
Total	**3,850**	**4,350**	**+13%**

Prudency Review

SKM noted that, as with most large organisations, human resource employees were required to design and deliver services and programs to enhance resource availability and capability to deliver the strategic and operational objectives of the business.

SKM reported that the role of People and Culture was to ensure the availability of capable staff for all areas of the organisation to meet its operating and strategic roles. It required a variety of recruitment strategies to be engaged in order to attract the most suitable candidate. SKM considered that while this area was not a core function of Seqwater, it was a required support function.

SKM concluded that this expenditure was prudent.

Efficiency Review – Salaries and Wages

SKM noted that salaries and wages were calculated based on previous year's costs, and related to 12.6 FTEs. The forecast costs included a 5% increase for employees on common law contracts which also had a 10% bonus component. SKM reported that costs associated with employees on Enterprise Bargaining Agreements had a 3.5% increase for the full year and a 3% increase based on the employee's anniversary date. SKM considered that the 6% increase in costs was above the 3.5% annual pay increase based on the Enterprise Bargaining Agreement. However, after taking into consideration performance based increases beyond that stipulated by the Enterprise Bargaining Agreement, SKM concluded that the increase in salaries and wages was not unreasonable.

SKM concluded that this expenditure was efficient.

Efficiency Review – Recruitment Fees

SKM noted that Seqwater expected to require recruitment for 121 permanent roles in 2012-13. SKM reported that most of the vacancies will be advertised externally and recruitment agencies will be engaged for a number of specialist roles which have proven hard to fill. Seqwater assumed that 22 roles will need to be managed by recruitment agencies which will incur a placement fee of between 12% and 20% of the total salary package at a total cost of $425,760. In addition, advertising costs for recruitment that does not use external consultants were expected to cost $34,371.

Seqwater indicated that the 132% increase in recruitment fees relative to 2011-12 reflected the centralisation of all recruitment costs following merger with WaterSecure.

SKM noted that over 90% of the budgeted cost was the placement fee for 22 roles that required assistance from recruitment agencies at a cost of almost $20,000 per FTE. SKM noted that recruiting 99 FTEs using internal resources was expected to cost less than $35,000, a cost of about $350 per FTE. SKM considered that, while there may be an argument for using recruitment agencies for some difficult to fill vacancies, it expected that recruitment agencies be engaged to identify senior management/staff at Senior Manager and above level. SKM recommended that this related to six, rather than 22 positions, with a resulting $195,600 decline in the forecast recruitment fee budget.

On this basis, SKM recommended that Seqwater's proposed Recruitment Fees were not efficient, and considered that a value of $264,400 was a more appropriate level of expenditure.

Efficiency Review - Training

SKM noted that Seqwater expected to use external providers to develop and run the training programs required as Seqwater was not a registered training organisation. SKM reported that the engagement of services will be in accordance with Seqwater's procurement processes. SKM noted that the budget for training was expected to increase by 8.7% from the 2011-12 level. SKM considered that this increase can be explained by the additional Microsoft Application Training cost of $110,000 due to be undertaken in 2012-13. After accounting for this cost, the budgeted increase was within the expected rate of inflation.

SKM concluded that this expenditure was efficient.

Efficiency Review - Other Supplies and Services

SKM noted that all the work in this area will be completed by various specialist external parties. Due to the specialist nature of the services required and the volume of work, Seqwater stated that it was not feasible to complete using in-house resources. SKM noted that this cost item was expected to increase by 0.5% relative to 2011-12.

SKM concluded that this expenditure was efficient.

Authority's Analysis

The Authority accepts SKM's conclusions that all components of the People and Culture cost forecast are prudent and efficient, with the exception of Recruitment Fees. The Authority has adopted SKM's revised cost estimates in its recommended GSCs. Table 4.49 refers.

Table 4.49: Recommended People and Culture Costs ($'000)

Cost	*Seqwater Proposed*	*Draft Recommendation 2012-13*
Salaries and Wages	1,477	1,477
Recruitment Fees	460	264
Training	1,870	1,870
Other Supplies and Services	543	543
Total	**4,350**	**4,154**

Item 12: ICT Services

Seqwater's Submission

Seqwater forecast $12,870,544 for ICT services in 2012-13, which included:

(a) Salaries and wages (38 FTEs) - $4,002,598;

(b) Contractor costs - $1,845,600;

(c) Telecommunications - $2,658,332;

(d) IT expenses - $3,635,134; and

(e) Other expenses - $728,880.

SKM's Review

SKM noted that Seqwater's budgeted costs represented a 12% increase relative to the combined costs for WaterSecure and Seqwater submitted as part of the 2011-12 GSC investigation.

Prudency Review

SKM assessed that each of the components of ICT expenditure was required for Seqwater to meet its obligations under the Grid Contract and the SOP (QWC 2011) in a timely and cost-effective manner.

SKM concluded that this expenditure was prudent.

Efficiency Review

SKM noted that Seqwater was pursuing an in-house service model with a move to replace most contractors with permanent staff over three years. SKM noted that this was due to Seqwater's use of high-end and tailored infrastructure hardware that makes outsourcing difficult. The contractors will reduce to effectively zero in 2015, resulting in a planned 40 permanent FTEs and a planned saving of $1.8 million.

SKM cited a cost benchmarking report undertaken by KPMG that placed Seqwater's ICT cost near the median benchmark value.

SKM concluded that this expenditure is efficient.

Authority's Analysis

The Authority accepts SKM's conclusion that this expenditure is prudent and efficient.

Summary of Prudency and Efficiency Review

In summary, SKM reviewed 12 cost items and recommended that three items were not completely efficient. Across these 12 items, SKM's recommended cost reduction totalled $654,000 or 2.1% of the value of the sampled items.

Table 4.50: Prudency and Efficiency of Fixed Operating Costs ($'000)

No	*Cost*	*Seqwater proposed*	*Prudency*	*Efficiency*	*QCA Draft Recommendation*
1	Wivenhoe Dam - Catchment Management	746	Prudent	Efficient	746
2	Hinze Dam - Catchment Management	491	Prudent	Efficient	491
3	North Pine Dam - Employee Costs	342	Prudent	Efficient	342
4	Gold Coast Desalination Plant - Water Quality Monitoring	520	Prudent	Efficient	520
5	Gold Coast Desalination Plant - Repairs & Maintenance	5,167	Prudent	Efficient	5,167
6	Pipeline Network - Repairs & Maintenance	2,997	Prudent	Partially efficient	2,873
7	Bundamba AWTP - Employee Expenses	2,419	Prudent	Insufficient information to assess all expenditure as efficient	2,085
8	North Pine WTP - Planned Infrastructure Maintenance	628	Prudent	Efficient	628
9	Mt Crosby Westbank WTP - Scheduled Infrastructure Maintenance	508	Prudent	Efficient	508
10	Molendinar WTP – Repairs and Maintenance	1,289	Prudent	Efficient, but 1,263 of sludge disposal costs considered variable rather than fixed	26
11	People and Culture	4,350	Prudent	Partially efficient	4,154
12	ICT Services	12,871	Prudent	Efficient	12,871
	Subtotal	*32,328*			*30,411*
	Fixed Opex items not reviewed	203,706		3,059 of sludge disposal costs considered variable rather than fixed	200,186
	Total	**235,573**			**230,597**
	Sample coverage	14%			

4.3.3 QCA levy

Seqwater submitted that, due to a change in the definition of Allowable Costs, the QCA levy should be considered a component of the Fixed Operating Charge. The Authority accepts Seqwater's submission.

2011-12 QCA levy

Seqwater submitted that the QCA fee was initially estimated at a total of $1.2 million for Seqwater and WaterSecure in 2011-12, but has actually incurred $1.292 million.

The Authority notes that Seqwater's estimate of $1.2 million is a summation of the rounded amounts listed in the Authority's 2011-12 Final Report ($0.6 million for Seqwater and $0.6 million for WaterSecure). The Authority confirms that its 2011-12 GSC modelling included an allowance of $646,000 each for WaterSecure and Seqwater. As a result, the Authority recommends that no adjustment is required for this item.

2012-13 QCA levy

As a separate exercise is required to review each of the previous Seqwater and WaterSecure costs, and LinkWater costs, the QCA levy will be allocated 2/3 to the new Seqwater and 1/3 to LinkWater (as for 2011-12).

The Authority has included an allowance of $1,366,000 in its 2012-13 GSCs, an increase of 5.8% relative to 2011-12.

4.3.4 Sludge Disposal Costs

Seqwater's Submission

As noted above, Seqwater proposed to recover sludge disposal costs as a fixed cost for WTPs, but as a variable cost for the GCDP and WCRWS. Seqwater submitted that there was little variation in source water quality at GCDP and WCRWS, so that the costs for sludge disposal were relatively stable on a $/ML basis.

Seqwater submitted that the relationship between water produced and sludge disposal costs at WTPs was normally not linear. Seqwater noted that the quality of raw water sourced from rivers and dams can vary significantly due to rainfall (which causes turbidity, discolouration and algae). Seqwater reported that the sludge disposal costs may display step changes, or have little correlation with water production. For example, Seqwater submitted that Mt Crosby Eastbank WTP utilised on-site sludge drying methods combined with heavy machinery hire and that the most significant costs associated with sludge disposal were for the machinery hire. Seqwater considered that these costs were essentially fixed periodical costs that bore little correlation with the quantity of sludge on site, other than for infrequent occasions where the quantity of sludge passes a tipping threshold and the costs escalate significantly from there due to the need for transport the sludge to off-site locations.

Seqwater included sludge disposal costs as part of the Repairs and Maintenance component of Water Treatment Operations. Seqwater noted that this cost was distinguished from the Repairs and Maintenance component of Infrastructure Maintenance, which included more typical asset maintenance activities.

Authority's Analysis

The Authority disagrees with Seqwater's submission. The Authority considers that sludge is a direct by-product of water treatment, and costs associated with its disposal should therefore be considered a variable cost. The Authority has therefore reduced the Repairs and Maintenance component of Seqwater's fixed operating charge by $4.3 million and instead included a $/ML charge for sludge handling for each WTP (see Table 4.58 below).

While the Authority acknowledges that this represents a change of pricing methodology relative to 2011-12, the Authority considers it better reflects the underlying cost drivers, and aligns the

treatment of WTP variable costs to those incurred at the GCDP and AWTPs. The Authority is prepared to reconsider its position in the Final Report if Seqwater can demonstrate that sludge disposal costs have no correlation (rather than a non-linear correlation) with water production.

The Authority acknowledges that the relationship between water produced and sludge costs may be non-linear and difficult to forecast. However, the Authority does not consider that non-linearity is a sufficient reason to include a cost as a fixed cost and notes that classifying sludge disposal as a fixed cost does not make it any easier to forecast. To address the issue of forecasting risk, the Authority recommends that Seqwater's variable costs are billed to the WGM based on actual volumes, and that raw water quality events are considered a Review Event for the purposes of the Review Thresholds (see Chapter 7).

4.3.5 Fixed Operating Cost Summary

In summary, the net effect of the Authority's review of sampled fixed opex items is to reduce Seqwater's proposed fixed opex from $236.0 million to $232.0 million, a reduction of $4.0 million. Of this difference:

(a) $654,000 were savings identified by SKM for the sampled items; and

(b) $3.33 million of sludge disposal costs were transferred to variable costs.

The Authority's draft recommended fixed operating costs are compared to Seqwater's proposed fixed operating costs in Table 4.51. Also shown are the approved 2011-12 fixed operating costs for comparison, based on combining Seqwater and WaterSecure costs.

Table 4.51: Fixed Operating Costs ($m)

Item	*Approved 2011-12*	*Seqwater Proposed 2012-13*	*QCA Draft Recommendation 2012-13*
Direct costs	122.2	115.6	110.3
Dams	*38.6*	*28.3*	*28.3*
WTPs	*46.9*	*48.7*	*44.4*
PRW	*22.7*	*22.2*	*21.7*
Desalination	*14.0*	*15.9*	*15.9*
Non-direct Costs	42.4[2]	58.2	58.2
Corporate Overheads[1]	55.0	62.1	61.9
Total	**219.6**	**235.6**	**230.6**

Note: [1]Includes QCA levy. [2]Non-direct costs in 2011-12 are made up of Seqwater's Business Overheads, unallocated Dam and WTP costs and WaterSecure's Asset Owner Costs. Totals may not add due to rounding.

4.4 Variable Operating Charge

4.4.1 2011-12 Variable Operating Charge

In its 2011-12 Final Report, the Authority recommended that Seqwater should not bear volume or source risk.

In its 2012-13 submission, Seqwater noted that forecast water demand in 2011-12 was higher than actual demand. This had cost implications for Seqwater at the Luggage Point and Bundamba AWTPs, which were less cost efficient at low volumes and when operated in stop-start mode. Seqwater proposed to finalise its claim for an adjustment to GSCs due to lower than expected demand after the Authority's Draft Report.

The Authority accepts Seqwater's approach.

4.4.2 2012-13 Seqwater's Submission

Seqwater submitted that variable operating charges consist of:

(a) electricity (green and black);

(b) treatment chemicals;

(c) sludge disposal (at GCDP and AWTPs only); and

(d) operator margin (at GCDP and AWTPs only).

Seqwater submitted a total variable operating charge of $39.3 million, based on a production forecast of 282,587 ML of water in 2012-13. This compared to a forecast maximum amount of $30.0 million, based on a maximum production forecast of 284,571 ML included in the Authority's 2011-12 Final Report.

Seqwater submitted that the increase in costs relative to 2011-12 was as a result of:

(a) the inclusion of Veolia's Operator Margin at the GCDP and AWTPs, which was previously considered a fixed cost;

(b) the introduction of the *Waste Reduction and Recycling Act 2011*, which imposes a waste levy on sludge from the AWTPs and GCDP of $50/tonne;

(c) higher energy costs per ML due to low production volumes at the AWTPs;

(d) changes to regulated electricity tariffs;

(e) introduction of the Carbon Tax; and

(f) price increases under existing contracts for chemicals.

Table 4.52: Seqwater's Proposed Variable Operating Costs by Asset ($/ML)

Asset	*Approved 2011-12*	*Proposed 2012-13*	*% change*
Mt Crosby Eastbank WTP	66	97	47%
Mt Crosby Westbank WTP	66	97	47%
Molendinar WTP	48	60	25%
North Pine WTP	49	74	53%
Landers Shute WTP	43	50	15%
Mudgeeraba WTP	62	83	34%
Noosa WTP	144	247	72%
Other WTPs	98	173	78%
GCDP	678	1,015	50%
Bundamba AWTP	366	678	85%
Luggage Point AWTP	412	810	97%

4.4.3 Electricity Costs

In the time available, the Authority has been unable to gain a full understanding of the manner in which Seqwater has calculated all of its estimates of electricity cost increases. This is an area which will require additional work prior to the Final Report.

Electricity Costs at WTPs

Seqwater submitted that electricity for WTPs is procured under a contract that was made following a competitive tender process in 2010. Seqwater estimated that this contract will have saved around $1.8 million for 2012-13. These cost savings occur as raw electricity prices are fixed until the end of the contract in December 2013, although increases still arise from pass-through items such as the impacts of the carbon tax, changes to regulated transmission/distribution prices and costs under the *Renewable Energy (Electricity) Act 2000.*.

However, as at the date of making this submission, Seqwater was not aware of the precise pass-through costs under the energy contract. Instead, Seqwater has made preliminary assumptions pending final advice from its retailer.

Carbon Price

The carbon price estimates for large and small WTPs were based on increases cited in the Queensland Treasury publication "Carbon Impacts on Queensland, August 2011" (Queensland Treasury 2011). The Treasury report suggested an 82% pass through of the carbon price would occur, which Seqwater has estimated would translate to a 10% increase in retail electricity prices. In preparing preliminary forecasts for 2012-13, Seqwater assumed a more conservative pass through of 100% of carbon price at large WTPs based on advice from Seqwater's electricity retailer (TRUenergy). For the small WTPs, the 10% retail electricity increase was assumed.

In the Authority's recent Draft Determination on Regulated Retail Electricity Prices 2012-13 (QCA 2012), the Authority's consultant ACIL estimated that the average carbon price pass through would be 87% for 2012-13. At the same time, the Authority notes that the exact retail price effect depends on the carbon price passed through by TRUenergy and should be apparent by the time of the Authority's Final Report. While adopting the 87% assumption from the Authority Draft Determination would marginally increase the estimated cost increase using the Treasury approach (to 10.6%), the difference is not sufficient to adjust the estimated increase for the purposes of this Draft Report given that the actual impacts should be known before the Final Report.

On this basis, the Authority recommends an increase in retail energy costs to account for the introduction of a carbon price of 10% for all WTPs, not just small WTPs.

Network Costs

Seqwater submitted that the regulated network costs were made up of both distribution and transmission charges and impact the large WTPs only. A 20.9% increase was assumed for distribution costs based on an estimated 16.9% increase as stated in Energex's Statement of Expected Price Trends 2011-12 (Energex 2011)plus a further 4% was applied based on historical typical variances between the Expected Price Trend estimates and approved rates provided by Energex. A 19% increase was assumed for the transmission costs based on the average increase of these costs over the past two years.

The Authority notes that the Australian Economic Regulator (AER) approved Energex's distribution charges to increase by 16.44% in 2012-13. The AER's draft decision (AER 2011)[2] approved PowerLink's transmission charges to increase by 13.38% for 2012-13 On this basis, the Authority considers that Seqwater's assumed increases in network costs (20.9% distribution and 19% transmission) are too high. The Authority has instead adopted a 16.44% increase in distribution costs and a 13.38% increase in transmission costs as per the AER's decisions.

Due to insufficient detail provided by Seqwater, the Authority was unable to replicate Seqwater's translation of network and environmental cost increases into electricity price increases. In this regard, increases of 20.9% and 19% respectively for distribution and transmission costs have translated into an increase of over 30% in most instances. This seems incongruous as distribution costs account for a portion of the electricity price. In the absence of better information, the Authority has weighted the respective network cost increases by their broad weighting in electricity prices generally, resulting in an 8% increase in electricity prices.

Green Energy

Seqwater submitted that in October 2009, its board decided to purchase 10% of its energy needs at WTPs as green energy. Seqwater submitted that the inclusion of green energy into Seqwater's energy portfolio accorded with the then government vision statement: *Towards Q2: Tomorrow's Queensland* (Queensland Government 2008). Seqwater sought confirmation from government whether it has any requirements of Seqwater with respect to purchasing green energy into the future.

Seqwater submitted that costs relating to retailer obligation levels under the *Renewable Energy (Electricity) Act 2000* (SRES34, LRET35 & GEC36) were confirmed in January each year. Seqwater's estimates for these charges were calculated by applying pricing provided by TRUenergy based on its obligation level at the time of preparing the budget, resulting in an additional $0.1M cost for both 2011-12 and 2012-13.

[2] The AER's final decision on PowerLink's transmission charges is not expected until 30 April 2012.

The Authority considers that the *Towards Q2* vision statement is not sufficient justification for green energy purchases at WTPs to be included in the GSCs. The Authority is not aware of any requirements in *Towards Q2* regarding Seqwater's energy procurement. The Authority considers that, for Seqwater's claim that green energy was required by government policy to be justified, it requires a specific direction, rather than a broad, whole-of-government vision statement. In the absence of specific government direction, the Authority considers that green energy does not represent the least cost option and, as such, is not efficient.

The Authority has not yet adjusted Seqwater's estimated energy cost increases to account for the impact of removing the cost premium relating to green energy in 2012-13 (but which was included in costs in the previous year) but will do so in the Final Report unless the Government has made a formal direction regarding green energy.

Electricity Costs at WCRWS and the GCDP

Expiry of Notified Tariffs

Seqwater submitted that, in 2011-12, it procured electricity for the GCDP and the WCRWS under Notified Tariff 43. Seqwater submitted that, while Notified Tariffs will no longer be accessible to large customers (using more than 100MWh per annum) from 1 July 2012, it believed it reasonable to base costs on Tariff 43, with an assumed increase of 11.39% in 2012-13 which represented the simple average of regulated tariff increases over the past four years.

Seqwater submitted that it (and Veolia) had commenced the process to procure electricity from the contestable market for both the GCDP and the WCRWS.

In the absence of more information, the Authority considers that Seqwater's assumption of basing its 2012-13 electricity costs on Tariff 43 is acceptable. However, it does not consider Seqwater's assumed increase of 11.39% to Tariff 43 is appropriate as the Authority notes that Seqwater successfully obtained a lower electricity price when it transferred from a regulated rate to a market contract for electricity at its WTPs. As a result, the Authority is not convinced that the cost of electricity on a market contract will be higher than what is currently paid for on Tariff 43. Therefore, the Authority recommends a 0% increase in electricity tariffs in 2012-13, relative to 2011-12. This decision will be revisited in the Final Report if market contracts are in place by then, or more information is available about the impact of a move to a market contract.

Carbon Price

Seqwater submitted a 20% allowance for the impacts of the carbon price on Notified Tariffs.

The Authority considers that Seqwater's 20% allowance for the impact of the carbon price has not been justified. Accordingly, the Authority has applied a 10% allowance for the impact of the carbon tax at the GCDP and the WCRWS, in line with the assumption made for electricity procured for WTPs.

Renewable Energy Certificates (RECs)

Seqwater submitted that the GCDP had certain Queensland Government requirements for carbon neutrality. Seqwater met this requirement through its purchase and surrender of renewable electricity certificates (RECs). Seqwater purchased a total of 182,098 RECs in 2009 at a price of $43.38/MWh. Seqwater anticipated that these RECs would be exhausted during 2012-13 and new certificates would be required. However, Seqwater did not commence a procurement process for the purchase of new certificates or sufficient green energy to maintain the plant's green energy status, pending advice from Government about whether the requirement for the plant to be carbon neutral will continue in 2012-13.

The Authority considers that, in the absence of a formal Government direction, carbon neutral energy procurement cannot be considered the least cost option. As such, Seqwater's approach to seeking Government clarification regarding the carbon neutrality of the GCDP prior to incurring expenditure is appropriate. Until formal Government advice is received, the Authority's recommended electricity prices exclude the cost of achieving carbon neutrality.

The Authority has not yet adjusted Seqwater's estimated energy cost increases to account for the removal of the need to purchase RECs in 2012-13 (which were included in costs in the previous year) but will do so in the Final Report unless the Government has made a formal direction regarding carbon neutrality.

Energy Cost Summary

Based on existing cost information provided by Seqwater for the Draft Report, the Authority considers Seqwater's assumptions regarding energy procurement to be either overly conservative or inappropriate. The Authority's recommendations are detailed in Table 4.53.

These assumptions will be revisited in the Final Report if the Authority is provided with better information regarding market contracts or the basis on which the costs increases have been calculated.

Table 4.53: Seqwater's energy costs

	Seqwater's Proposed cost increases				*QCA Recommended cost increases*			
Location	*Energy cost variance*	*Variance due to kWh/ML change*	*Carbon Price*	*Network and environment changes*	*Energy cost variance*	*Variance due to kWh/ML change*	*Carbon Price*	*Network and environment changes*
Launders Shute WTP	**30%**	16%	9%	6%	**34%**	16%	10%	8%
North Pine WTP	**55%**	-11%	37%	30%	**7%**	-11%	10%	8%
Petrie WTP	**66%**	6%	24%	37%	**24%**	6%	10%	8%
Capalaba WTP	**57%**	7%	19%	32%	**25%**	7%	10%	8%
Molendinar WTP	**58%**	-2%	24%	36%	**16%**	-2%	10%	8%
Mt Crosby Eastbank WTP	**65%**	-4%	38%	32%	**14%**	-4%	10%	8%
Mt Crosby Westbank WTP	**65%**	-4%	38%	32%	**14%**	-4%	10%	8%
Mudgeeraba WTP	**118%**	4%	32%	82%	**22%**	4%	10%	8%
North Stradbroke Island WTP	**33%**	0%	27%	5%	**18%**	0%	10%	8%
GCDP	**31%**	0%	20%	11%	**10%**	0%	10%	0%
WCRWS	**31%**	0%	20%	11%	**10%**	0%	10%	0%
Total Change in Energy Cost (Weighted Average)	**55%**	**10%**	**30%**	**15%**	**28%**	**10%**	**10%**	**8%**

The Authority's recommended adjustments have been taken into account in Table 4.58 below.

4.4.4 Operator Margin

Seqwater's Submission

Seqwater's inclusion of Veolia's Operator Margin as a variable cost represented a change to the approach adopted by WaterSecure in 2011-12. Seqwater submitted that a portion of the Operator Margin varied by volume and should be included as a variable cost as it better reflected the underlying cost structure in the operations contract.

Authority's Analysis

The Authority accepts Seqwater's submission and proposes to include the operator margin as a variable cost.

4.4.5 Chemical Dosing Contingency

Seqwater's Submission

Seqwater submitted that one of the reasons for the increase in chemical costs relative to 2011-12 was the inclusion of a contingency for poor water quality events. Seqwater noted that chemical dosing rates will change throughout the year due to events such as storms or rainfall. Seqwater has developed its dosing forecasts based on historical raw water quality and allowed a contingency for minor raw water events. On average, this contingency contributed 5% of the total 29% increase in chemical costs.

Authority's Analysis

The Authority included an allowance in the 2011-12 Review Thresholds to account for poor raw water quality events. The Authority recommends that this approach be continued in 2012-13, and has formalised feed water quality events as a Review Event.

As a result, the Authority considers that Seqwater is appropriately protected against raw water quality events without the need to make a contingency. The Authority has therefore removed specific chemical dosing contingencies for North Pine WTP (19%) and Petrie WTP (27%), as well as an average contingency for a number of smaller WTPs (5%) from its recommended GSCs.

4.4.6 Prudency and Efficiency Review

The Authority engaged SKM to review the prudency and efficiency of Seqwater's variable operating costs.

For opex to be included the GSCs, it is required to be prudent (demonstrated need for the expenditure) and efficient (least cost and consistent with relevant benchmarks, having regard to prevailing market conditions, historical trends and the potential for efficiency gains or economies of scale).

SKM and the Authority sampled four variable cost items for detailed review of prudency and efficiency. These items accounted for $5.47 million or 14% of Seqwater's forecast total variable cost of $39.3 million.

Item 1: Mt Crosby Eastbank WTP - Electricity

Seqwater's Submission

Seqwater forecast $2,502,811 for electricity at Eastbank WTP during 2012-13, for the treatment of 81,858 ML of water at a unit rate of $30.68/ML. The total cost was divided between black power ($2,303,554) and green power ($199,258).

SKM's Review

SKM noted that electricity costs for the Mt Crosby WTPs were supplied through one meter, with costs allocated 85% to Eastbank and 15% to Westbank, in line with the WGM's forecasts of production volumes from the plants.

SKM noted that the forecast unit rate for 2012-13 ($30.68/ML) represented a 20% increase relative to 2011-12 ($28.90/ML).

Table 4.54: Mt Crosby Eastbank Electricity Costs

Cost	*2011-12 Estimate Actual*	*2012-13 Forecast*	*% change*
Black Electricity ($'000)	2,209	2,304	+4.3%
Green Electricity ($'000)	193	199	+3.1%
Total ($'000)	**2,402**	**2,503**	**+4.2%**
ML	81,751	81,585	
$/ML	29.4	30.7	+4.4%

Prudency Review

SKM noted that the Mt Crosby Eastbank WTP was a Grid-connected, critical base-load plant; the biggest in SEQ by capacity and by volume supplied. SKM considered that the operating costs associated with purchasing electricity were necessary in order to operate Mt Crosby Eastbank.

SKM concluded that this expenditure was prudent.

Efficiency Review

SKM noted that Seqwater secured competitive rates for electricity during the tender process in 2010 which were valid until December 2013. Off-peak and peak assumptions were applied based on operational requirements and historical data to forecast costs. SKM noted that these electricity costs were benchmarked to the market.

SKM concluded that this expenditure cost was efficient.

Authority's Analysis

The Authority accepts SKM's conclusion that this expenditure is prudent and that the means by which the electricity is procured are efficient. However, as discussed in more detail in section 4.3.3 above, the Authority does not consider that Seqwater's assumptions in forecasting electricity costs are sound. The Authority has removed Seqwater's allowances for green energy, and adjusted Seqwater's expected price increase due to carbon taxes, transmission and distribution costs. The Authority has therefore approved a $/ML energy cost of $27.5/ML for Mt Crosby Eastbank.

Item 2: Landers Shute WTP – Treatment Chemicals

Seqwater's Submission

Seqwater forecast $1,315,336 for treatment chemicals at the Landers Shute WTP to treat a forecast 28,753 ML of water at a unit cost of $45.75/ML.

SKM's Review

SKM noted that the 2012-13 forecast unit price ($/ML) for treatment chemicals increased by 14% relative to that forecast for 2011-12, and that the total price increased by 20% relative to 2011-12 estimated actuals (see Table 4.55).

Table 4.55: Landers Shute Chemical Treatment Costs ($)

Cost	*2011-12 Forecast*	*2011-12 Estimated Actual*	*2012-13 Forecast*
Chemical Costs	1,007,886	1,091,690	1,315,336
ML	25,100	25,100	28,753
$/ML	40.2	43.5	45.8

Prudency Review

SKM noted that the chemical budget associated with running Landers Shute WTP was driven by forecast supply volumes from the WGM, translated from demand predictions for specific supply areas in line with SEQ System Operating Plan objectives.

SKM considered that Seqwater had a requirement to chemically treat water to deliver water to the standards required by the various regulatory bodies.

SKM concluded that this expenditure was prudent.

Efficiency Review

SKM noted that the 2012-13 forecast cost increased by 20% relative to the 2011-12 estimated actual, in spite of a reduced base dosage. Seqwater included an additional chemical dose contingency allowance for risk of wet weather and natural events, which contributed 19% points to the increase in total variable chemical costs for this facility, which was offset by other factors to result in a 14% total increase.

SKM reported that this contingency did not extend to major events such as an extreme weather or water quality event like the major flood events that occurred in January 2011.

SKM reported that Seqwater assumed that chemical costs will increase as per historical increases or in nominal terms by between 2.50% and 3.75% depending on the individual chemical.

SKM noted that treatment chemicals are fully sourced from external suppliers under three contracts secured through open tenders from panels of providers, created in compliance with internal procurement procedures. SKM considered that the treatment chemicals for Landers Shute were all supplied under contracts procured by competitive tenders in line with Seqwater's procurement policies and procedures.

SKM concluded that this expenditure was efficient.

Authority's Analysis

The Authority accepts SKM's conclusion that Seqwater's chemical costs are prudent. The Authority also accepts that the procurement cost of chemicals is efficient, but does not consider

that Seqwater should be entitled to an allowance for contingency. The Authority notes that under the Review Thresholds, Seqwater is not exposed to source or volume risk, and that raw water quality events will be considered as a Review Event by the Authority.

As a consequence, the Authority considers that Seqwater faces very little risk regarding chemical costs, and should therefore not be seeking to recover an amount for contingency. On this basis, the Authority has reduced Seqwater's efficient chemical treatment costs at Lander's Shute WTP by 19% to $1,096,208.

The Authority notes that Seqwater also included specific chemical dosing contingencies for North Pine WTP (19%) and Petrie WTP (27%), as well as an average contingency for a number of smaller WTPs (5%). The Authority has also removed these contingencies from its recommended GSCs. See Table 4.58 below for more detail.

Item 3: Molendinar WTP – Sludge Disposal

As noted in Section 4.2.4 above, the Authority considers that sludge disposal is a variable cost and has transferred it from fixed operating costs. SKM reviewed sludge disposal costs at Molendinar as part of its review of fixed costs (See Item 10 in fixed operating costs above for more information).

The Authority accepts SKM's conclusion that this expenditure is prudent and efficient.

Item 4: Luggage Point AWTP – Electricity

Seqwater's Submission

Seqwater forecast $1,615,999 for electricity the Luggage Point AWTP in 2012-13, for the production of 3,858 ML at a unit cost of $428.26/ML.

SKM's Review

SKM noted that the cost forecast for Luggage Point AWTP was an interim figure. The plant was currently eligible for notified tariffs, but rule changes from July 2012 will mean that electricity must be procured under a market contract. Seqwater proposed that the Variable Operating Charge for 2012-13 be based on actual contracted energy prices once these are known.

SKM noted that there is a large increase in forecast unit rates due to smaller forecast production volumes. SKM considered that because there are major energy costs associated with starting up and shutting down the plant, a smaller volume leads to significantly higher unit costs. Table 4.56 refers.

Table 4.56: Luggage Point Electricity Costs ($)

Cost	***2011-12 Forecast***	***2011-12 Estimated Actual***	***2012-13 Forecast***
Electricity Costs	1,041,000	1,114,222	1,651,999
ML	7,300	3,650	3,858
$/ML	143	305	428

Prudency Review

SKM noted that Seqwater was required to produce water at the Luggage Point AWTP under the Grid Contract. Electricity is essential to allow the Luggage Point plant to operate; hence this expenditure was required in order for Seqwater to meet its obligations.

SKM concluded that this expenditure was prudent.

Efficiency Review

Seqwater proposed a scheme of two tariffs for Luggage Point: one that was set to recover the costs when the plant was operating at very low daily production rates (less than 10.5 ML per day), and another when daily production exceeded this threshold. This arose from the WGM's forecast for 2012-13 which anticipated low volume requirements for the first part of the period, followed by an increase later on as new industrial users required larger volumes. SKM considered this two-tariff system to be a suitable method of helping to ensure more accurate recovery of costs and therefore avoid the need for price review claims.

The assumed average unit price for 2012-13 was $0.14/kWh, compared to $0.11/kWh in the original 2011-12 submission.

The plant was currently being supplied under notified tariffs, but these will not be available for 2012-13. Seqwater proposed to update the unit rates for electricity based on actual contracted energy prices once these are known.

The method of procurement was still under negotiation, let alone the actual terms and rates of the future contract, so SKM concluded that there was insufficient information to judge whether the expenditure will be efficient. However, if the new contract is procured in such a way that the final rates reflect the market, SKM recommended that the expenditure should be efficient.

Authority's Analysis

The Authority accepts SKM's conclusion that the 2012-13 Luggage Point electricity costs are prudent, but that due to timing or contract negotiation, insufficient information is available to judge their efficiency.

As discussed in more detail in section 4.3.3 above, the Authority does not consider that Seqwater's assumptions in forecasting electricity costs are sound. The Authority has removed Seqwater's allowances for green energy, and adjusted Seqwater's expected price increase due to carbon taxes, transmission and distribution costs. The Authority has therefore approved a $/ML energy cost of $360/ML for Luggage Point AWTP pending more information regarding contract negotiation, rather than the $428/ML proposed by Seqwater.

The Authority notes that Seqwater's proposed Luggage Point AWTP volumes do not reconcile with those provided by the WGM. Based on a larger volume of 4,705 ML rather than Seqwater's proposed 3,858 ML, the Authority recommends an expected energy cost of $1,692,218 for 2012-13.

However, the Authority accepts SKM's recommendation that if procured in a way that reflects market costs, Seqwater's electricity costs should be considered to be efficient. The Authority will revisit this issue, based on updated information, in its Final Report.

Summary of Prudency and Efficiency Review

In summary, SKM reviewed four variable operating expenditures and recommended that three were prudent and efficient, while one had insufficient information to establish efficiency.

The Authority has removed a 19% contingency for treatment chemicals at Lander's Shute WTP, as well as corresponding treatment chemical contingencies at other WTPs that were not included in SKM's sample. Table 4.57 refers.

Table 4.57: Prudency and Efficiency of Variable Operating Costs ($'000)

No	*Cost*	*Seqwater proposed*	*Prudency*	*Efficiency*	*QCA Draft Recommendation*
1	Mt Crosby Eastbank WTP - Electricity	2,503	Prudent	Partially efficient, green energy cost premium removed.	2,242
2	Landers Shute WTP – Treatment Chemicals	1,315	Prudent	Partially efficient, 19% contingency removed	1,096
3	Molendinar WTP – Sludge Disposal	0	Prudent	Efficient and transferred from fixed costs	1,264
4	Luggage Point AWTP – Electricity	1,652	Prudent	Insufficient information to establish efficiency, volume increased.	1,692
	Subtotal	*5,470*			*6,294*
	Variable Opex items not reviewed	33,875		Sludge Disposal costs transferred from fixed costs, energy costs reduced, chemical dosing contingencies removed	33,584
	Total	**39,345**			**39,878**
	Sample coverage	14%			

4.4.7 Variable Tariff Structure

Seqwater proposed a number of changes to the tariff structure, based on an increased understanding of the likely levels of demand and the operating features of the GCDP and AWTPs.

Hot Standby Tariff

Seqwater's Submission

Seqwater submitted that during Hot Standby mode, the GCDP was required to be flushed twice per week to prevent fouling of membranes and to manage pH levels in the Southern Regional Water Pipeline. During this flushing process, 25ML of water are produced as a matter of course, and this water is delivered to the WGM. Seqwater submitted that the production of this water should not be subject to a price signal to the WGM, as the water was being produced anyway, and the costs cannot be avoided by Water Grid optimisation.

Further, Seqwater noted that the costs associated with flushing are not strictly fixed costs, since these costs are not incurred when the GCDP is operational, only in Hot Standby mode. With a level of uncertainty about how many weeks of the year the GCDP will be operational, Seqwater considered it would be difficult to forecast actual flushing costs.

Instead, Seqwater proposed to charge the costs on a per event basis. Seqwater estimated that each flush will cost $35,585, to be incurred twice a week during Hot Standby mode.

Authority's Analysis

The Authority notes that the inclusion of a Hot Standby per flush tariff introduces a large amount of complexity into the tariff structure for what is a small proportion of Seqwater's total costs. The Authority considers that, in a retail environment, this additional complexity would be detrimental to customers' understanding of prices. However, as the WGM is an institutional customer with responsibility for the short term operating settings of the Water Grid, the WGM is well equipped to handle tariff complexity. The Authority notes that tariffs that better reflect the underlying cost driver provide the WGM a greater ability to optimise costs on a Water Grid-wide basis.

For this reason, the Authority accepts Seqwater's proposal to charge the WGM for GCDP electricity costs incurred in Hot Standby on a per event basis.

Utilisation Tariffs

Seqwater's Submission

Seqwater also submitted that $/ML electricity costs change depending on the level of utilisation of the GCDP and AWTPs, with greater cost efficiency being achieved at higher levels of utilisation. As a consequence, Seqwater proposed to include separate charges (expressed as a $/ML tariffs) for different levels of utilisation:

(a) GCDP – at 33% utilisation;

(b) GCDP – at 66% utilisation;

(c) GCDP - at 100% utilisation;

(d) Luggage Point - Low Flow Days (<10.5ML/day); and

(e) Luggage Point – Other Days.

Authority's Analysis

For reasons set out above, the Authority considers that the WGM is well equipped to handle additional tariff complexity. The Authority notes that tariffs that better reflect the underlying cost drivers provide the WGM a greater ability to optimise costs on a Water Grid-wide basis.

For this reason, the Authority accepts Seqwater's proposal to charge the WGM for GCDP and AWTPs electricity costs on a utilisation basis.

4.4.8 Variable Operating Charge Summary

The Authority recommends that Seqwater charge the WGM variable operating charges based on actual volumes delivered and the Authority's recommended $/ML variable charges. The Authority's recommendations are included in full in Table 4.58.

Table 4.58: Draft Recommended Variable Operating Charges

Asset	*Energy*	*Chemicals*	*Sludge Disposal, Other*	*Total*
	$/ML	*$/ML*	*$/ML*	*$/ML*
Banksia Beach WTP	185.65	42.11	10.58	**238.34**
Caboolture WTP	65.64	69.95	204.28	**339.87**
Dayboro WTP	81.52	42.23	27.23	**150.98**
Enoggera WTP	57.34	385.20	20.98	**463.52**
Esk WTP	176.02	156.90	5.29	**338.21**
Ewan Maddock WTP	43.96	85.12	26.61	**155.69**
Image Flat WTP	4.62	52.86	13.46	**70.94**
Jimna WTP	163.27	145.57	150.47	**459.31**
Kenilworth WTP	111.38	90.45	28.73	**230.57**
Kilcoy WTP	108.84	51.85	16.36	**177.06**
Lander's Shute WTP	4.28	38.13	17.91	**60.31**
Linville WTP	90.56	97.18	-	**187.74**
Lowood WTP	106.46	42.42	13.50	**162.38**
Noosa WTP	0.00	-	15.98	**263.22**
North Pine WTP	9.84	52.36	1.07	**63.28**
Petrie WTP	29.68	56.53	7.75	**93.96**
Somerset Dam Township WTP	40.14	192.47	37.65	**270.25**
Woodford WTP	222.89	103.03	24.20	**350.13**
Amity Point WTP	104.30	17.06	6.87	**128.23**
Beaudesert WTP	121.83	68.88	83.04	**273.75**
Boonah-Kalbar WTP	112.65	89.54	41.52	**243.71**
Canungra WTP	127.67	47.80	-	**175.47**
Capalaba WTP	56.38	68.38	51.67	**176.43**
Dunwich WTP	128.16	18.23	5.37	**151.76**
Kooralbyn WTP	206.56	77.83	121.37	**405.75**
Molendinar WTP	12.36	43.28	25.35	**80.99**
Mt Crosby Eastbank WTP	27.48	57.09	3.66	**88.24**
Mt Crosby Westbank WTP	27.48	57.51	3.15	**88.14**
Mudgeeraba WTP	18.94	48.71	65.90	**133.56**
North Stradbroke Island WTP	58.64	28.77	13.89	**101.30**
Point Lookout WTP	88.90	14.07	3.04	**106.01**
Rathdowney WTP	110.56	80.02	-	**190.58**
South Maclean WTP	180.39	97.06	112.88	**390.33**
GCDP - 33% Utilisation	613.83	95.24	110.05	**819.13**
GCDP - 66% Utilisation	585.28	89.05	106.44	**780.78**
GCDP - 100% Utilisation	571.01	89.05	104.96	**765.02**
Bundamba AWTP	247.98	210.38	165.69	**624.05**

Asset	*Energy*	*Chemicals*	*Sludge Disposal, Other*	*Total*
Luggage Point AWTP - Low Flow Days (<10.5ML/day)	359.65	214.38	158.45	**732.48**
Luggage Point AWTP - Other	297.18	214.38	150.33	**661.89**
PRW Network	133.04	-	17.30	**150.34**
	$/Day	*$/Day*	*$/Day*	*$/Day*
GCDP - Hot Standby production days	26786	3,103	-	**29,889**
GCDP - Hot Standby non-production days	0	2,287	-	**2,287**

4.4.9 Forecast Demand

Under the Direction Notice, the Authority is required to adopt the demand forecast set out in the WGM's Annual Operations Plan (dated November 2011).

The Authority notes that the WGM's forecast differs by 0.7% from those provided by Seqwater. As required by the Direction Notice, the Authority has adopted the WGM's forecasts. Table 4.59 refers.

Table 4.59: Forecast Water Production for 2012-13 (ML)

Asset	*WGM Forecast Volume (ML)*
Mt Crosby Eastbank WTP	81,586
Mt Crosby Westbank WTP	14,397
Molendinar WTP	49,813
North Pine WTP	33,536
Landers Shute WTP	28,753
Mudgeeraba WTP	18,317
Noosa WTP	3,943
Other WTPs	36,031
GCDP	8,110
Bundamba AWTP	5,342
Luggage Point AWTP	4,705
Total	**284,533**

For the GCDP, Seqwater provided the following forecast for each mode throughout 2012-13.

Table 4.60: GCDP Production Forecast by Utilisation

Mode	*Weeks*	*Days*	*Production Forecast (ML)*
Hot Standby Production Days	39	78	1,950
Hot Standby Non-Production Days	39	195	0
33% Capacity	6	42	1,848
66% Capacity	7	49	4,312
100% Capacity	0	0	0
Total		**364**	**8,110**

The Authority notes that Seqwater's production forecast at the GCDP, in total, matches the demand forecast by the WGM in its Annual Operations Plan (WGM 2011). On this basis, the Authority accepts Seqwater's proposed production forecast by utilisation.

These volumes have been applied to the Authority's recommended $/ML variable operating costs to estimate a total expected Variable Operating Charge of $39.9 million. Relative to Seqwater's submission, the expected value of the Authority's recommended variable operating charges includes a sludge disposal cost, which is partly offset by lower expected electricity costs.

4.5 Allowable Costs

As noted in Section 3.8, Seqwater submitted that the working capital allowance and QCA levy, which were considered Allowable Costs in 2011-12, should be included in the Capital Charge and Fixed Operating Charge respectively in 2012-13. The Authority accepts this submission, and has discussed these costs in the relevant sections above.

4.5.1 2011-12 Allowable Costs

QWC levy

QWC forecast a levy to be paid by Seqwater of $10.3 million in 2011-12, which the Authority included in its recommended 2011-12 GSCs.

As discussed in Section 3.5, the QWC has since notified the Authority that the 2011-12 levy required adjustment due to where QWC incurred less than the estimated user charges. As a consequence, the 2011-12 QWC levy incurred by Seqwater was $3.8 million less than the allowance included in 2011-12 GSCs.

Integration Costs

Seqwater submitted that, although it had incurred integration costs relating to the merger with WaterSecure on 1 July 2011, it will not be in a position to submit its costs to the Authority until after the Final Report. Seqwater intended to make a final claim as part of the GSCs from 1 July 2013.

The Authority accepts Seqwater's approach.

Floods Commission of Inquiry

Seqwater submitted that, although it had incurred integration costs relating to the Commission of Inquiry in 2011-12, it was not yet in a position to provide a finalised cost estimate. Seqwater proposed to make a final claim prior to the Authority's Final Report.

The Authority accepts Seqwater's approach.

Summary

On the basis of known Allowable Costs, Seqwater was overpaid $3.8 million in 2011-12, relating to the QWC levy. The Authority has taken this into account in its 2012-13 Allowable Cost recommendations.

4.5.2 2012-13 Allowable Costs

Seqwater submitted that the only Allowable Cost relevant for 2012-13 was the QWC levy. Seqwater estimated that this cost equalled $10.6 million, based on a 2.5% increase relative to 2011-12.

The Authority notes that QWC had not yet finalised its budgeting for the 2012-13 year, and had not provided an estimate of the 2012-13 QWC levy at the time of the Authority's Draft Report. The Authority therefore accepts Seqwater's submission of a 2.5% escalation to the 2011-12 QWC levy as an interim estimate. The Authority understands that the QWC will be able to provide a finalised 2012-13 levy estimate for the Final Report.

Table 4.61 documents the Authority recommended Allowable Costs.

Table 4.61: Summary of Allowable Costs ($m)

	Approved 2011-12	***Estimated Actual 2011-12***	***2011-12 Over-recovery***	***Forecast 2012-13***	***2012-13 Draft Recommendation***
QWC Levy	10.3	6.5	3.8	10.6	6.8
Integration Costs	TBA	TBA			TBA
Floods Commission of Enquiry	TBA	TBA			TBA
Total	**10.3**	**6.5**	**3.8**	**10.6**	**6.8**

Note: TBA - Seqwater proposed to provide an estimate of Integration and Floods Commission costs for the Authority's Final Report.

4.6 Revenue Offsets

4.6.1 Seqwater's Submission

Seqwater proposed to continue the regulatory arrangements set in 2011-12, which treated services that Seqwater provides in addition to water supply as a revenue and cost pass-through. Seqwater submitted that it is not practical to undertake an extensive cost allocation exercise for these activities. Under this arrangement, all costs incurred by Seqwater in providing these services are recovered through the GSCs. To offset this cost, all revenue earned from these services is explicitly subtracted from Seqwater's GSCs. Table 4.62 shows Seqwater's proposed revenue offsets for 2012-13.

4.6.2 Authority's Analysis

As discussed in section 3.8, the Authority accepts Seqwater's proposed regulatory treatment of revenue offsets. The Authority notes the charges relating to irrigators will be subject to subsequent review in a separate investigation. However, as discussed in section 3.8, the Authority recommends additional revenue offsets relating to 50% of revenue relating to mini-hydro ($360,000) and telecommunication leases ($30,000). The Authority's recommendation is provided in Table 4.62.

Table 4.62: 2012-13 Revenue Offsets ($ million)

Revenue	*Seqwater Proposed*	*Draft Recommendation*
Irrigator Charges (Excluding Renewals Annuity)	2.8	2.8
Non-SEQ Urban and Industrial Charges	0.6	0.6
Recreation Charges and Leases	1.1	1.1
Mini-hydro Electricity Sales	-	0.18
Telecommunications Leases	-	0.02
Total	**4.5**	**4.7**

Note: Totals may not sum due to rounding.

4.7 Merger Efficiencies

The amalgamation of Seqwater and WaterSecure occurred on 1 July 2011. The State Government's requirements of the merger were that:

(a) employees that transferred from WaterSecure to Seqwater were to receive the same terms and conditions of employment as they received at WaterSecure; and

(b) no forced redundancies were to be implemented for transferred staff under the terms of their enterprise bargaining agreements (EBAs) for a three-year period until December 2013.

The Direction Notice requires the Authority to provide advice on potential efficiency improvements and business savings based on good industry practice. To achieve this goal, SKM was engaged by the Authority to identify any potential efficiency improvements and achievable operating cost savings as a result of the merger of Seqwater and WaterSecure.

4.7.1 SKM's Review

In order to identify potential efficiency improvements that may be realised as a result of the Seqwater/WaterSecure merger, SKM reviewed organisational structures, roles and responsibilities, as well as major alliance contracts associated with the two pre-merged organisations.

SKM reported that around $2 million in operating cost savings had already been realised and also identified future potential improvements and achievable cost savings that were expected to take place in the short, medium and longer terms as a result of the amalgamation of the two utilities.

Short Term Merger Savings

SKM noted that the Government policy requirement had a notable impact on the quantum of any immediate to short term efficiency gains (1-2 years) that could be achieved by reducing staff levels. This situation effectively challenged the merged entity to determine how it can efficiently utilise the resources from both entities until the end of 2013 when these policies would expire. SKM considered that, in addition to their labour constraints, the existing contracts for the supply of products and services also minimised the ability to realise any immediate or short term efficiency benefits that may be possible from the merger.

The major and most immediate saving that resulted from the merger resulted from a direct reduction in the number of board members and executive managers. The pre-merger number of board members of 10 (five for Seqwater and five for WaterSecure) was reduced to seven post merger. SKM considers that Seqwater's board membership should be further reduced to five members once their respective board members' terms expire.

The pre-merger number of executive management FTEs was 26.3 (15.3 for Seqwater and 11 for WaterSecure) and this declined post merger to 15.5, a net reduction of 10.8 FTEs.

The cost savings attributed to the above reduction in board members and executive staff was in the order of $2 million. SKM stated that no other costs savings associated with labour have been achieved. However, SKM notes that further cost savings could be achieved by reducing the number of board members to five and through 'natural attrition' of Seqwater staff.

Contracts for the operations and maintenance of the GCDP, the operations of the WCRWS and the operations and maintenance of Noosa water treatment plant exist with Veolia and John Holland (former) and Veolia (latter two).

As such, Seqwater has limited ability to seek efficiencies by pooling these activities with those at Seqwater's original assets. There may be potential efficiency improvements achieved through combining the outsourcing operation and maintenance contacts when these contracts expire or are re-negotiated or extended.

Long Term Merger Savings

SKM stated that multi-plant economies could be achieved in such a merger, where the merged entity is able to negotiate a reduced price on services or products due to an increase in requirement. The most notable long term economies (5-10 years) that can be achieved are through coordinated purchasing or production.

There is an opportunity to combine the electricity supply contract for the GCDP, the WCRWS and Noosa facility with Seqwater's existing electricity contracts. However, the unpredictability of the demand contract at these two sites would limit the ability to achieve significant savings through pooling these contracts via the competitive electricity market.

The following are examples of areas where SKM considered potential cost savings could be achieved in the next two to five years:

(a) the termination of the lease to tenants at 240 Margaret Street and relocating all personnel from 95 North Quay to the freed space at 240 Margaret Street, and potentially sub-letting 95 North Quay. Leaving the premises vacant may yield potential direct cost savings from reduced cost of energy, cleaning, maintenance and rates;

(b) the closure of the WaterSecure data centre and the grouping depots and other facilities, where possible;

(c) grouping supplier contracts. Seqwater will seek to review all contracts once their terms expire;

(d) bulking of chemical requirements will only be able to be realised should Seqwater and Veolia Water agree to a joint chemical procurement process. SKM considered that a discounted rate should be achieved by procuring a larger volume of chemicals;

(e) grouping all sludge and waste disposal into one contract, however only a modest saving was expected here;

(f) contracting for all power requirements within a single contract (achievable post-2013); and

(g) streamlining insurances. SKM considered it good practice to have parallel insurances for the first year post merger to enable claims arising under the different insurance policies to be realised. Seqwater indicated that a combined insurance policy for 2012-13 would be sought.

Summary

SKM's potential cost savings are identified in Table 4.63 below, ranging from '$' - minimal cost savings potential to '$$$' - major cost savings potential.

Table 4.63: Summary of Potential Efficiency Gains from Merger

Activity	***Realisation Period***	***Cost Savings Potential***
Systems and Infrastructure	5-10 years	$$$
Premises	2-5 years	$$
Insurances	1-2 years	$$
Fleet	2-5 years	$
Electricity	2-5 years	$$
Chemicals	2-5 years	$$
Sludge and Waste Disposal	2-5 years	$

4.7.2 Authority's Analysis

The high-level nature of SKM's analysis of potential efficiency gains reduced the ability for SKM to provide a quantitative analysis of the merger. Instead, SKM's assessment discussed potential merger efficiency gains in a qualitative manner.

SKM identified future potential improvements and achievable cost savings that were expected to take place in the short, medium and longer terms as a result of the amalgamation of the two utilities.

In particular, SKM stated that major cost savings could be achieved in one area (Systems and Infrastructure), medium cost savings could be realised in four areas (Premises, Insurances, Electricity and Chemicals) and minimal cost savings could be achieved in two areas (Fleet and Sludge and Waste Disposal),

Given the current restrictions that exist for Seqwater to realise cost savings, the Authority has not specifically adjusted Seqwater's 2012-13 recommended GSCs. However, consistent with SKM's analysis, the Authority considers that Seqwater should commence realising efficiency savings from 2013-14 onward.

The Authority notes that efficiency incentives are in place for GSPs to make cost savings (see Chapter 7). To date, the GSPs' response to these incentives has been limited. The Authority considers that SKM's conclusions regarding merger efficiencies provides guidance to Seqwater as to where cost savings could be achieved.

The Authority considers that, should its recommended efficiency incentives continue to elicit a limited response from Seqwater, a more direct approach (requiring the application of sampled cost savings to unsampled items) to ensuring potential efficiency gains are achieved may be required in future regulatory periods.

4.8 Benchmarking of Operating Costs

To supplement the Authority's analysis of the prudency and efficiency of certain costs, and to meet the requirements of the Ministerial Direction, the Authority engaged SKM to undertake a benchmarking analysis by comparing Seqwater to other Australian and international water supply businesses. Benchmarking was undertaken at three levels: corporate level; asset group level; and specific asset level.

Seqwater's Submission

Seqwater submitted that benchmarking at an organisational level is problematic due to the lack of peer organisations that may be considered appropriately comparable.

Seqwater considered that, while there were other regulated bulk water service providers around Australia and internationally, none had a similar asset base, including the same mix of drought and non-drought assets, none operated assets similar to Seqwater's desalination plant and the WCRWS, and none had a similar history of development.

SKM's Review

Due to data constraints, SKM's analysis focused mainly at the corporate level. SKM prepared a number of benchmarking metrics to compare Seqwater to other water service providers. While these metrics provide a descriptive comparison of Seqwater's business, many include asset values and total revenues, which the Authority considers are largely outside of Seqwater's control.

Operating Expenditure per ML

SKM compared 2011-12 total operating costs per ML of water supplied to other water businesses, both nationally (Figure 4.12) and internationally (Figure 4.13).

Figure 4.12: Operating Expenditure per ML Supplied – *National* ($/ML)

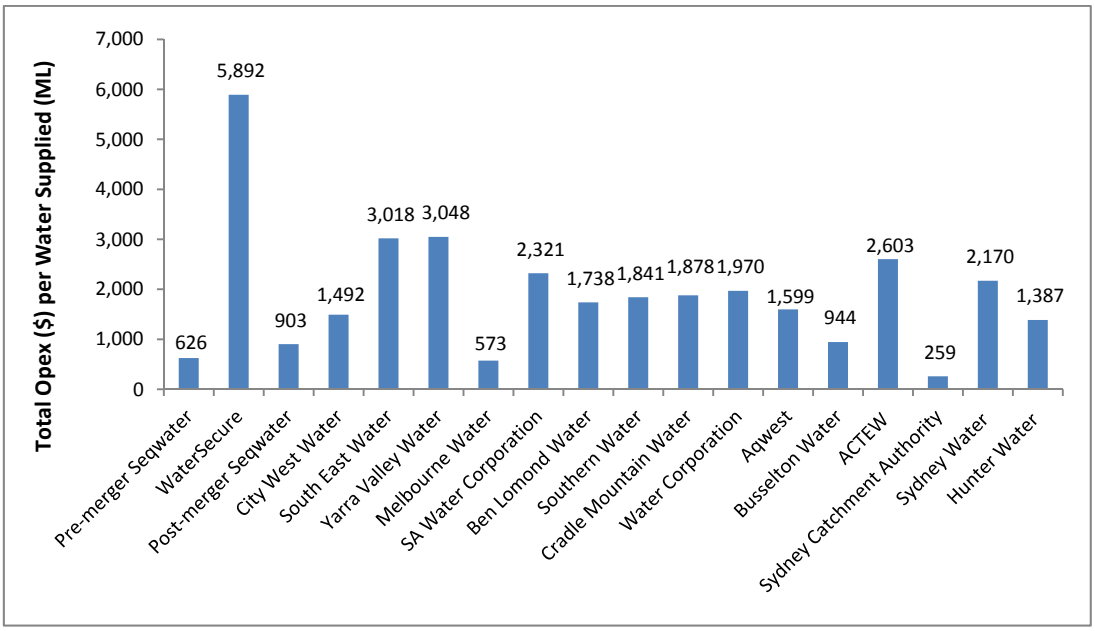
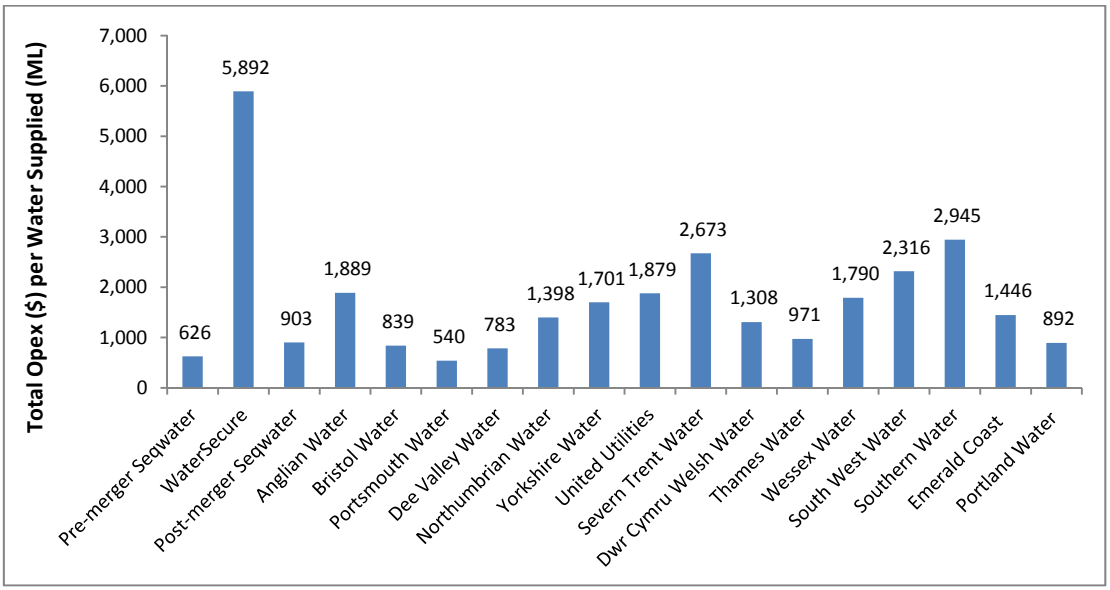


Figure 4.13: Operating Expenditure per ML Supplied – *International* ($/ML)



SKM's analysis indicated that the pre-merger and post-merger costs per ML supplied for Seqwater were substantially lower than the majority of the reference utilities.

However, the Authority considers that many differences can be explained by the nature of the business and the quality of water supplied. In many case, the reference utilities provide a vertically integrated service, including water storage, treatment, transport, distribution and retail. Seqwater, on the other hand is only responsible for storage and treatment, and most supply is sourced from relatively large dams with low operating costs per ML. Further, each organisation has unique operating characteristics. For example, SKM suggested that the lower $/ML ratio for Melbourne Water may be largely explained by the lower energy costs it incurs because most of its water is gravity-fed.

The pre-merger cost per ML associated with the operation of pre-merger WaterSecure is much higher than those of reference utilities due to the nature of WaterSecure's assets (high cost AWTPs and a desalination plant) and the low quantity of water supplied by WaterSecure over the period (not all of WaterSecure's assets were operational in 2011-12).

Employee Costs per ML

SKM also compared 2011-12 total employee costs per FTE to other water businesses, both nationally (Figure 4.14) and internationally (Figure 4.15). This metric reveals how Seqwater's average salaries and on-costs compare to peer organisations.

Figure 4.14: Employee Cost as a Proportion of Full-Time Equivalents - *National*

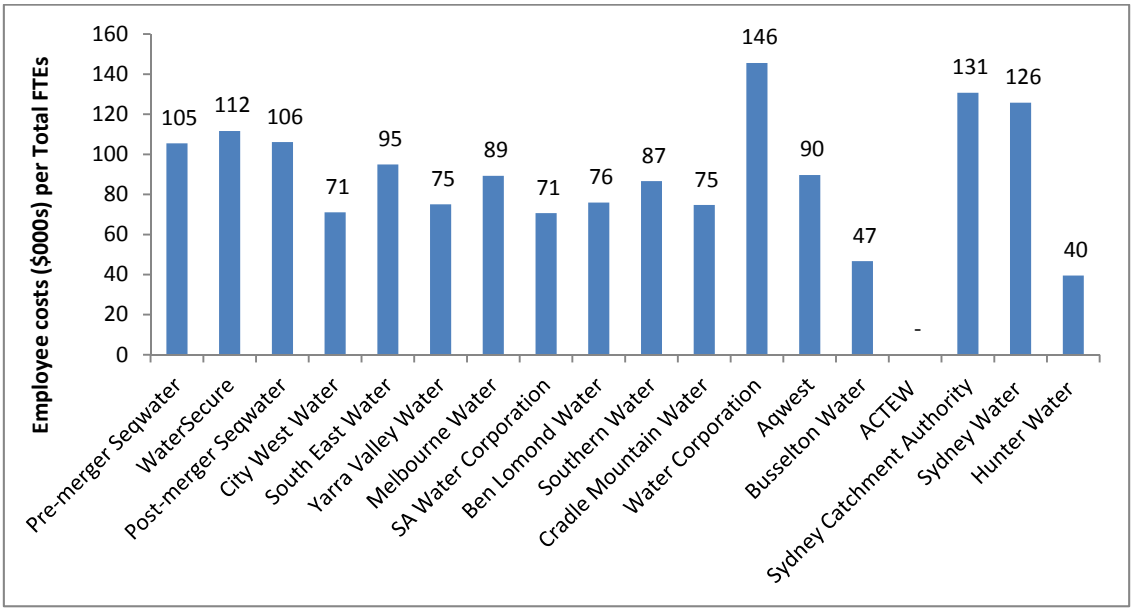
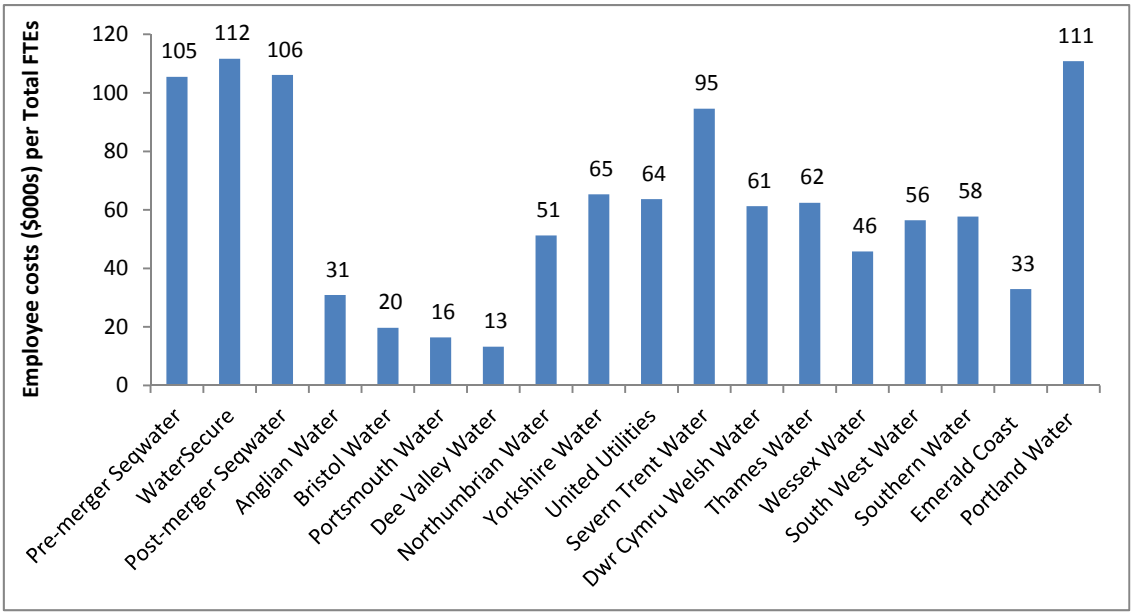


Figure 4.15: Employee Cost as a Proportion of Full-Time Equivalents - *International*



SKM's analysis indicated that Seqwater's employee costs per FTE were higher on average than the majority of reference utilities in Australia. The values for the US and UK water entities

were less comparable due to different labour market conditions, however they confirmed that Seqwater's average employee costs were high relative to international benchmarks.

Authority's Analysis

The Authority recognises the limitations of undertaking any benchmarking exercise. The Authority considers that comparison between Seqwater and other water service providers generally, rather than bulk water providers specifically, is unavoidable due to the lack of exact comparator organisations.

The Authority notes that data limitations at the time of the Draft Report and proposes to advance its assessment for the Final Report.

The Authority considers that, although definitive conclusions regarding the overall level of operating expenditure cannot be made based on SKM's benchmarking of available data, it appears as though Seqwater's employee costs are generally higher than benchmark. The Authority notes that Seqwater's average employee costs are largely determined by its EBA, and therefore does not consider it appropriate to recommend adjustments to the GSCs as a result of SKM's benchmarking analysis.

The Authority recommends that Seqwater should be working to reduce average employee costs in real terms in 2012-13. The Authority notes that efficiency incentives are available for GSPs to make cost savings (see Chapter 7). To date, the GSPs' response to these incentives has been limited.

The Authority considers that, should its recommended efficiency incentives continue to elicit a limited response from Seqwater, a more direct approach to ensuring potential efficiency gains are achieved may be required in future regulatory periods.

4.9 Draft Recommended GSCs

The Authority's recommended GSCs for Seqwater for 2011-12 are shown in Table 4.64.

The total GSC is higher than 2011-12 due to:

(a) higher return on and return of assets due to Seqwater's large capital expenditure additions to the RAB;

(b) higher fixed operating costs due to a number of extraneous factors, such as works associated with the 2011 floods, new waste levies and the cost of implement the Floods Commission of Inquiry recommendations;

(c) higher fixed operating costs due to internal factors, including labour cost increases and new initiatives to manage water quality risks; and

(d) higher variable operating costs, largely due to increased electricity prices, including the expected impact of the carbon tax.

These cost increases are partly offset by a $11.3 million adjustment to Seqwater's capital charge to account for a lower return on capital during 2011-12.

Table 4.64: Seqwater's Revenue Requirements

Revenue Component	*Approved Forecast 2011-12*	*Estimated Actual 2011-12*	*Seqwater proposed 2012-13*	*QCA Draft Recommendation 2012-13*
Return on RAB	443,235,883	430,009,832	-	444,671,674
Depreciation	149,404,262	146,449,649	-	154,939,022
Asset Appreciation	-146,624,899	-141,552,905	-	-147,233,717
Historic Adjustments	-	-	-	-11,303,239
Working Capital	6,294,536	6,116,533	-	6,232,386
Capital Charge	452,309,782	441,023,108	N/A	447,306,125
Fixed Operating Costs	220,816,533	220,816,533	235,573,063	230,596,933
Variable Operating Costs $/ML	93.41	93.41	138.91	140.15
Variable Operating Costs total	25,795,593	25,795,593	39,344,628	39,877,530
Allowable Costs	10,329,000	10,329,000	10,587,225	6,771,225
Revenue Offset	-3,977,000	-3,977,000	-4,497,590	-4,692,590
Total Maximum Allowable Revenue	705,273,908	693,987,234	N/A	719,859,223

5. LINKWATER

5.1 Background

LinkWater is a Statutory Authority, owned by the State Government and governed by an independent board.

Since its inception in November 2007, LinkWater has acquired assets that provide bulk water transport service with a regulatory value of more than $2,038 million (as at 1 July 2011).

LinkWater's assets, as at 1 July 2011 broadly comprise:

(a) the bulk water transport facilities and pipelines inherited from various local councils in SEQ comprising Brisbane City Council, Gold Coast City Council, Redland City Council, Logan City Council, and Moreton Bay Regional Council; and

(b) drought assets including:

  (i) the Southern Regional Water Pipeline (SRWP) – connects the Cameron's Hill Reservoir with the Molendinar WTP. The 95km pipeline provides a two-way flow system that is capable of delivering water from Brisbane to the Gold Coast or from the Gold Coast to Brisbane;

  (ii) the Network Integration Pipeline (NIP) – links the GCDP at Tugun with the Mudgeeraba and Molendinar WTPs;

  (iii) the Eastern Pipeline Interconnector (EPI) – is a two-way flow connection between Heinemann Road Reservoir in Redlands to Kimberley Park Reservoir, with a pump station and Water Quality Facility at Gramzow Road, Mt Cotton; and

  (iv) Stage 1 of the Northern Pipeline Interconnector (NPI Stage 1) – which connects Landers Shute WTP within Sunshine Coast Regional Council to North Pine WTP.

Overall, LinkWater's assets include 534 kilometres of pipelines, 28 reservoirs, 22 pump stations and seven water quality treatment facilities (see Table 5.1).

Table 5.1: LinkWater's Assets (as at 1 July 2011)

Asset Type	*Pipeline Length (km)*	*Reservoirs (Number)*	*Pump Stations (Number)*	*Water Quality Facilities (Number)*
Inherited Assets	350	23	15	2
Southern Regional Water Pipeline	94	4	5	2
Eastern Pipeline Interconnector	8.4	0	1	1
Northern Pipeline Interconnector Stage 1	47	0	0	1
Network Integration Pipeline	35	1	1	1
Total	**534.4**	**28**	**22**	**7**

LinkWater submitted that following the completion of Stage 2 of the Northern Interconnector Pipeline its asset base has expanded further, as LinkWater assumed ownership of an additional

48 kilometres of bulk water pipelines, at an expected value of $522 million from an expected commissioning date of 1 April 2012.

5.2 Capital Charge

5.2.1 Opening RAB

LinkWater's Submission

LinkWater proposed an opening RAB as at 1 July 2011 of $1,455 million for drought assets and $582 million for non-drought assets.

LinkWater stated that its proposed 2012-13 Capital Charge is based on asset values that were utilised for the purposes of calculating 2011-12 GSCs.

Authority's Analysis

Under the Direction Notice, the Authority is required to accept the 1 July 2011 RAB for LinkWater as provided by the Price Regulator.

The opening RAB includes actual ongoing capital expenditure from 2009-10 and 2010-11, reflecting QWC's approach of adding actual non-drought capital expenditure into the RAB as it occurs rather than waiting until projects were commissioned (as required of the Authority in the Direction Notice).

The RAB provided by the Price Regulator differs slightly from that proposed by LinkWater (and adopted during the 2011-12 investigation). LinkWater's non-drought opening RAB has fallen from $586 million to $582.3 million – a fall of $3.7 million, or 0.6%. The drivers for this fall are that the Mount Crosby realisation project is no longer in LinkWater's RAB, and lower than expected capital expenditure in 2010-11.

The Authority has adopted the RAB provided by the Price Regulator for the purposes of recommending GSCs for the 2012-13 regulatory period as required under the Direction Notice.

LinkWater's opening RAB is provided in Table 5.2 below.

Table 5.2: LinkWater's RAB as at 1 July 2011

Asset	*Value ($m)*	*Asset Life (Years)*
Southern Regional Water Pipeline (SRWP)	866.3	63
Eastern Pipeline Interconnector (EPI)	40.3	57
Network Integration Pipeline (NIP)	219.5	61
Northern Pipeline Interconnector (NPI) Stage 1	329.4	61
Total Drought	*1,455.4*	*62*
Non-Drought	582.3	44
Total	**2,037.7**	**57**

Note: these figures may not add due to rounding. Asset life totals are weighted averages.

5.2.2 2011-12 Capital Expenditure

The Direction Notice requires the Authority to consider any adjustments required due to an over- or under-recovery of GSCs in 2011-12. The Authority's 2011-12 Review Thresholds committed to allowing GSPs to recover actual (rather than forecast) 2011-12 capital expenditure that was prudent and efficient. The Authority therefore requested LinkWater to provide details of estimated actual 2011-12 capital expenditure[3].

For 2011-12, LinkWater proposed to spend $24.4 million on capex, a decrease of 5.8% on the $25.9 million it proposed in 2010-11. LinkWater's proposed 2011-12 capex according to key asset types is summarised in Table 5.3.

[3]LinkWater's submission date of 29 February 2012 means it could not possibly provide actual capital expenditure for 2011-12. Instead, LinkWater's submission represents estimated actuals. The Authority proposes a further adjustment for actual 2011-12 capital expenditure as part of a subsequent review.

Table 5.3: LinkWater's Forecast 2011-12 Non-drought Capital Expenditure ($m)

Asset Type	*Value ($m)*	*Asset Life (Years)*
Pump Stations	1.5	45
Reservoirs	3.0	55
Trunk Mains	10.6	75
Water Quality	0.3	50
Land	2.0	0
Supervisory Control and Data Acquisition (SCADA)	3.5	7
Buildings	0.5	50
Non-Infrastructure Capex	2.9	3
Total	**24.4**	**45**

Note: these figures may not add due to rounding. Asset life totals are weighted averages.

LinkWater's proposed capex is categorised into five investment drivers. The proportion of capex proposed to be spent on each driver is given in Table 5.4 below.

Table 5.4: LinkWater's Non-Drought Capital Expenditure Program for 2011-12 ($m)

Cost Driver	*Value*
Maintaining Service	16.5
Renewals	7.6
Business Efficiency	0.3
Growth	0.04
Total Capital Expenditure	**24.4**

Note: these figures may not add due to rounding.

LinkWater submitted:

(a) 70 projects comprised its Maintaining Service capital expenditure (projects to ensure compliance with service obligations) totalling $16.5 million. This program represented 68% of LinkWater's total non-drought capital expenditure budget, and included the SCADA project ($3.2 million), the Tenure Gaps Pilot Land Acquisition Project ($2 million) and the barrel joints program ($1.7 million);

(b) its Renewals program consisted of 21 projects totalling $7.6 million. The two largest projects accounted for 30% of the total renewals program and 9% of LinkWater's total non-drought capital expenditure budget. These two projects were the above ground pipe recoating programme ($1.5 million) and the Ipswich Central (Karana Downs) Pipeline replacement ($1.1 million);

(c) eight Business Efficiency capex projects totalling $0.3 million; and

(d) one Growth driven capital project for 2011-12 is costed at $44,884. LinkWater stated that the lack of investment driven by growth reflected the current capacity of its drought assets to meet current and medium term forecast demand.

LinkWater also proposed non-infrastructure capital expenditure of $2.9 million for projects to support the operational activities of the business, including office equipment, fleet and IT equipment. The majority of the non-infrastructure capital expenditure addresses legacy issues relating to IT systems and asset data inherited by LinkWater from the local governments.

The Authority engaged SKM to review the prudency and efficiency of LinkWater's non-drought capital expenditure. SKM reviewed the cost drivers of the capex as well as the need, scope and standard of works.

For capex to be included in the RAB, it is required to be prudent (demonstrated need for the expenditure) and efficient (cost effective in scope and standard, using market benchmarks).

2011-12 Capital Expenditure Overspends

On a number of items, LinkWater has spent more than was approved in the 2011-12 GSCs. Subsequent to its initial submission in February 2012, LinkWater provided a revised submission to the Authority on 2011-12 capital expenditure, which is assessed below.

Table 5.5 sets out 2011-12 approved forecast compared with 2011-12 estimated actuals (as of February 2012) for the five broad expenditure categories. A number of projects were re-categorised during 2011-12, such as the SCADA project, which has moved from Business Efficiency to Maintaining Service. LinkWater noted that it also made savings of $1.8 million on projects, and deferred $1.5 million in work to future periods .

Table 5.5: 2011-12 Capital Expenditure: Approved vs Estimated Actual by Cost Driver ($'000)

Cost Driver	*Approved Forecast*	*Estimated Actuals*	*Difference*
Growth	45	52	15.6%
Maintaining Service	13,261	15,363	15.9%
Compliance	0	0	-
Renewal	7,557	10,033	32.8%
Business Efficiency	3,507	798	-77.3%
Total	**24,369**	**26,247**	**7.7%**

Note: these figures may not add due to rounding.

Table 5.5 shows that overall, estimated actual expenditure is $1.9 million, or 7.7%, higher than approved expenditure. There are some material variations for individual categories, although LinkWater's proposed re-categorisation of projects explains some of the variation.

Table 5.6 below compares 2011-12 approved expenditure and estimated actual expenditure by asset class.

Table 5.6: 2011-12 Capital Expenditure: Approved vs Estimated Actual by Asset Class ($'000)

Asset Class	*Approved Forecast*	*Estimated Actuals*	*Difference*
Reservoirs	3,013	7,147	137.2%
Balance Tanks	0	0	0%
Pump Stations	1,536	2,819	83.5%
Water Quality	336	1,124	234.5%
Trunk Mains	10,608	8,248	-22.2%
Buildings	457	873	91%
Land	2,005	1,063	-47.0%
SCADA	3,483	2,118	-39.2%
Non-System Capex	2,931	2,854	2.6%
Total	**24,369**	**26,247**	**7.7%**

Note: these figures may not add due to rounding.

Many of LinkWater's estimated actual capital expenditure components have changed are significantly different from the approved forecast.

Table 5.7 below presents approved projects where the estimated actual expenditure varies by 30% or more from that approved.

Table 5.7: 2011-12 Capital Expenditure Items Varying by More Than 30% ($'000)

Project	*Approved Forecast*	*Estimated Actuals*	*Difference*
Asset Management Information System Upgrade	561	734	30.8%
Pump Station Valve Security	79	175	121.5%
Purchase & Install Online Analysers	-	271	-
Trunk Main Condition Assessment and Rectification	209	372	78%
Hydraulic Actuators Review and Improvements	540	106	-80.4%
SCADA	3,226	1,579	-51.1%
Tenure Gaps Pilot Land Acquisition Project	1,999	1,063	-46.8%
Valves and Chambers Evaluation and Rehabilitation Program	1,003	501	-50%

Table 5.7 shows that half of the projects with at least a 30% variance in cost were less than approved and half that were more expensive than approved.

2011-12 Un-Forecast Capital Expenditure Items

A key reason for LinkWater's estimated actual 2011-12 capital expenditure being higher than the approved figure is that there were instances in 2011-12 where LinkWater undertook capital expenditure on items that were not forecast at the time of the 2011-12 investigation. When selecting a sample of items to assess for prudency and efficiency, the Authority has focussed on un-forecast items, as opposed to items which were approved but overspent.

Prudency and Efficiency Review

The Authority engaged SKM to assess the prudency and efficiency of four of LinkWater's 11 un-forecast projects. Table 5.8 refers.

Table 5.8: LinkWater's 2011-12 Capital Expenditure on Non-approved items ($m)

No	*Item*	*Estimated Actual Expenditure ($m)*
1	Kuraby Reservoir Concrete Refurbishment	0.9
2	Bundamba PS Flood Mitigation Work	1.3
3	Reservoir Access Hatch Alarms (Various sites)	0.2
4	Supply & Install Mixers (Various sites)	1.0
	Total Sample	**3.4**
	Total Estimated Actual	**26.2**
	Sample as a % of Estimated Actual	**13.0%**

Item 1: Kuraby Reservoir Concrete Refurbishment ($0.9 million)

LinkWater's Submission

LinkWater submitted that the Kuraby Reservoirs Concrete Refurbishment project involves resealing the roof and repair of roof joints and roof gutters at the Kuraby Hill Reservoir to re-establish the contamination barrier at this facility.

Initial external inspections by Cardno in 2009 revealed relatively minor faults requiring rehabilitation, with an estimated cost of $100,000. An additional $250,000 was approved in early 2011 to extend the scope of works to include draining the reservoir, completing an internal inspection and undertaking any repair works that may be revealed.

The internal inspection identified multiple penetrations of the roof, extensive degradation of the surface of reservoir internal walls and additional minor structural problems. The extent of the roof faults means there was not an adequate barrier against contaminants entering the reservoir and this public health risk was considered the highest priority for remediation.

The scope of the roof refurbishment included:

(a) resealing of roof expansion joints;

(b) installing a water tight barrier across the entire roof to block entry of contaminants through the roof;

(c) installation of louvres above vent openings;

(d) repeat reservoir disinfection; and

(e) investigate cause for coating blisters.

The cost driver nominated by LinkWater for this project was Renewal.

LinkWater considered two options to address this problem – to do nothing, and to repair the cracks and joints in 2011-12. LinkWater identified a number of disadvantages to doing nothing, such as:

(a) the cracks would worsen over time and the underlying reinforcement would continue to corrode, leading to a possible structural failure;

(b) corrosion/degradation would continue to occur and future repair works would be more significant over time;

(c) minor contamination issues would continue to occur, and this would worsen over time; and

(d) leakage from the reservoir could create the perception of an unsafe asset to the public, as well as sending a poor water efficiency message.

LinkWater calculated a negative NPV of $212,000 for this option.

LinkWater identified the following advantages of repairing the cracks and joints in 2011-12:

(a) preventing the ingress of potentially contaminated water into the tank;

(b) prevention of structural failure or more extensive repairs in future;

(c) prevention of the public being concerned by the appearance of the reservoir with its cracks; and

(d) repairs could, in all probability, be made while the reservoir remains in service.

LinkWater calculated a negative NPV of $75,000 for this option.

LinkWater considered that there was a possible consequence of loss of water for an entire suburb for 12-24 hours if it did not undertake the repairs, with an expected loss of income or increase in costs of between $100,000 and $500,000. LinkWater considered that by undertaking the repairs in 2011-12 there was an unlikely probability of a limited loss of water supply for 6-12 hours and a loss of income or increase in costs of around $50,000 to $100,000.

SKM's Review

SKM considered the project as prudent, as the primary driver of Renewal was demonstrated and an appropriate decision-making process was documented.

SKM assessed the efficiency of the scheme and considered that the scope and standard of the works were appropriate.

LinkWater awarded a contract for the sealing of wall cracks and cleaning of walls and columns for $0.14 million. No documentation on this procurement process was provided. In May 2011 LinkWater approved a variation to the contract for a value of $0.28 million, a 191% increase, to undertake additional work. Additional remedial works were identified by the contractor and a select tendering exercise led to the appointment of a contractor at a cost of $0.56 million.

SKM calculated the cost of the project, as submitted by LinkWater, to be $1.3 million, as opposed to the $0.9 million proposed by LinkWater. SKM identified several issues with these estimates, such as some costs appearing excessive or not easily justifiable. SKM also indentified areas where information had not been provided.

SKM concluded that the information made available to it was insufficient to assess the efficiency of the project. SKM deducted $86,548 for service provider isolations, $29,887 for telemetry and $34,395 for future committed expenditure. The expenditure SKM recommends for this project is $722,000.

To assess LinkWater's proposed expenditure, SKM requires the following information:

(a) procurement process for granting the initial contract;

(b) justification for the service provider isolation cost; and

(c) justification for the telemetry cost.

Authority's Analysis

The Authority accepts SKM's recommendations that this expenditure is prudent but requires further information to fully assess the proposed costs. The Authority has, in the meantime, included a revised efficient cost of $722,000 in its recommended GSCs.

Item 2: Bundamba Pump Station Flood Mitigation Work ($1.3 million)

LinkWater's Submission

The Bundamba Pump Station Flood Mitigation Work project involves works to mitigate future flood damage on the Bundamba Pump Station and offtake. Additionally, the project will return the pump station and offtake to their pre-flood state.

During the January 2011 floods the pump station and offtake were inundated, by approximately one metre and two metres respectively. The floor levels were constructed above the 100 year flood level. The pump station and offtake were rendered non-operational by the flood damage. This resulted in an increase in flood insurance premium and an increase of 1,150% to the flood damage deductible limit until such time that flood mitigation works were undertaken.

SKM's Review

SKM considered the project as prudent, as the primary driver of Renewal was demonstrated and an appropriate decision-making process was documented.

LinkWater's cost estimate spreadsheet indicated the latest cost estimate for the project was around $1.8 million. An error was discovered in the spreadsheet, which appeared to have arisen when the "Construction Estimated – Accruals" line has been added as the construction Purchase Order and the construction costs were double counted. The cost estimate was recalculated to be around $1.15 million. This value does not match the sum submitted to the Authority of $1.267 million, however it is less than that stated in the *Resolution by Board Members* document ($1.6 million including GST).

Authority's Analysis

The Authority notes the inconsistency in values submitted by LinkWater and provided to SKM, and has adopted LinkWater's lower value of $1.15 million as the efficient value for the project.

Item 3: Reservoir Access Hatch Alarms ($0.2 million)

LinkWater's Submission

The Reservoir Access Hatch Alarms project involves a site audit being completed to ascertain the extent of security measures to be implemented. These measures are the installation of reed switches to reservoir access hatches which are alarmed back to SCADA. Unauthorised access has been identified as a significant risk through the water quality risk assessment process and this mitigation measure has been identified. The overall project is to install electrically monitored security to hatches, gates and doors at various water reservoirs.

LinkWater assessed two options as a means of addressing the problem of unauthorised access – do nothing, and installing the hatch alarms.

LinkWater considered that the major disadvantage of doing nothing was that unauthorised access into the reservoirs would go unnoticed. It attached a negative NPV of $147,000 to this option. LinkWater considered that the main advantages of installing the reed switches were that all access to the reservoirs would be logged on SCADA and if a breach occurs, an alarm will be received immediately so an investigation can commence straightaway. It considered that if the reed switches were incorrectly specified or fitted, there would be a risk of a potential false alarm. It attached a negative NPV of $80,000 to this option.

LinkWater undertook a risk assessment of the identified options. It considered the likelihood as 'Possible' of an incident occurring that would have major consequences in terms of health impacts and negative publicity if someone with malicious intent gained access to the reservoirs. It attached a 'Significant' risk rating to this option. It considered that doing nothing had a significant risk rating.

LinkWater attached a medium risk rating to installing the reed switches. It considered that it was unlikely that a negative outcome would occur as a result of installing the reed switches, and that the risk would be lessened if remote monitoring of the reservoir hatches was provided for.

SKM's Review

SKM considered that this project was prudent. It also noted that an appropriate decision-making process was documented.

SKM assessed the efficiency of the project. It noted differences in LinkWater's estimates of the costs involved. LinkWater's project justification report estimated the project to cost $80,000 while email correspondence suggested a cost estimate of $271,459. LinkWater's Procurement and Evaluation Plan for this project details that the project was expected to be completed in June 2011, which may explain why the cost was not entered into the 2011-12 budget.

LinkWater invited tenders from two companies who have a Service Level Agreement with it. Both companies tendered. The work was awarded to a contractor for Stage 1 of the work, with a value of $34,440. Stage 1 of the works comprised an audit and report on each reservoir to ascertain the exact scope of works required. In the Stage 1 report the contractor submitted costs for the 12 reservoirs that they considered required alarms. LinkWater did not provide SKM with the report. Email correspondence from LinkWater indicated the initial budget of $80,000 was for Stage 1 of the project.

Stage 2 of the work comprised the supply and installation of the infrastructure in accordance with the Stage 1 report. In order to cover the costs of Stage 2, LinkWater approved an initial contract variation of $185,819, and a second variation of $3,696. This increased the total costs of the project to $223,955, in excess of the 2011-12 estimated value of $217,000. SKM noted that the Stage 1 works were commissioned in April 2011 but not information regarding them was included in the 2010-11 budget. This disparity was not explained.

SKM considered that the process followed by engaging its contractor was not standard, and that the authority of the Capital Review Committee to award a variation of 540% more than the initial contract value was not documented.

SKM also noted that LinkWater had not provided information on the current status of the project.

SKM concluded that the cost information provided was inconsistent and needed to be clarified before the project could be considered efficient. To further assess LinkWater's proposed expenditure SKM requires the following information:

(a) the contractor's Stage 1 report;

(b) information detailing the inclusions within the 2010-11 budget; and

(c) documentation detailing the authority of the CRC to award a 540% variation on the initial contract.

Authority's Analysis

The Authority accepts SKM's conclusion that further information is required to demonstrate the efficiency of this project and has not included any allowance for the project in LinkWater's GSCs.

Item 4: Supply and Install Mixers ($1.0 million)

LinkWater's Submission

This project involved the purchase of 20 water mixers over a three year program (2011 to 2014) to be installed at Aspley, Kuraby and Kimberly Park reservoirs in 2011-12; and at Sparkes Hill 2, Green Hill 1 and 2 reservoirs in 2012-13 and Wellers Hill 1 and 2 reservoirs in 2013-14 to eliminate stratification, uniformly distribute disinfectant and reduce the potential for nitrification. The project was initiated due to issues with loss of disinfectant residuals during the summer.

The 'Business Driver Category' nominated by LinkWater for this project is Achieving Required Level of Service, which aligns with the Authority's cost driver of compliance.

The loss of disinfectant residuals was believed to be caused by nitrification of water that is disinfected with chloramine and its occurrence is prevalent during warm weather. Nitrification, if left unresolved for prolonged periods, can generate unpalatable tastes and odours in the water. More importantly it also has the potential to place the health and safety of consumers at risk due to the loss of disinfection residual and the possible occurrence of pathogenic bacteria in the supply. If this occurred LinkWater would not be compliant with the requirements of the Australian Drinking Water Guidelines (ADWG).

A recent study was completed to investigate the existing water quality at Sparkes Hill Reservoir, and the supply from upstream reservoirs at Aspley and Green Hill. It was found that major nitrification events occurred in Sparkes Hill and upstream reservoirs. LinkWater advised that several options were considered within the MWH report (this document has not been provided) however the installation of PAX active submersible water mixers was recommended with the aim of breaking down any stratification occurring in the storage to reduce the loss of disinfectant and limit the conditions that encourage growth of nitrification. Based on these findings mixers were installed in Narangba and Alexander Hills reservoirs with favourable outcomes. As this is specialised equipment there is a preference for continuing with the same mixers across all the reservoirs that need these installations.

LinkWater identified two options to address the identified problem – do nothing or purchase 20 PAX water mixers and install six where they were most needed, in Aspley, Kuraby and Kimberly Park.

LinkWater considered that doing nothing would not resolve the nitrification issue. The size of the reservoirs, summer temperatures and the storage of chloraminated water inevitably results in

nitrification events or a high potential for them to occur. Such events severely compromise LinkWater's ability to comply with the ADWG which is one of LinkWater's most fundamental performance obligations. This option will not yield the required outcome and was not considered further. LinkWater has completed its Water Quality Risk Assessment Document in support of its Drinking Water Quality Management Plan. This document identifies the risk associated with "Poor mixing within a storage reservoir or balance tank' in the Brisbane area as 'High (12)'.

The alternative option considered was the installation of mixers in the reservoirs to eliminate stratification and reduce the potential for nitrification. This will require the installation of PAX active submersible water mixers and potential upgrades associated with electrical and control services i.e. power supply, telemetry, level monitoring, etc.

SKM's Review

SKM assessed the project as prudent. The primary driver of compliance was demonstrated. An acceptable decision making process had not been documented.

SKM noted that no documentation was provided that identified alternative methodologies or chemicals to chloramine that could be used for disinfection.

SKM considered that purchasing 20 PAX mixers, at a discount not shared with SKM, and to install some of them at Aspley, Kuraby and Kimberly Park Reservoirs was appropriate. It deemed the standard of works adopted as consistent with industry standards.

LinkWater's Project Justification Report estimated the capex for 2010-11 as $892,000, while email correspondence indicated capex of $971,170. No explanation for this difference was provided. The Project Justification Report refers to a quote and a study undertaken. These items were not made available to SKM.

LinkWater's Procurement Management Procedure stated that items of capex with a value of between $250,000 and $100 million must be tendered publicly. LinkWater did not do this, neither did it gain a waiver to not have to do so.

SKM considered that this expenditure was not efficient until the reason for direct selection of the PAX mixer is provided and assessed as valid, given that alternative options were available. SKM's revised cost for this project is $0.

Authority's Analysis

The Authority accepts SKM's conclusion that this item is prudent but not efficient. The Authority has excluded all expenditure related to this item from its GSCs.

Summary of Prudency and Efficiency Review

SKM reviewed four cost items and found all were prudent**.** It also found that three were not efficient. Across these three items, SKM's recommended cost reductions totalling $1.4 million. This represents 41.2% of the sample expenditure, or 5.7% of LinkWater's approved capital expenditure for 2011-12. This cost reduction will be reviewed following the provision of more information by LinkWater.

The above analysis, and the Authority's accepted capital expenditure for 2011-12 on these items, is as summarised in Table 5.9.

Table 5.9: Prudency and Efficiency of 2011-12 Capital Expenditure ($'000)

No	*Cost*	*LinkWater Proposed*	*Prudency*	*Efficiency*	*QCA Draft Recommendation*
1	Kuraby Reservoir Concrete Refurbishment	912	Prudent	Insufficient information to assess all expenditure as efficient	722
2	Bundamba PS Flood Mitigation Work	1,267	Prudent	Efficient	1,150
3	Reservoir Access Hatch Alarms (Various sites)	217	Prudent	Insufficient information to assess expenditure as efficient	0
4	Supply & Install Mixers (Various sites)	971	Prudent	Insufficient information to assess expenditure as efficient	0
	Total Sample	*3,367*			*1,872*
	LinkWater Estimated Actual Total 2011-12 Capital Expenditure	**26,247**			**24,752**
	Total Sample/Total Capex	**12.8%**			

5.2.3 2012-13 Capital Expenditure

LinkWater's Submission

LinkWater submitted that its forecast capital expenditure was prepared in accordance with the requirements of the Market Rules. Further, LinkWater stated that its forecast was based on the WGM's proposed forecast demand volumes and a program of work that a prudent operator would invest to meet its performance obligations.

LinkWater proposed non-drought capital expenditure of approximately $21.8 million for the 2012-13 regulatory period. This represented a decrease of 10.7%, compared to LinkWater's approved capital expenditure of $24.4 million for 2011-12.

The expenditure according to key asset types is summarised in Table 5.10.

Table 5.10: LinkWater's Forecast 2012-13 Non-drought Capital Expenditure

Asset Type	*Value ($m)*	*Asset Life (Years)*
Pump Stations	1.4	45
Reservoirs	3.1	55
Trunk Mains	7.8	75
Water Quality	0.4	50
Land	3.0	0
Supervisory Control and Data Acquisition (SCADA)	2.8	7
Buildings	0.1	50
Non-Infrastructure Capex	3.1	3-5
Total	**21.8**	**40**

Note: these figures may not add due to rounding. Asset life totals are weighted averages.

LinkWater identified the capital expenditure according to drivers as shown in Table 5.11.

Table 5.11: LinkWater's Proposed Non-Drought Capital Expenditure for 2012-13 ($m)

Cost Driver	*Value*
Maintaining Service	13.3
Renewals	2.5
Business Efficiency	3.9
Growth	2.1
Total Capital Expenditure	**21.8**

Note: these figures may not add due to rounding.

LinkWater submitted that:

(a) 26 projects comprised its Maintaining Service capital expenditure (projects to ensure compliance with service obligations) totalling $13.3 million. This program represented 61% of LinkWater's total non-drought capital expenditure budget. These projects accounted for 36.9% of the maintaining service program and 39.0% of the total Capital Works Program. Projects in this category included the land tenure gaps and acquisition program ($3.0 million), the reservoir refurbishment program ($2.4 million) and the trunk mains – valve inspection and remediation program ($2.1 million);

(b) its Renewals program consisted of seven projects totalling $2.5 million. This program represented 11.6% of the total Capital Works Program. The two largest projects were the above-ground pipe recoating program and the trunk mains – valve inspection and remediation program, each for $0.6 million;

(c) there are 17 Business Efficiency capex projects totalling $3.9 million. This represented 17.9% of the Capital Works Program. The two largest projects were the NU SCADA Consolidation ($2.8 million) and the asset information system ($0.6 million); and

(d) one Growth driven capital project for a trunk mains at the Image Flat new Bulk Supply Point ($2.1 million) to connect to NPI – Stage 2. LinkWater also proposed a trunk main extension in the Scenic Rim for a cost of $5.4 million and will seek the Authority's approval for the project if it is considered the most viable solution to the problem it considers exists.

LinkWater also proposed non-infrastructure capital expenditure of $3.1 million for projects to support the operational activities of the business, including office equipment, fleet and IT equipment. The majority of the non-infrastructure capital expenditure addressed legacy issues relating to IT systems and asset data inherited by LinkWater from the local governments.

LinkWater reiterated that it has two distinct asset bases, comprising the relatively aged non-drought assets inherited from the former council water businesses and the newly constructed drought assets. LinkWater submitted that the inherited assets attract the majority of non-drought capex over the short-to-medium term despite representing only 28% of LinkWater's total assets by regulatory value.

Prudency and Efficiency Review – Sampled Items

The Direction Notice requires the Authority to assess the prudency and efficiency of capital expenditure. For capex to be included in the RAB, it is required to be prudent (demonstrated need for the expenditure) and efficient (cost effective in scope and standard, using market benchmarks).

The Authority engaged SKM to review the prudency and efficiency of a sample of LinkWater's non-drought capital expenditure. The sample of five projects (Items 1-5 below) comprises 30% of LinkWater's proposed 2012-13 capital expenditure. The sample is listed in Table 5.12.

Table 5.12: Capex Projects Reviewed by SKM for 2012-13 ($m)

No	*Project Title*	*Cost Driver*	*Cost*
1	Trunk Mains – Valve and Main Inspection and Remediation Program	Level of Service	2.1
2	Trunk Mains – Image Flat New Bulk Supply Point	Growth	2.1
3	Sparkes Hill Reservoir: Reservoir 2 Refurbishment	Level of Service	1.3
4	Asset Information Management System	Business Efficiency	0.6
5	Surge Compressor and Switchboard Replacement	Renewals	0.5
	Total Sample		**6.6**
	Total Capex		**21.8**
	Total Sample/Total Capex		**30%**

Note: These figures may not add due to rounding

Item 1: Trunk Mains – Valve Inspection and Remediation Program ($2.1 million)

LinkWater's Submission

LinkWater submitted that the valves on the assets it inherited are older than on its drought assets and were subject to inconsistent maintenance regimes under the former council businesses. LinkWater's inspections revealed a significant backlog of required maintenance and renewal. Upon completion LinkWater will have remediated all non-functioning valves and will have produced a prioritised list of future inspections for inclusion in the 2013-14 maintenance plan.

SKM's Review

SKM concluded that the information submitted to it was insufficient to assess whether the proposed expenditure was prudent. SKM's view was that an appropriate decision-making process had not been documented.

This project involves capital expenditure associated with the replacement and enhancement of an asset that currently meets service performance standards and legislative requirements but faces an unacceptable risk of future non-compliance. The renewal will maintain existing levels of service over the life cycle of the asset. Therefore SKM considered that renewal is considered to be an appropriate driver for the project. However, SKM found that there is insufficient evidence to determine that all of the infrastructure to be replaced is both used and useful. SKM recommended that the project should integrate more risk and asset management planning at an early stage.

SKM noted that LinkWater had considered a list of broad-brush options, including:

(a) do nothing;

(b) repair when discovered; and

(c) programmed inspection and valve renovation.

LinkWater's preferred option was (c). SKM's view was that there had been no real assessment of options within this program, nor the possibility of using a combination of options. A pilot project in 2011-12 indicated that LinkWater's preferred option would represent a significant amount of work, as many of the valves are in confined spaces and the required works are extensive. SKM suggested that LinkWater considers a study of its existing networks in order to determine whether there are any valves which will no longer be required for LinkWater's operational purposes. SKM also recommended that the inspection and remediation program be assessed in conjunction with LinkWater's other planned capital works to avoid remediation of assets shortly to be decommissioned or replaced as part of separate projects. It might be possible, SKM noted, to incorporate some of the works into other capital projects and planned shutdowns.

SKM noted that 675 – or 17% of all valves – were identified as being at "significant risk". SKM considered it would be prudent to determine which valves will add value by being inspected and/or remediated in order to establish priority.

SKM considered that a more planned and targeted approach would both decrease the likelihood of high-criticality asset failures and lead to more efficient spending. It recommended that a combination of options one and two could be used based on the criticality of the asset, with higher-criticality assets inspected and remediated on a planned schedule, and lower criticality assets fixed as they break or as issues are found.

SKM noted that it had not been provided with any NPV calculation. There have been no comparative cost estimates completed as LinkWater considers this beyond the scope of its assessment processes due to the complex assumptions involved. Similarly, no information has been provided detailing what was achieved during the six month pilot study. It would be beneficial for both LinkWater and external assessors to see evidence of targets, progress and performance indicators.

SKM did not assess the efficiency of the scheme, as its prudency had not been demonstrated. It proposed a cost of $0 for this scheme. To enable a complete assessment of the scheme, SKM recommended that LinkWater provide the following information:

(a) outcomes of the pilot study;

(b) outcomes of a more extensive decision-making process;

(c) confirmed scope;

(d) confirmed standards of works;

(e) a revised budget including overheads; and

(f) a revised program

Authority's Analysis

The Authority accepts SKM's recommendation that LinkWater's proposed expenditure on the Trunk Mains – Valve and Main Inspections and Remediation Program is not prudent. The Authority has not included any capex relating to this project in the recommendation of GSCs.

Item 2: Trunk Mains – Image Flat New Bulk Supply Point ($2.1 million)

LinkWater's Submission

The Image Flat WTP supplies water to the Image Flat reticulation system in the Unitywater water supply zone. The Image Flat WTP has a production capacity of 25 ML/day. The forecast Mean Daily Maximum Month (MDMM) is forecast to exceed this by 2016. There is also currently no contingency for plant failure or water quality issues.

Due to demand being expected to outstrip capacity by 2016, and the lack of security of supply, Unitywater lodged a request for the designation of a new bulk supply point at Nambour with the WGM. LinkWater identified a 500mm flow controlled off-take as the optimal solution. This off-take would allow for the Image Flat WTP to be taken offline for extended periods and still allow for a MDMM of 30 ML/day to be supplied.

The WGM approved the request for a 500mm connection to NPI – Stage 2. LinkWater considers that as this solution has been accepted by Unitywater and the WGM that this proposal is prudent.

WGM's Submission

The WGM stated that the connection was needed in its *2010-11 Annual Market Rules Review* and in advice to the QWC. The WGM considered that the connection will improve reliability of supply in the area. The WGM submitted that once the connection is constructed, it will not require supply from Seqwater's Image Flat WTP, deferring the need for capital expenditure on that asset.

SKM's Review

SKM viewed this project as prudent, given that it will allow for increased demand to be met, and will delay the need for capital outlay to upgrade the Image Flat Water Treatment Plant. SKM was also of the view that an appropriate decision-making process had been documented.

SKM considered the project as efficient as the scope of the works were deemed appropriate, the standard of works is expected to be consistent with industry practice and the costs were reasonable and will be tested by public tender.

Authority's Analysis

The Authority accepts SKM's recommendation that LinkWater's proposed expenditure for the Image Flat New Bulk Supply Point is both prudent and efficient

Item 3: Sparkes Hill Reservoir: Reservoir 2 Refurbishment ($1.3 million)

LinkWater's Submission

LinkWater submitted that most of its reservoirs are of concrete construction with either a tin or concrete roof. LinkWater is undertaking condition assessments of its assets to inform future capital and maintenance expenditure plans.

LinkWater's 2011-12 inspection program identified a number of defects at the Green Hill, Sparkes Hill and Wellers Hill reservoirs requiring attention to remove potential entry points for contaminants. The full extent of the works required cannot be determined until the reservoirs are drained, cleaned and further inspected.

Based on the defects identified so far, and works required at other reservoirs, LinkWater estimated the works to cost $1.3 million at Sparkes Hill Reservoir.

SKM's Review

SKM deemed the project as prudent as it seeks to improve service and an appropriate decision making process has been documented.

SKM considered the project as efficient as the scope was appropriate. LinkWater will first undertake an initial clean and inspection of the reservoir, and will then undertake any additional works as necessary, as advised by an independent engineer. SKM considered that the standards of works would be consistent with industry practice, with LinkWater either applying a contiguous waterproof seal over the entire roof, or undertaking extensive work on all roof joints. SKM noted that the costs will be market tested by public tender.

Authority's Analysis

The Authority accepts SKM's recommendation that LinkWater's proposed expenditure for the Sparkes Hill Reservoir 2 Refurbishment is both prudent and efficient.

Item 4: Asset Information Management System ($0.6 million)

LinkWater's Submission

LinkWater identified issues with how the asset information inherited from the councils had been programmed into its financial and resource planning software (SAP) which hindered its ability to efficiently access this information. The Authority recommended a spend of $0.6 million in

2011-12 to remedy this problem. LinkWater was of the view that this budget was insufficient to deliver the proposed improvements.

LinkWater engaged KPMG to advise it on the cost of completing this task. KPMG identified a four-phased solution. LinkWater considers the first three phases as necessary to address the problem identified.

The additional cost to complete these three phases is estimated at $0.6 million. The fourth phase of KPMG's proposed solution was estimated to cost $5.0 million. LinkWater submitted that it does not wish to progress this recommendation.

SKM's Review

SKM considered the project to be prudent. LinkWater demonstrated that the project would enhance business efficiency, and that an appropriate decision making process was implemented to arrive at the project deliverables.

SKM judged the project as efficient because the scope was appropriate, the standards of works were consistent with industry practice and the costs were consistent with prevailing market conditions, as LinkWater will publicly tender for a provider. SKM noted that the program of works was logical and leverages off existing organisational tools. The program is staged to take advantage of incremental improvements and reviews future stages to confirm that they provide a benefit to the business. SKM also noted that the SAP program contains current industry practice standards and has optional modules that provide an opportunity to develop best practice.

Authority's Analysis

The Authority accepts SKM's recommendation that LinkWater's proposed expenditure on the Asset Information System is both prudent and efficient.

Item 5: Surge Compressor and Switchboard Replacement – ($0.5 million)

LinkWater's Submission

This project aims to improve the reliability of the water hammer protection for the trunk water main from North Pine pump station to Aspley reservoir. The project will replace two compressors and a switchboard. LinkWater assessed the equipment as being at the end of its life. To protect the equipment, LinkWater had two options, which were:

(a) to replace the equipment inside a new purpose-built building ($0.5 million); or

(b) to replace the equipment inside the existing building ($0.2 million).

LinkWater's preferred option was option (a).

SKM's Review

SKM considered the project to be prudent, as LinkWater demonstrated that it qualifies as a renewal project and an appropriate decision-making process was followed.

SKM did not deem the project to be efficient. SKM noted that a detailed scope and design had not been completed when it undertook its review. SKM also noted that the decision to construct a new building was not supported by the expected documentation, such as:

(a) a condition assessment of the existing building indicating a deteriorated structure;

(b) a preliminary design that indicates new equipment would not fit within the existing building; or

(c) a risk assessment of the different construction methods that would indicate that a new building was required.

SKM compiled a cost estimate based on prices obtained for similar equipment and found its estimates to be very similar to LinkWater's. SKM rejected the need to construct a new building to house the compressors and switchboard. This reduced the estimated cost of the proposal by $0.3 million. SKM's assessment of the efficient costs needed to replace the surge compressors and pump station led it to a figure of $0.2 million.

SKM recommended that LinkWater provide more following information to enable a complete assessment of the scheme, which should include:

(a) a condition assessment of the existing building indicating a deteriorated structure;

(b) a preliminary design that indicates new equipment would not fit inside the existing building; and

(c) a risk assessment of the different construction methods that would indicate that a new building was required.

Authority's Analysis

The Authority accepts SKM's recommendation that LinkWater's proposed expenditure is prudent, but requires further information before it is accepted as efficient.

Prudency and Efficiency Review – Additional Item

In addition to SKM's review of Items 1-5 above, the Authority has made comment on a further item (Item 6 below), which was the subject of a submission from the WGM. This item was not reviewed by SKM in setting draft 2012-13 GSCs, but was reviewed by it when the Authority recommended 2011-12 GSCs.

Item 6: SCADA Upgrade implementation – ($2.8 million)

LinkWater's Submission

LinkWater submitted $2.8 million for a SCADA upgrade project in 2012-13.

WGM's Submission

The WGM considered that there was a clear need for improved data sharing across Grid Participants. It considered that a well-managed SCADA system was essential to effective grid operation, including in order to optimise the operation of existing assets and to mitigate any risks associated with the deferral of proposed capital upgrades.

The WGM highlighted some problems with participants' existing systems, which were inherited from previous councils and alliances. The WGM submitted that these inherited systems ran diverse SCADA applications, were supplied and maintained by different suppliers, had diverse and inconsistent functionality and were not effectively integrated.

The WGM reiterated LinkWater's previously-identified issues with SCADA, such as that it:

(a) lacked the security and resilience demanded for the management of critical infrastructure;

(b) had limited and unsatisfactory functionality to meet contemporary operational, management and regulatory need; and

(c) had a highly inconsistent and hence inefficient user interface, with significant limitations in its ability to interface with other LinkWater systems and those of LinkWater's Grid Participants.

The WGM noted that the efficiency of the project was a matter for the Authority. It noted that cost savings may be able to be achieved through coordination between the two entities, such as by sharing communication equipment. The WGM noted that there had been good cooperation between the entities and some minor cost savings achieved.

Authority's Analysis

When recommending 2011-12 GSCs, the Authority engaged SKM to assess the prudency and efficiency of this project. At that time, SKM considered the project to be both prudent and efficient. Given that SKM considered the project to be prudent in 2011-12, the Authority has not asked SKM to again assess the prudency of the scheme. The Authority also notes that the project's prudency is supported by the WGM.

In terms of efficiency, the Authority notes that the proposed expenditure for SCADA is more than predicted in 2011-12 but the final actual cost is yet not available but will be reviewed once available.

Summary of Prudency and Efficiency Review

SKM reviewed five cost items. It found that four were prudent, with insufficient information to establish prudency for one item, Trunk Mains – Valve and Main Inspection and Remediation Program. SKM was unable to assess the efficiency of this scheme. A further item, North Pine Pump Station Surge Compressor and Switchboard Replacement was deemed to have insufficient information to enable an assessment of efficiency.

Across these five items, SKM's recommended cost reductions totalling $2.4 million. This represented 36.4% of the proposed capex in the sample, and 11.0% of the total proposed capex.

SKM reviewed projects worth $6,633,000. As SKM's total proposed capital expenditure was $21,814,000, the sampled capital expenditure comprised 30.4% of LinkWater's total proposed capital expenditure.

The Authority considered one additional item and found it to be prudent. The Authority's recommended capital expenditure is $19.4 million.

Table 5.13 below summarises the analysis above.

Table 5.13: Prudency and Efficiency of 2012-13 Capital Expenditure ($'000)

No	*Cost*	*LinkWater proposed*	*Prudency*	*Efficiency*	*QCA Draft Recommendation*
	SKM Sampled Items				
1	Trunk Mains - Valve and Main Inspection and Remediation Program	2,107	Insufficient information to assess expenditure as prudent	Efficiency not assessed	0
2	Trunk Mains - Image Flat New Bulk Supply Point	2,073	Prudent	Efficient	2,073
3	Sparkes Hill Reservoir: Reservoir 2 Refurbishment	1,305	Prudent	Efficient	1,305
4	Asset Information Management System	632	Prudent	Efficient	632
5	North Pine Pump Station - Surge Compressor and Switchboard Replacement	516	Prudent	Insufficient information to assess all expenditure as efficient	178
	Total SKM Sample	*6,633*			*4,188*
	Total SKM Sample/Total Capex (%)	*30.4%*			
	Un-sampled Item Identified in Submissions				
6	*SCADA Upgrade*	*2,800*	*Prudent*	*Not Assessed*	*2,800*
	Total Reviewed Items +SCADA	**9,433**			**6,988**
	2012-13 Capex items not reviewed	**12,381**			**12,381**
	Total	**21,814**			**19,369**

Note: Numbers may not sum due to rounding.

5.2.4 Return on Capital

Under the Direction Notice, the return on drought assets is to be set to the actual cost of debt incurred by LinkWater for its drought assets.

The cost of debt for drought assets is the book interest rate forecast by QTC for 2012-13 for each asset plus administration and capital market charge. The Authority is required to adopt the QTC rates. QTC provided actual costs of debt for the first three quarters of 2011-12. In applying these costs of debt, the Authority has adopted a simple average of the three quarters of actual 2011-12 costs of debt as an estimated actual for the 2011-12 year.

QTC submitted the costs of debt for LinkWater's drought assets as shown in Table 5.14.

Table 5.14: Cost of Debt Rates for LinkWater's Drought Assets

Asset	*2011-12 Approved Forecast*	*2011-12 Estimated Actual*[1]	*Forecast 2012-13*
Eastern Pipeline Interconnector (EPI)	6.62%	6.62%	6.51%
Network Integration Pipeline (NIP)	6.59%	6.59%	6.48%
Southern Regional Water Pipeline (SRWP)	6.62%	6.62%	6.50%
Northern Pipeline Interconnector – Stage 1 (NPI – Stage 1)	6.57%	6.57%	6.44%
Northern Pipeline Interconnector – Stage 2 (NPI – Stage 2)	6.09%	5.92%	5.91%

Note: [1]Estimated Actual calculated as a simple average of the actual cost of debt for the first three quarters of 2011-12.

For non-drought assets, the Authority must determine a pre-tax nominal WACC based on parameters detailed in the Manual. The cost of debt used in the WACC is the book interest rate forecast by the QTC for each asset plus an administration and capital market charge and a competitive neutrality fee. The Direction Notice prescribed all other parameters to be used in determining the WACC.

For the non-drought WACC, the QTC provided key parameters as shown in Table 5.15.

Table 5.15: QTC Input Parameters for Calculation of LinkWater's WACC

Parameter	*Approved 2011-12 Forecast*	*2011-12 Estimated Actual*	*2012-13 Forecast Value*
Cost of debt	8.00%	8.00%	7.83%
Risk-free rate	5.95%	5.89%	5.71%
WACC	9.90%	9.87%	9.68%

As the Direction Notice requires the GSPs' rate of return to be based on the actual cost of debt, the Authority has retrospectively adjusted LinkWater's 2011-12 recommended GSCs to account for changes in the estimated actual costs of debt and WACC.

Return on Assets Summary

In total, the changes to 2011-12 estimated actual capital expenditure, costs of debt and WACC result in an increase in estimated actual 2011-12 return on capital. Table 5.16 refers.

Table 5.16: Return on Capital ($m)

Asset	*Approved Forecast 2011-12*	*Estimated Actual 2011-12*	*QCA Recommended 2012-13*
Return on Existing Drought Assets	100.6	95.1	125.4
Return on Existing Non-Drought Assets	55.4	56.8	57.6
Return on New Capex Depreciation	1.1	9.0	0.8
Total Return on Assets	**157.1**	**160.9**	**183.7**

5.2.5 Return of Capital

LinkWater's Submission

In its submission, LinkWater stated that it applied a straight line method of depreciation to its average remaining asset lives. LinkWater forecast a depreciation allowance of $21.5 million on its drought RAB and $15.7 million on its non-drought RAB.

In terms of the depreciation of LinkWater's proposed new commissioned capex for 2011-12, applying asset lives consistent with industry standards provided for a depreciation allowance of $1.8 million over the 2011-12 regulatory period.

Authority's Analysis

Consistent with 2011-12, the Authority proposes to determine the return of capital based on the written down value of the assets and using a straight line regulatory depreciation based on each asset's estimated useful life. Estimated useful lives along with the written down asset values was provided by the Price Regulator.

The Authority has adopted LinkWater's proposed asset lives for 2011-12 and 2012-13 capital expenditure. Table 5.17 refers.

Table 5.17: Depreciation Summary ($m)

Asset	*Approved Forecast 2011-12*	*Estimated Actual 2011-12*	*LinkWater Proposed 2012-13*	*QCA Recommended 2012-13*
RAB – Drought Depreciation	21.9	22.3	30.9	31.6
RAB – Non-Drought Depreciation	17.9	18.5	18.3	20.8
Capex Depreciation	2.8	2.9	2.5	0.3
Total Depreciation	**42.6**	**43.8**	**51.7**	**52.7**

Note: these figures may not add due to rounding.

5.2.6 Asset Appreciation

The Authority's GSC modelling includes an allowance for inflation of the value of LinkWater's RAB. The Authority has adopted an inflation rate of 2.5% (the mid-point of the RBA's target range) in both 2011-12 and 2012-13. The Authority considers that the increase in LinkWater's RAB values due to inflation should be removed from LinkWater's annual GSCs to prevent an over-recovery of revenues. The Authority's recommend asset appreciation is included in Table 5.18.

Table 5.18: Asset Appreciation ($m)

Asset	*Approved Forecast 2011-12*	*Estimated Actual 2011-12*	*QCA Recommended 2012-13*
Existing Drought Assets Appreciation	35.2	36.0	49.6
Existing Non-Drought Assets Appreciation	14.0	14.4	14.9
New Capex Appreciation	*3.4*	3.6	0.2
Total Depreciation	**52.6**	**54.0**	**64.7**

Note: these figures may not add due to rounding.

5.2.7 RAB Roll-Forward

LinkWater's RAB value has been rolled forward from the 1 July 2011 values provided by the Price Regulator to the closing value as at 30 June 2013, utilising the Authority's recommended capital expenditure, appreciation and depreciation. Table 5.19 refers.

Table 5.19: RAB Roll-forward ($m)

	Drought	*Non-drought*	*Total*
Opening RAB (1 July 2011)	1,458.4	582.3	2,040.7
plus 2011-12 Capital Expenditure	535.4	24.8	560.1
less Depreciation	24.8	19.5	44.3
plus Asset Appreciation	39.8	14.9	54.6
Opening RAB (1 July 2012)	**2,008.8**	**602.5**	**2,611.1**
plus 2012-13 Capital Expenditure	0.0	16.4	16.4
less Depreciation	32.0	21.4	53.4
plus Asset Appreciation	50.2	15.3	65.5
Closing RAB (30 June 2013)	**2,027.0**	**612.8**	**2,639.6**

Note: These figures may not add due to rounding.

5.2.8 Financial Sustainability

LinkWater's Submission

In its 2011-12 GSCs submission, LinkWater noted that the current interim regulatory arrangements required that the Authority should allow LinkWater to recover a sustainable revenue stream over time. However, LinkWater submitted that it had forecast net operating losses over the next 10 years. LinkWater stated that this was due to:

(a) the cost of debt rate of return on drought assets;

(b) LinkWater's high debt gearing ratio of 91%;

(c) straight line depreciation with a high weighted average remaining asset life; and

(d) the regulatory removal of asset appreciation gains from LinkWater's GSCs.

In order to generate an operating surplus, LinkWater proposed an alternative application of the normal building block model which involved:

(a) the removal of inflationary gains from annual revenues attributable to drought assets only up to a value equal to the nominal depreciation allowance for drought assets;

(b) the annual difference between the actual inflationary gain and the value removed from annual revenues to be deducted from the value of the drought asset base; and

(c) continuation of this approach until the annual depreciation allowance equals the annual inflationary gain for drought assets at which point the calculation of annual revenue would revert back to the conventional nominal building block methodology.

LinkWater submitted that this outcome would result in:

(a) an increase of approximately $14.66 million to revenue in 2011-12, which would remove the requirement for LinkWater to seek additional within year debt funding;

(b) consistency with the Government policy that LinkWater does not earn more than its cost of debt on drought assets; and

(c) preservation of NPV neutrality with the outcome from application of the conventional nominal building block methodology.

In its 2012-13 submission, LinkWater reiterated the points it made in its 2011-12 GSCs submission, stating that it had forecast net operating cash shortfalls for a period in excess of 10 years.

LinkWater cited examples from other jurisdictions, where Ofwat and IPART had made allowances for companies if they did not meet the regulator's financial viability assessment.

LinkWater submitted that the Direction Notice requires the Authority to have regard to allowing the GSPs to recover a sustainable revenue stream from the provision of Declared Water Services, recognising that the time horizon may extend beyond a single regulatory period. LinkWater requested that the Authority express a position on what the Authority considers to be an appropriate time horizon to recover a sustainable revenue stream. LinkWater also noted that the Authority's ability to address many of these issues are constrained by the regulatory framework or are best addressed by the Government, as LinkWater's owner.

Authority's Analysis

The Authority has considered the other jurisdictions submitted by LinkWater and notes that an important consideration for Ofwat and IPART in making allowances for financial viability was the need to maintain good credit ratings for the regulated companies, so they could access debt at low levels. However, this is not a consideration for LinkWater, as it does not have a credit rating, and accesses funding through the Queensland Treasury Corporation.

The Authority again makes the point that the water sector is a long term business, and for companies to be cash-flow negative is not uncommon. Indeed, in the report LinkWater references, Ofwat also makes the point that:

> *in general, the licensed monopoly companies we regulate are cash negative. In the years following privatisation, it was assumed that capital investment would tail off over time, and the companies would become cash positive. In fact, investment has continued to remain high, which means that the companies are likely to remain cash negative. Page 4.*

The privatised water and sewerage companies in England and Wales have been regulated for 23 years and remain, on the whole, cash negative. The Authority considers that such an outcome is not to be unexpected in a monopoly water setting and is not, in and of itself, a cause for concern.

In its report, IPART also noted that, if a company was experiencing cash flow issues, that:

> *where prices are set to recover the efficient costs of providing regulated services over the life of the assets used to provide the services, responsibility for addressing short-term financeability issues should rest in the first instance with the regulated business and its owners/shareholders. For example, the business may be able to better manage its debt or make savings in other areas Page 3.*

With respect to the issue of an appropriate time horizon for a regulated company to recover a sustainable revenue stream, the Authority considers that monopoly water companies are long-term businesses, and cash shortfalls are not unusual over a period of many years. The Authority considers that LinkWater's revenue stream is sustainable over the life of its assets, by the nature of the regulatory model in place.

The Authority also notes that it has not received any evidence that LinkWater's financial position is such that it is at risk of default or insolvency or that, if LinkWater's position persists, either of these risks become possible. The Authority is not aware of any higher financing costs faced by LinkWater as a result of its operating deficits. The Authority considers that LinkWater's current and projected negative operating results are largely the result of Queensland Government policy decisions that the Authority is required to accept, such as a cost of debt rate of return on drought assets, as well as the Government's decision on LinkWater's gearing. It is therefore more appropriate for the Government than the Authority to address LinkWater's concerns.

5.2.9 Working Capital

Working Capital was included as an allowable cost in 2011-12, but as discussed in section 3.4, it has been re-categorised as a component of the Capital Charge in 2012-13.

2011-12 Working Capital

LinkWater was paid a $2.2 million working capital allowance in 2011-12.

The Authority notes that the Direction Notice requires that the rate of return earned by LinkWater is based on the actual cost of debt. As the calculation of return on working capital utilises the WACC determined by QTC's submitted actual cost of debt, the Authority recommends that LinkWater's 2011-12 working capital allowance be updated. Table 6.16 refers.

2012-13 Working Capital

LinkWater stated that three major components should drive the value of working capital for regulatory purposes:

(a) inventories which reflect the stores required to be held by a water business in order to operate their network including a holding of critical spares which are necessary to correct critical failures;

(b) accounts receivable associated with collection of regulated revenue; and

(c) accounts payable related to the amounts paid for operating costs and capital expenditure.

Consistent with the Direction Notice, LinkWater proposed a working capital allowance determined as accounts receivable less accounts payable. Consistent with the approach taken by Authority in its recent GAWB decision, LinkWater also included inventories.

LinkWater has proposed a working capital allowance determined as accounts receivable less accounts payable applying 45 debtor days and 30 creditor days, consistent with the approach proposed by the Authority in 2011-12.

The Authority notes that LinkWater's proposed approach to calculating working capital is consistent with that applied in 2011-12. The Authority accepts that this approach remains appropriate, and recommends a working capital allowance based on prudent and efficient expenditure, as summarised in Table 5.20.

Table 5.20: LinkWater's Working Capital Requirements ($m)

Working Capital Requirement	***Approved Forecast 2011-12***	***Estimated Actual 2011-12***	***Forecast 2012-13***
Average Accounts Receivable	25.3	25.3	28.1
Average Accounts Payable	4.6	4.3	7.1
Average Debtor Days	45	45	45
Average Creditor Days	30	30	30
Net Working Capital	20.7	23.4	20.9
Critical Spares and Inventories	2.4	2.4	1.6
Total Working Capital Requirement	23.1	25.8	23.4
Return on Working Capital - WACC	2.2	**2.3**	**2.4**

Note: these figures may not add due to rounding.

5.2.10 Summary of Capital Charge

LinkWater's recommended capital charge is shown in Table 5.21 below. The increase in Capital Charges in 2012-13 is partly due to the commissioning of NPI – Stage 2 in April 2012.

In its review of the 2012-13 GSC modelling, the Authority detected a computational error relating to the timing of cash flows comprising the 2011-12 Capital Charge. The error caused an under-estimation of 2011-12 Capital Charges $3.9 million for LinkWater.

In presenting revised 2011-12 Capital Charges, which incorporate estimated actual capital expenditure and costs of debt, the Authority has also included an allowance to correct this error.

Table 5.21: Capital Charge Summary ($m)

	Forecast 2011-12	***Estimated Actual 2011-12***	***Forecast 2012-13***
Return on Assets	157.1	160.9	183.7
plus Depreciation	42.6	43.8	52.7
less Asset Appreciation	(52.6)	(54.0)	(64.7)
plus Working Capital	2.2	2.2	2.4
plus Historic Adjustment	-	-	3.7
Recommended Capital Charge	**149.2**	**152.9**	**177.9**

Note: these figures may not add due to rounding.

5.3 Fixed Operating Charge

The Direction Notice requires that the Authority assess the prudency and efficiency of all fixed operating costs proposed by the Grid Service Providers.

5.3.1 LinkWater's Submission

In its submission, LinkWater proposed fixed operating costs for 2012-13 of $43.7 million, including:

(a) corporate costs - $14.4 million;

(b) network operational management - $10.9 million;

(c) asset maintenance - $13.9 million; and

(d) water quality testing - $3.0 million.

LinkWater stated that it derived all costs through a bottom-up approach where labour, consultancy, contractor and specific non-capital costs were determined for each activity within the fixed operating cost components.

LinkWater submitted that its proposed fixed operating costs for 2012-13 are 3.1% lower, in real terms, than the 2011-12 figures. It considers that its proposed fixed operating costs represent prudent expenditure to ensure the discharge of its performance obligations.

LinkWater contended that its fixed operating costs for 2012-13 are efficient. LinkWater submitted that its 2011-12 fixed operating costs were deemed efficient, there has been no reduction in the scope of service obligations from 2011-12 to 2012-13, and the 2012-13 proposed costs are lower than 2011-12 in real terms.

LinkWater's proposed fixed operating costs for 2012-13 are outlined below in Table 5.22.

Table 5.22: LinkWater's proposed 2012-13 Fixed Operating Costs

Category	*Item*	*Proposed cost ($ '000s)*
Corporate costs	CEO and Board	1,105
	Legal and Governance	1,731
	Business Services	3,635
	Human Resources	908
	Corporate Services	2,435
	IT and Knowledge Management	3,084
	Property Leasing	1,509
	Subtotal	*14,407*
Network Operations Costs	Management and Administration	768
	Project Services	774
	Asset Insurance	1,784
	Infrastructure Planning	463
	System Modelling/Network Information	1,005
	Geographic Information Systems	851
	Land & Corridor Management	777
	Strategic Asset Management	1,315
	SCADA	535
	Network Asset Operations	1,426
	Service Delivery	1,167
	Subtotal	*10,865*
Water Quality Testing	Operational and Compliance	1,338
	Laboratory Testing	1,660
	Subtotal	*2,998*
Asset Maintenance – Fixed Fee	Reservoirs	2,515
	Balance Tanks	202
	Pump Stations	2,428
	Water Quality Facilities	2,415

Category	*Item*	*Proposed cost ($ '000s)*
	Trunk Mains	379
	Buildings	0
	Land	0
	SCADA	0
	Other (condition based)	2,159
Asset Maintenance - Unplanned	Mechanical	427
	Electrical	231
	Structural	0
	Operational	1,167
Asset Maintenance - Other	SLAs	1,194
	Tools and Materials	818
	Subtotal	*13,935*
Fixed Electricity Costs	Fixed connection costs	504
	Constant load costs	0
	Security and lighting	27
	Air-conditioning of switch rooms	82
	Variable speed drives	164
	Subtotal	*777*
Item previously in allowable costs	QCA levy	683
	Total	**43.7**

Note: these figures may not add due to rounding.

5.3.2 LinkWater's 2011-12 Asset Insurance costs

In 2011-12 LinkWater obtained a preliminary estimate for its asset insurance of approximately $1.5 million. It included this figure in its 2011-12 GSCs submission. LinkWater later received a quote for insurance of $1.8 million, and this was its asset insurance bill. When setting final 2011-12 GSCs, LinkWater asked the Authority to allow it to recover the $1.8 million. As this request was received well after the deadline for submissions on the Draft Report, and too late for the matter to be received to SKM, the Authority rejected this request. In its 2012-13 GSCs submission, LinkWater again requested that it be allowed to recover this $0.3 million.

The Authority's view is unchanged from last year. The Authority notes that LinkWater's increased insurance bill does not constitute a Review Event (see Chapter 7). As a result, LinkWater will not be able to recover the $0.3 million for the 2011-12 year in 2012-13 GSCs.

5.3.3 Electricity Costs

The figure of $43.7 million includes $0.8 million of fixed electricity costs. In the 2011-12 Final Report, the Authority's analysis of variable operating costs indicated that $0.4 million of costs were fixed connection charges that did not vary according to the amount of electricity used. These costs were more appropriately incorporated into Fixed Operating Charges. The Authority proposes to continue to treat the portion of LinkWater's electricity costs that do not vary with water transported as a fixed operating cost in 2012-13.

5.3.4 QCA Levy

When setting 2011-12 GSCs, the Authority included the QCA levy in the allowable cost category. As per the Ministerial Direction, allowable costs are costs incurred on a one-off basis, with the exception of the QWC levy. So, in setting draft charges for 2012-13, the Authority will include the QWC levy as an allowable cost, while the QCA levy will be included under fixed operating costs. For 2012-13, LinkWater estimated the QCA levy to be $0.7 million, by applying the indexation rate of 5.8%, pursuant to the provisions of the *Queensland Competition Authority Regulation 2007 (Qld)*.

The Authority confirms LinkWater's estimated QCA levy of $0.7 million.

5.3.5 Prudency and Efficiency Review

For operating expenditure to be included in GSCs, it is required to be prudent (demonstrated need for the expenditure to meet its requirements) and efficient (least cost and consistent with relevant benchmarks, having regard to prevailing market conditions, historical trends and the potential for efficiency gains or economies of scale).

The Authority engaged SKM to review the adequacy of the data provided by LinkWater and the prudency and efficiency of the proposed fixed operating costs.

SKM undertook a sampling process for reviewing LinkWater's proposed fixed operating costs. The sample of 11 cost items was drawn from the corporate costs, network operational management and asset maintenance cost driver categories, which account for 39.1% of total fixed operating costs. The sample is listed in Table 5.23 below.

Table 5.23: Fixed Operational Costs Reviewed by SKM ($m)

No.	*Item*	*Category*	*Cost Estimate 2012-13*
1	IT and Knowledge Management	Corporate Costs	3.1
2	Corporate Services	Corporate Costs	2.4
3	Property Leasing	Corporate Costs	1.5
4	System Modelling	Network Operational Management	1.0
5	Service Delivery	Network Operational Management	1.2
6	Network Asset Operations	Network Operational Management	1.4
7	GIS	Network Operational Management	0.9
8	Laboratory Testing	Water Quality	1.7
9	Reservoirs	Asset Maintenance	2.5
10	Balance Tanks	Asset Maintenance	0.2
11	Operational Maintenance	Asset Maintenance	1.2
	Total Sample		**17.1**
	Total Proposed Fixed Operating Costs		**43.7**
	Total Sample/Total Fixed Operating Costs		**39.1%**

Note: these figures may not add due to rounding.

Item 1: IT and Knowledge Management - $3.1 million

LinkWater's Submission

LinkWater submitted that in terms of IT and Knowledge Management, activities were required to integrate asset data into LinkWater's asset information systems including SAP and the AMF to ensure correct and effective operations and maintenance. Work was also necessary to provide connectivity services to provide for the information transfer between the physical location of the asset and the Network Control Centre and LinkWater's back-up data centre.

SKM's Review

SKM found this expenditure to be prudent because IT and knowledge management services are required for LinkWater to meet its obligations under the Grid Contract.

SKM found that expenditure on IT and knowledge management as a whole was considered to be efficient. LinkWater's costs for this category were close to the median benchmarking value from KPMG's external report. In addition, external services have been procured in such a way that costs will be in line with market rates.

Authority's Analysis

The Authority accepts SKM's recommendation that LinkWater's proposed IT and Knowledge Management expenditure is both prudent and efficient.

Item 2: Corporate Services - $2.4 million

LinkWater's Submission

LinkWater submitted that the expenditure for corporate services comprises government relations; community and stakeholder management; annual reporting; employee communications; risk management; health and safety; and environment and human resources.

SKM's Review

SKM considered that the cost for Corporate Services to be prudent. LinkWater provided sufficient information for SKM to review all of the Corporate Service activities and SKM deemed that all the activities are necessary for LinkWater to fulfil its obligations in the Grid Contract, as well as regulatory compliance, social expectations and legal obligations.

SKM considered that the cost for Corporate Services to be efficient. SKM reviewed the benchmarking that has been undertaken by KPMG and concluded that even with the increase in effort that the Northern Pipe Interconnector Stage 2 will place on LinkWater that the cost proposed was within reason.

Authority's Analysis

The Authority accepts SKM's recommendation that LinkWater's proposed Corporate Services expenditure is both prudent and efficient.

Item 3: Property Leasing - $1.5 million

LinkWater's Submission

LinkWater submitted that the 2012-13 costs were higher than the 2011-12 figure of $1.4 million, mainly owing to rent increases and LinkWater leasing a small amount of extra office space.

SKM's Review

SKM concluded that this expenditure was prudent. Linkwater requires an office space due to the type of business structure and need for a designated control room, reception area, office space and board room.

SKM concluded that the expenditure for water Property Leasing was efficient. LinkWater has secured a contract at 2008 market rates with Knight Frank until 30 November 2015. SKM was satisfied that the costs associated with Property leasing are delivered in an effective manner.

Authority's Analysis

The Authority accepts SKM's recommendation that LinkWater's proposed property leasing expenditure is both prudent and efficient.

Item 4: System Modelling - $1.0 million

LinkWater's Submission

Expenditure under this category relates to LinkWater's hydraulic and water quality model, which is its primary analysis and optimisation tool for network operations. LinkWater submitted that the model allows it to continually analyse its network performance to ensure it optimally manages its assets.

SKM's Review

SKM concluded that the expenditure for this item was prudent, as the activities undertaken by the system modelling and network information team are necessary for LinkWater to fulfil its obligations in the Grid Contract. SKM considers that the process of system modelling and network information is an essential part of meeting water demand and quality specifications.

SKM considered the expenditure for system modelling and network information as efficient. Whilst detailed benchmarking information was not available, SKM examined LinkWater's proposed expenditure and considered this to be reasonable given the size of the network and the importance placed on the infrastructure in the Grid Contract.

Authority's Analysis

The Authority accepts SKM's recommendation that LinkWater's proposed System Modelling expenditure is both prudent and efficient.

Item 5: Service Delivery - $1.2 million

LinkWater's Submission

This function is responsible for the programming of maintenance activities to be issued to the Services Contractor and for monitoring and managing the delivery of the maintenance work program.

SKM's Review

SKM considered this expenditure to be prudent. LinkWater has clear obligations in the Grid Contract to ensure that water transported in its assets meets specific water quality levels. SKM sees the maintenance of its infrastructure as an essential part of meeting water quality demands and quality specifications.

SKM considered the expenditure to be efficient. SKM's view was that, as detailed benchmarking information data was not available to enable comparison, it examined LinkWater's proposed expenditure and considered it to be reasonable based on the priority the grid contract places on water quality.

Authority's Analysis

The Authority accepts SKM's recommendation that LinkWater's proposed Service Delivery expenditure is both prudent and efficient.

Item 6: Network Asset Operations – $1.4 million

LinkWater's Submission

LinkWater stated that network operations are focussed on the day-to-day physical operation of the network to ensure that LinkWater meets is water quality assurance and volume requirements

under a Grid Contract Document, the DWQMP and the WGM Grid Instructions. In particular, network operations are responsible for:

(a) operating the network control centre;

(b) creating and reviewing maintenance plans;

(c) conducting security assessments of LinkWater's assets;

(d) preparing and maintaining service manuals for reservoir, pumping stations and water quality facilities; and

(e) assessing asset criticality audits.

LinkWater submitted that to maintain its network, it operates a fully manned 365 day 24-hour continuous real-time control room. The control room has the capacity to monitor the entire network and remotely control certain functions of both inherited and new assets.

LinkWater submitted that the importance of the Network Control Centre was highlighted by the Commission of Inquiry, which noted that a key feature of the ability to maintain bulk drinking water supplies during the floods was the continuous operation of LinkWater's Network Control Centre.

SKM's Review

SKM concluded that the expenditure for network asset operations was prudent, as the activities undertaken by the network asset operations team are necessary for LinkWater to fulfil its obligations in the Grid Contract. The continuous operation of LinkWater's network assets is imperative for the supply and quality assurance for SEQ.

SKM's view was that insufficient information had been provided to justify whether an increased expenditure on the last financial year is efficient. As the Enterprise Bargaining Agreement provides for a 4% increase in hourly rates, SKM recommended that unless further justification is provided, the cost for network asset operations for 2012-13 be set at 4% above the 2011-12 cost. This has the effect of reducing the cost for network asset operations to $1.2 million.

SKM did not include in its recommendation any costs associated with the NPI – Stage 2 implementation. SKM did not receive any detailed cost information specific to this task. SKM noted that if LinkWater were to provide details of the additional costs associated with this project in comparison to last year, this may be included as an additional cost allowance.

Authority's Analysis

The Authority accepts SKM's recommendation that LinkWater's proposed Network Asset Operations expenditure is prudent but cannot be considered efficient at this stage. The Authority accepts SKM's revised efficient cost of $1.2 million, a reduction of 14.3% on LinkWater's proposed costs.

Item 7: Geographic Information System (GIS) - $0.9 million

LinkWater's Submission

LinkWater proposed to invest in a number of technology upgrades for 2012-13. One upgrade related to increasing functionality following the integration of NPI – Stage 2. This functionality included extensions to information on soil classification, third party assets and the environment in which the asset exists.

LinkWater noted that it is creating a complete set of long section drawings of the trunk main network. This GIS asset location data is utilised by the LinkWater Network Control Centre to manage the transport of water within the network during times of asset failure or water quality issues. For example, technical drawings in GIS are used to identify the most suitable scour locations for draining selected sections of trunk mains to ensure a dry jobsite for maintenance activities. During 2012-13, LinkWater intended to integrate these long section drawings into the GIS.

An allowance has been made for consultancy costs for a project labelled Computer Assisted Drawings (CAD) long sections. It is intended that the mass of both paper and digital data that LinkWater has inherited can be converted into a GIS format. The intention is to provide operations and maintenance with more details on the assets they will encounter to enable better provision for planning before a schedule of works is let.

SKM's Review

SKM concluded that the expenditure for GIS was prudent. The activities undertaken by the GIS team are necessary for LinkWater to fulfil its obligations in the Grid Contract. An effective and reliable GIS requires continual investment in technology upgrades and insuring it is underpinned by relevant information. SKM considered the inclusion of the Near Map inventory system to be prudent for the financial year 2012-13 but that further information will need to be supplied from LinkWater justifying the necessary of future reoccurring subscriptions.

SKM was unable to determine whether the expenditure for CAD long sections is efficient as there is a wide range of variables which comprise the cost. However, SKM considered that the expenditure is prudent. Additionally, LinkWater needs to supply information detailing if the allocated costs for the project were sufficient or whether more funding would be required in the following financial years.

SKM were unable to verify the efficiency of the CAD long section project. However, SKM considered that the financial budget for 2012-13 to be generally efficient overall despite this.

Authority's Analysis

The Authority accepts SKM's recommendation that LinkWater's proposed GIS expenditure is both prudent and efficient.

Item 8: Laboratory Testing - $1.7 million

LinkWater's Submission

To discharge its water sampling and field testing obligations, LinkWater engaged the Australian Laboratory Group Pty Ltd (ALS) through a competitive tender process. LinkWater forecast a spend of $1.7 million for 2012-13.

SKM's Review

SKM concluded that the expenditure for water laboratory testing was prudent. All of the water quality and compliance activities are necessary for LinkWater to fulfil its obligations in the Grid Contract, as well as legislation, specifically in regards to the Drinking Water Quality Management plan.

SKM also found that the expenditure for water laboratory testing was efficient. LinkWater put the contract out to market tender and therefore received competitive tenders which were further

analysed through a tender review. SKM was satisfied that LinkWater is delivering this service in a cost effective manner.

Authority's Analysis

The Authority accepts SKM's recommendation that LinkWater's proposed Laboratory Testing expenditure is both prudent and efficient.

Items 9, 10 & 11: Asset Maintenance - $2.5 million; Asset Maintenance - $0.2 million; Operational Maintenance - $1.2 million

LinkWater's Submission

LinkWater contracts out a range of planned asset maintenance activities to ensure it meets its legislated service obligations of maintaining reliability and delivering quality water. These activities are performed by the Services Contractor at the rates specified in the Operations and Maintenance Deed. Some of these activities are performed for a fixed fee. One such activity relates to preventative, routine, monitoring maintenance and testing of LinkWater's reservoirs.

Like reservoirs, balance tanks are another of LinkWater's assets which are subject to routine maintenance for a fixed fee, as specified in the Operations and Maintenance Deed.

In addition to the routine inspections and maintenance captured with the fixed fee, the LinkWater Operations and Maintenance Deed provides for additional services under a variable fee arrangement. One such service undertaken for a variable fee is Operational Maintenance.

SKM's Review

SKM reviewed the prudency of the three items above and concluded that all three were prudent. SKM considered that the planned activities for the reservoirs and balance tanks were prudent as they were required to maintain these facilities to support the Drinking Water Quality Management Plans.

SKM reviewed the efficiency of the three items above. It found the costs for these activities to be efficient given the derivation of the costs by the implementation of a time based maintenance activity plan and the costs contained in the current contract that was competitively tendered. SKM noted that LinkWater will be competitively tendering for this service in the 2012/2013 financial year and will be investing in improvements to their SAP based maintenance information system. The proportion for unplanned operational activities (10% of total maintenance costs) is lower than that used by general industry number (30%).

Authority's Analysis

The Authority accepts SKM's recommendation that LinkWater's proposed expenditure on the above three items is both prudent and efficient.

Summary of Prudency and Efficiency Review

In summary, SKM reviewed 11 cost items and recommended that one item was not completely efficient. SKM's recommended cost reduction is $241,000. This represents 1.4% of the sample items, or 0.6% of LinkWater's proposed 2012-13 fixed operating costs. This information is summarised in Table 5.24 below.

Table 5.24: Prudency and Efficiency of Fixed Operating Costs ($'000)

No	*Cost*	*LinkWater proposed*	*Prudency*	*Efficiency*	*QCA Draft Recommendation*
1	IT & Knowledge Management	3,084	Prudent	Efficient	3,084
2	Corporate Services	2,435	Prudent	Efficient	2,435
3	Property Leasing	1,509	Prudent	Efficient	1,509
4	System Modelling	1,005	Prudent	Efficient	1,005
5	Service Delivery	1,167	Prudent	Efficient	1,167
6	Network Asset Operations	1,426	Prudent	Insufficient information to assess all expenditure as efficient	1,185
7	GIS	851	Prudent	Efficient	851
8	Laboratory Testing	1,660	Prudent	Efficient	1,660
9	Reservoirs	2,515	Prudent	Efficient	2,515
10	Balance Tanks	202	Prudent	Efficient	202
11	Operational Maintenance	1,167	Prudent	Efficient	1,167
	Total	*17,021*			*16,780*
	Fixed Operating items not reviewed	*25,962*			*25,962*
	Total	*42,983*			*42,742*

5.4 Variable Operating Charge

5.4.1 LinkWater's Submission

In its submission, LinkWater proposed variable operating costs for 2012-13 of $2.9 million, comprising $2.3 million for energy costs associated with water pumping facilities to meet forecast demand and $0.5 million associated with chemical dosing to ensure the quality of water delivered meets safe drinking standards. This is shown in Table 5.25 below. This equates to a per ML cost of around $12.60.

Table 5.25: LinkWater's Historic Approved Variable Operating Costs ($m)

Cost Category	*2008-09*	*2009-10*	*2010-11*	*2011-12*	*2012-13*
Energy	N/A	6.0	4.0	2.6	2.3
Dosing	N/A	1.1	0.4	0.3	0.5
Other	N/A	N/A	0.1	0	0
Total	**4.4**	**7.1**	**4.5**	**2.9**	**2.9**

Note: these figures may not add due to rounding.

5.4.2 LinkWater and Electricity Market Contestability

LinkWater's Submission

For its 2011-12 submission, LinkWater was a non-contestable electricity customer. LinkWater's investigations indicated potential benefits from becoming a contestable customer, so LinkWater tendered for the supply of its electricity. It received six responses. LinkWater engaged TRUenergy as its electricity provider for the period 1 November 2011 to 30 June 2013.

LinkWater contended it would save $1.1 million, or around $4.80/ML, as a result of becoming a contestable electricity customer in 2012-13. This is in part due to a 25.5% increase in its forecast pumping volumes, as set out in its Operating Strategy.

LinkWater considered it should retain 50% of the saving it will achieve from becoming a contestable electricity customer.

Authority's Analysis

The Authority's 2011-12 Final Report on GSCs discussed the merits of GSPs seeking efficiency improvements, and that allowing GSPs and customers to share in these efficiency improvements was a way of incentivising GSPs to do this, while allowing customers to receive some benefit. Specifically, the Authority said:

> *Under such an arrangement, GSPs will be permitted to retain 50% of any efficiency gains achieved in 2011-12 in 2012-13 GSCs. However, the efficiency gains must be the result of specific initiatives put in place by the GSPs, and should be submitted for consideration as part of the 2012-13 review. p.155, Final Report, SEQ Grid Service Charges, 2011-12.*

The Authority accepts LinkWater's submission. The Authority recommends that LinkWater retain all of the savings it expects to make in 2011-12 and that 50% of the efficiency gains received in 2011-12 should be included in 2012-13 GSCs. The Authority considers it appropriate to include such a payment under LinkWater's Allowable Costs, due to its once-off nature.

The Authority calculates that LinkWater saved $673,291 in 2011-12 as a result of switching to a market contract. This is calculated as the difference between its forecast cost based on not switching to a market contract, and its estimated actual cost after it did switch. The Authority then deducted $100,000, which was the cost LinkWater incurred in engaging AECOM to advise it on the potential savings of becoming a contestable customer. The Authority therefore recommends that LinkWater receives an efficiency payment of $336,646. This is summarised in Table 5.26 below.

Table 5.26: LinkWater's Efficiency Incentive Payment

Cost Item	*Cost ($)*
2011-12 Forecast Electricity Cost	2,581,774
2011-12 Estimated Actual Electricity Cost	1,808,483
Forecast Savings	773,291
Cost of Engaging AECOM	100,000
Net Saving	673,291
LinkWater Efficiency Payment	336,646

5.4.3 The Clean Energy Future Plan

On 10 July 2011, the Federal Government announced its intention to implement a price on carbon pollution via a Clean Energy Future Plan (CEFP). This will increase LinkWater's electricity costs, and will also increase the price of carbon-intensive goods and services that LinkWater procures, as suppliers pass on some of their increased costs. The CEFP was not in place when LinkWater agreed its contract with TRUenergy. The contract allows for the full pass-through to LinkWater of cost impacts on TRUenergy associated with the introduction of a price on carbon. LinkWater has estimated that the total variable cost impact of the carbon tax for 2012-13 will be $0.4 million.

The Authority noted that LinkWater's methodology sought to estimate the impact of the carbon tax based on their calculation of the carbon intensity at each pumping station. The approach adopted in the CEFP is to apply $23 per tonne on around the top 500 polluters in Australia. As this will unlikely include water pumping stations, LinkWater's estimates cannot be included for consideration in this review.

The approach outlined in the Australian Carbon Benchmark (ACB) Addendum published by the Australian Financial Markets Association (AFMA) estimates carbon costs according to $23 per tonne multiplied by the average emissions intensity of generators in the NEM. This is also the approach adopted by the Authority in its Draft Determination of Regulated Retail Electricity Prices for 2012-13.

Consistent with the approach adopted for Seqwater, the Authority has instead applied a 10% increase to the fixed charge and variable charge which LinkWater will pay for electricity at each pump station. This is however an issue which will attract further consideration prior to the Final Report.

5.4.4 Prudency and Efficiency Review

As noted above, for opex to be included in prices, it is required to be prudent (demonstrated need for the expenditure to meet its requirements) and efficient (least cost and consistent with relevant benchmarks, having regard to prevailing market conditions, historical trends and the potential for efficiency gains or economies of scale).

The Authority engaged SKM to review the adequacy of the data provided by LinkWater and the prudency and efficiency of the proposed variable operating costs.

SKM undertook a sampling process for reviewing LinkWater's proposed variable operating costs. The sample of one project was drawn from the chemical cost category, which is for $0.5 million, or 18.7% of total variable operating costs.

Item 1: Chemical Dosing Costs - $0.5 million

LinkWater's Submission

LinkWater submitted that its Grid Contract Document requires the ability to deliver different water quality configurations (i.e. chlorinated versus chloraminated) to the different demand zones.

LinkWater stated that water dosing volumes are impacted by the distance of the demand zone location from the water dosing facility given that the chlorine/chloraminate levels decline over time and distance transported. That is, water may require re-dosing to top up chlorine/chloraminate levels during transit to the final demand delivery zone.

In developing its forecast costs, LinkWater determined the type and level of dosing required from each water supply source to satisfy the different water quality standards at each Distributor-Retail entity demand zone.

Previously, LinkWater did not have a chemicals contract with a guaranteed delivery time provision. This was identified as a significant risk as it exposed LinkWater to a potential water quality incident by not having the necessary type or quantity of chemical available to guarantee continuity of chemical dosing. For 2012-13, LinkWater will enter into a new contract for the provision of chemicals, following a competitive procurement process. In gaining guaranteed delivery, the costs for some chemicals have increased materially, as set out in Table 5.27 below.

Table 5.27: LinkWater's Chemical Cost Changes 2011-12 to 2012-13

Chemical	*2011-12 Unit Price ($/L)*	*2012-13 Unit Price ($/L)*
Sodium Hydrochlorite	0.18	0.30
Aqueous Ammonia	1.08	0.71
Sodium Hydroxide	0.25	0.70
Sulphuric Acid	0.38	0.50

Based on its forecast demand and chemical costs, LinkWater's forecast chemical dosing costs for 2012-13 are $0.5 million, as set out below in Table 5.28.

Table 5.28: 2012-13 Forecast Water Dosing Costs

Water Quality Facility	*Annual Forecast (ML)*	*Cost ($)*
Chambers Flat	15,119	256,670
Gramzow Rd	1,460	29,085
Alexandra Hills	3,941	18,915
Stapylton	0	0
Heinemann Rd	9,490	10,253
Caloundra St	10,946	201,269
NPI – Stage 2	1,825	16,671
Total	**42,781**	**532,863**

A comparison of 2011-12 and 2012-13 chemical costs is given below in Table 5.29.

Table 5.29: Comparison of 2011-12 and 2012-13 Average Chemical Costs

Water Quality Facility	*2011-12 Average Chemical Costs ($/ML)*	*2012-13 Average Chemical Costs ($/ML)*
Chambers Flat	13.50	16.98
Gramzow Rd	9.96	19.92
Alexandra Hills	3.73	4.80
Stapylton	0	0
Heinemann Rd	0.94	1.08
Caloundra St	9.62	18.39
NPI – Stage 2	N/A	9.13

As Table 5.29 shows, average chemical costs are expected to be higher for all water quality facilities, with costs for Gramzow Rd and Caloundra St are expected to be around 50% higher in 2012-13 than in 2011-12.

LinkWater has identified a number of risks in its existing contract. It has tendered for a new chemicals contract and has included conditions to give it higher levels of service.

SKM's Review

SKM considered it prudent to seek to address the risks LinkWater identified. SKM's view was that by seeking a higher level of service, the cost of the contract would increase. SKM was also of the view that seeking this service improvement was not unreasonable, given the importance of water to the health of SEQ. All three tenders LinkWater received were non-compliant because they could not meet minimum commercial and product requirements. LinkWater is

negotiating with its preferred provider to establish the terms for supply and delivery of chemicals.

SKM considered that the proposed costs were generally efficient, as LinkWater had competitively tendered the contract. One issue SKM found with LinkWater's proposed costs was that, despite having reasonable certainty over them, LinkWater had increased them by 5%, SKM deemed this inappropriate, given that they had increased substantially from the previous year, and there were few uncertainties surrounding them. SKM recommended the removal of this 5% uplift. This reduced the cost by $27,000, to $506,000.

Authority's Analysis

The Authority accepts SKM's conclusion that the item is prudent. The Authority also accepts SKM's revised figure.

Summary of Prudency and Efficiency Review

SKM reviewed one cost item and found it to be prudent and generally efficient. SKM found that LinkWater had inappropriately applied a 5% uplift to its proposed costs. SKM recommended removing this uplift reducing the proposed costs by $27,000. This reduction represents 5.1% of the proposed expenditure in the sample, and 0.9% of the total proposed expenditure.

5.4.5 Forecast Demand

The Direction Notice requires the Authority to adopt production forecasts for the regulatory period consistent with the WGM's Operating Strategy. As required by the Direction Notice, the WGM has provided the approved November 2011 Operating Strategy to the Authority with details of the forecast volumes at pump stations and chemical dosing points in the Water Grid. The WGM's forecasts as at March 2012 are provided below in Table 5.30.

Table 5.30: Water Grid Manager's Forecasts of WTP Volumes to Transfer

Water Treatment Plant	*Owner*	*Forecast ML per annum*
Landers Shute	Seqwater	10,946
Molendinar	Seqwater	49,813
Mudgeeraba	Seqwater	18,317
Gold Coast Desalination Plant	Seqwater	8,110
Mt Crosby	Seqwater	95,983
North Pine	Seqwater	33,536
Capalaba	Seqwater	3,943
North Stradbroke Island	Seqwater	9,490
Total		**230,138**

Note: figures may not sum due to rounding.

LinkWater's Submission

LinkWater's submission also includes detail of forecast treatment plant volumes to be dispatched. LinkWater's submission matches the WGM's exactly, save for that LinkWater has

included volumes from the Caboolture and Woodford treatment plants. LinkWater's forecast volumes from those plants are as below in Table 5.31.

Table 5.31: LinkWater's Forecasts of WTP Volumes from Caboolture and Woodford WTPs

Water Treatment Plant	*Owner*	*Forecast ML per annum*
Caboolture	Seqwater	613
Woodford	Seqwater	319
Total		**932**

LinkWater submitted that its variable operating costs are largely driven by which assets are defined in the Grid Instructions to transport water to meet demand. Specifically, when the Water Grid is operating in drought mode there is a greater reliance on LinkWater's interconnecting pipes which require greater pumping capacity to transport water from one region to another.

However, when the Water Grid is operating in non-drought mode, the reliance is on regional water supply which does not require the same degree of pumping.

LinkWater stated that prior to 2010, the water grid operated in drought mode. For this reason, LinkWater's historic variable operating costs have been high relative to the costs proposed for 2011-12.

LinkWater submitted pumped volume of 148,607 ML per year, as an estimate of the proportion of total water transported (230,138 ML) that requires assisted pumping rather than gravity feed. This is an increase of 25.5% compared with pumped volumes in 2011-12. The proportion that requires pumping can vary significantly from year to year depending on the operation of the Water Grid.

Similarly, LinkWater submitted that the volume of water requiring chemical dosing is forecast at 42,781 ML for 2012-13.

Authority's Analysis

The Authority notes that the WGM lists the Caboolture and Woodford WTPs as infrastructure it does not expect to be needed in the short to medium term, and has not included any transported volumes from these WTPs during 2012-13 in its Annual Operations Plan (WGM 2011).

As the Authority must accept the demand forecast in the WGM's Annual Operations Plan, the Authority has not included any water transport volumes from the Caboolture and Woodford WTPs.

5.4.6 Summary of Variable Operating Charge

The Authority recommends that LinkWater charge the WGM variable operating charges based on actual volumes pumped and dosed and the Authority's recommended $/ML variable charges. The Authority's recommendations are included in full in Table 5.32.

Table 5.32: Summary of Volumetric Charges 2012-13

	Volume (ML)	*Recommended $/ML Variable Operating Charge*	*Forecast Cost ($m)*
Pumping (Energy Costs)	148,607	15.61	2.3
Chemical Dosing	42,781	11.83	0.5
Total			**2.8**

Note: these figures may not add due to rounding.

5.5 Benchmarking of Operating Costs

To supplement its review of prudency and efficiency, and to meet the requirements of the Ministerial Direction, the Authority engaged SKM to undertake a benchmarking analysis by comparing LinkWater to other Australian and international water supply businesses. Benchmarking was undertaken at three levels: corporate level; asset group level; and specific asset level.

Due to data constraints, SKM's analysis focused mainly at the corporate level. SKM prepared a number of benchmarking metrics to compare LinkWater to other water service providers. While these metrics provide a descriptive comparison of LinkWater business, many are largely outside of LinkWater's control.

LinkWater's Submission

LinkWater submitted that to benchmark it against other companies is challenging, as to its knowledge there is only one other company in the world – the Abu Dhabi Transmission and Despatch Company – which operates solely as a bulk water transporter. LinkWater also noted that to isolate the costs associated with bulk water transport for companies which perform a number of activities in the value chain was complex and subject to error.

LinkWater submitted that to ensure a consistent and accurate benchmarking analysis, there needs to be consistency in the definition and application of costs. LinkWater considered there is no uniform practice across regulated businesses with respect to what is defined as a corporate overhead and what is defined as an operating and maintenance cost. LinkWater noted the importance of understanding the costs included in LinkWater's overhead component and equally what is included in a comparator's costs.

LinkWater also submitted that if detailed, reliable information on overall operating costs were publicly available for a reasonable sample of similar companies, it would be appropriate to assign significant weight to a top down comparison. LinkWater was of the view that such information did not exist.

LinkWater drew a distinction between the choice of either a top down or bottom up approach. LinkWater submitted that the application of a bottom up approach would require intimate knowledge of the operations and management of LinkWater. It submitted that what is relevant from a regulatory perspective is not what LinkWater actually spends, but what an efficient and well-run bulk water transport business would spend. LinkWater submitted that this would require a sound knowledge and understanding of generic cost levels and structures in the industry rather than specific information on LinkWater's expenditure, and finding this information is difficult.

LinkWater submitted that it is still a maturing business, and requested the QCA to consider this carefully when undertaking its benchmarking analysis.

SKM's Review

Benchmarking at Corporate Level

Some of the comparator organisations are vertically-integrated, and so perform all of the activities in the water and/or water and sewerage value chain. Other comparator organisations perform only specific tasks in the value chain, such as retail or resources.

The fact that these organisations perform the same functions as LinkWater but also perform a range of other activities, or they perform different activities, means that they are not identical comparators. The conclusions to be drawn from the benchmarking exercise have to be viewed with this in mind.

However, it must also be stated that in any benchmarking exercise, identical comparators are difficult to find, even if a group of companies perform the same range of functions. In the water sector, for example, comparison can be difficult due to differing age profiles of companies' assets, how widely dispersed are their customers, or how different companies source their water.

Data availability was severely constrained in many areas of this exercise, however SKM was able to compare LinkWater's operating expenditure per ML of water supplied to other water businesses, both nationally (Figure 5.1) and internationally (Figure 5.2).

Figure 5.1: Operating Expenditure per ML Supplied - *National*

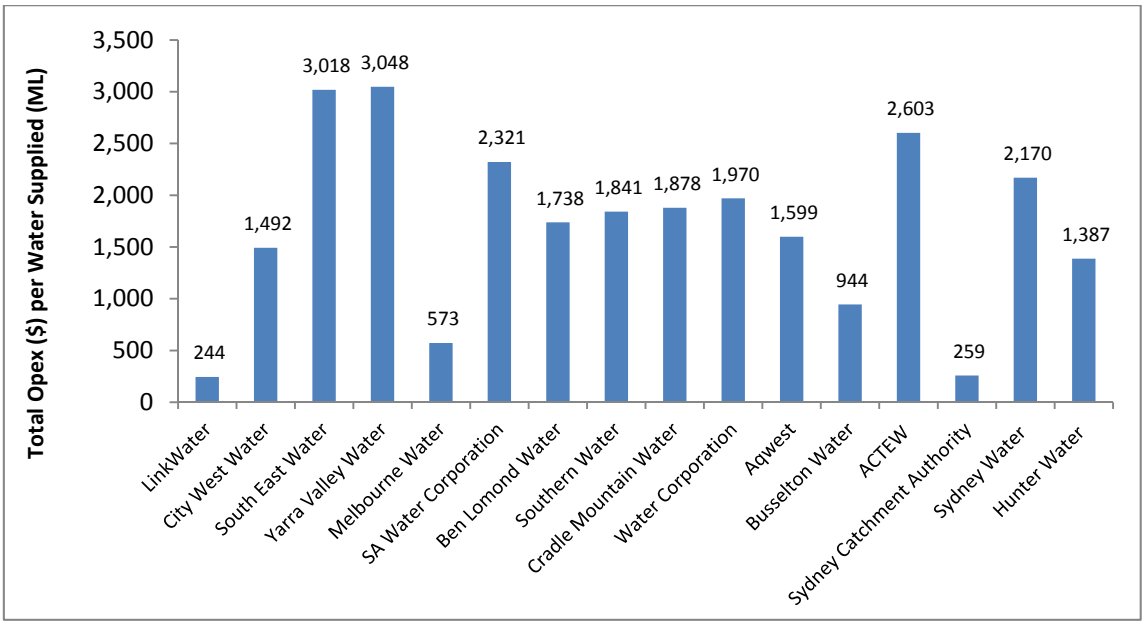
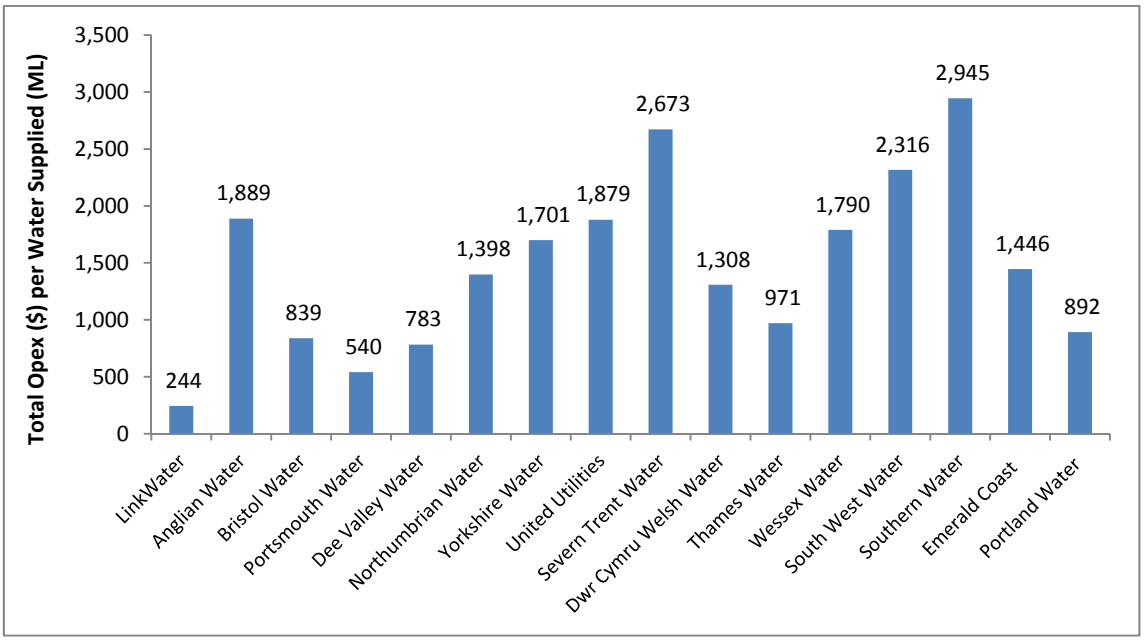


Figure 5.2 Operating Expenditure per ML Supplied - *International*



SKM's analysis indicated that the overall operating expenditure per ML is substantially lower for LinkWater than most of the comparator utilities, and marginally lower than for the Sydney Catchment Authority. SKM stated the reason for this result is that LinkWater provides considerably fewer water services than those of the majority of the comparator utilities, as discussed above.

SKM also benchmarked LinkWater's total employee costs per FTE to other water businesses both nationally (Figure 5.3) and internationally (Figure 5.4). This metric reveals how LinkWater's average salaries and on-costs compare to peer organisations.

Figure 5.3 Total Employee Cost as a Proportion of Total Full-time Equivalents – *National*

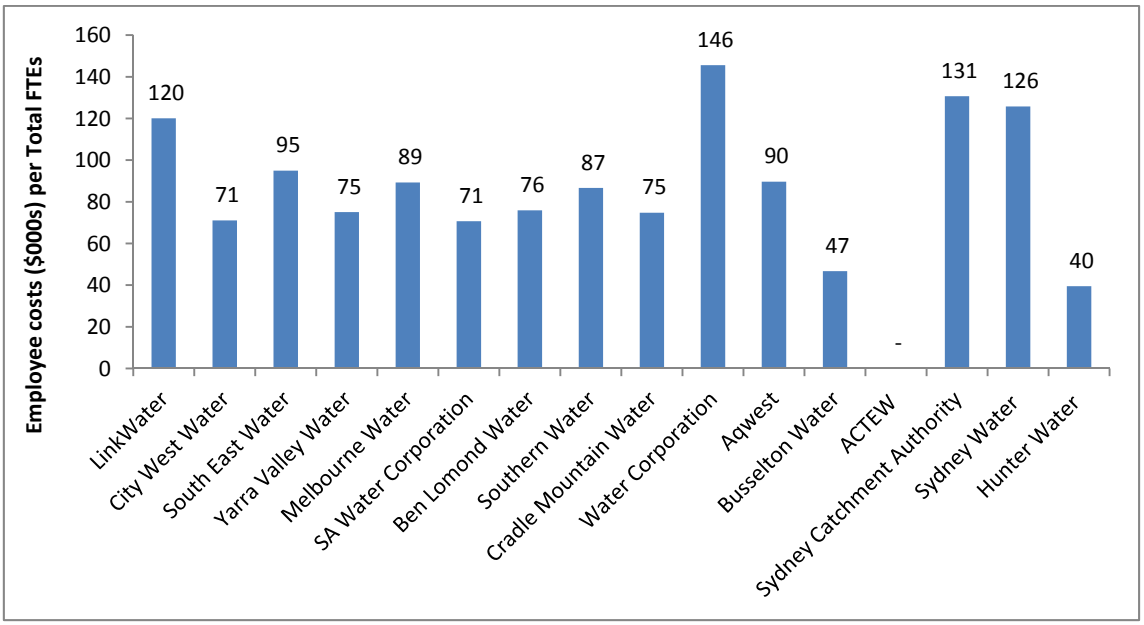
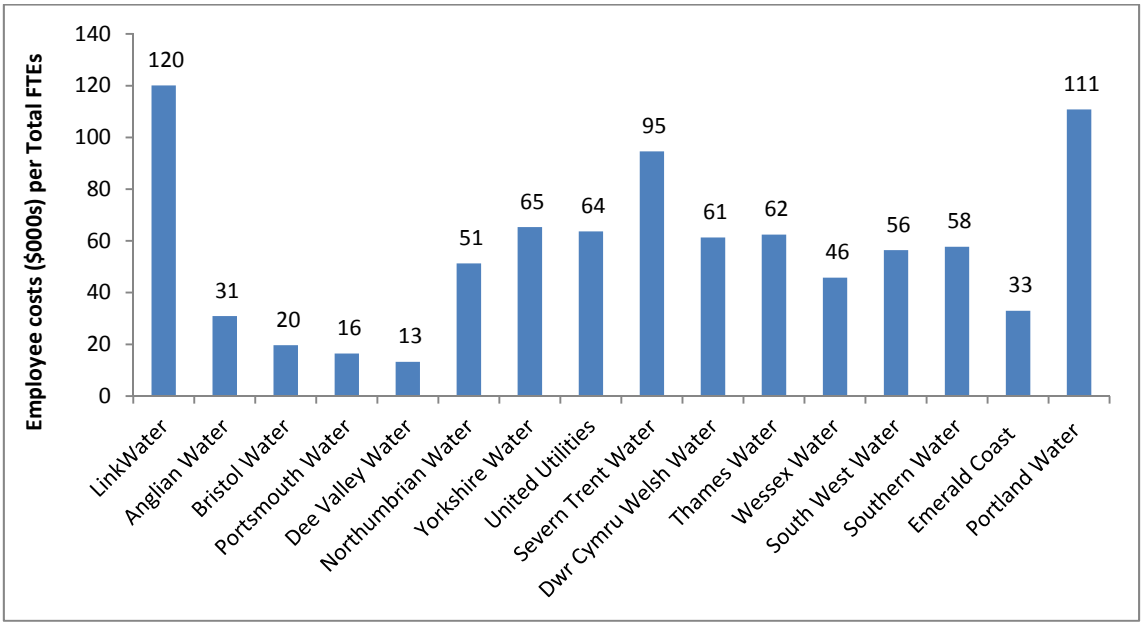


Figure 5.4 Total Employee Cost as a Proportion of Total Full-time Equivalents - *International*



SKM's analysis indicates that LinkWater's employee costs per FTE are higher on average than the majority of reference utilities in Australia. The values for the US and UK water entities are less comparable due to different labour market conditions, however they confirm that LinkWater's average employee costs are high relative to international benchmarks.

Authority's Analysis

In response to LinkWater's submission, the Authority recognises the limitations of undertaking any benchmarking exercise. The Authority considers that comparison between LinkWater and other water service providers generally, rather than water transport providers specifically, is unavoidable due to the lack of exact comparator organisations.

The Authority notes that data limitations at the time of the Draft Report and proposes to advance its assessment for the Final Report.

The Authority considers that, although definitive conclusions regarding the overall level of operating expenditure at a corporate level cannot be made based on SKM's benchmarking of available data, it appears as though LinkWater's employee costs are higher than benchmark. The Authority notes that LinkWater's average employee costs are largely determined by its EBA, and therefore does not consider it appropriate to recommend adjustments to the GSCs as a result of SKM's benchmarking analysis.

The Authority recommends that LinkWater should be working to reduce average employee costs in real terms in 2012-13. The Authority notes that efficiency incentives are in place for GSPs to make cost savings (see Chapter 7). To date, the GSPs' response to these incentives has been limited. The Authority considers that above-benchmark employee costs indentified above provides guidance to LinkWater as to where cost savings could be achieved.

The Authority notes the data limitations at the time of the Draft Report and will attempt to undertake further benchmarking review for the Final Report based upon an analysis of LinkWater FTE's and costs over time.

At an asset grouping level, the Authority notes that LinkWater's reservoir costs are comparable to that of Ben Lomond Water (Tasmania), but considers that a greater number of comparators are required to draw robust conclusions from this analysis. The Authority will revisit this issue for the Final Report.

The Authority considers that, should its recommended efficiency incentives continue to elicit a limited response from LinkWater, a more direct approach to ensuring potential efficiency gains are achieved may be required in future regulatory periods.

5.6 Allowable Costs

Allowable operating costs are intended to capture legitimate business costs not reflected in fixed and variable operating costs. When setting 2011-12 GSCs, the Authority included the working capital allowance and the QCA levy in the allowable cost category. As per the Ministerial Direction, the Price Regulator states allowable costs are costs incurred on a one-off basis, with the exception of the QWC levy. As a result, the Authority has altered the components of Allowable Costs for the 2012-13 period. The QCA levy has now been included as a component of the Fixed Operating Charge, while the working capital allowance has now been recommended as a component of the Capital Charge.

Treatment of Insurance Excess

The repair and restoration of the Bundamba pump station has been costed at $2.8 million. However, these repairs are covered under LinkWater's insurance coverage with the exception of an excess of $0.2 million.

LinkWater has not included the excess in its 2012-13 costs and requests the Authority's direction on the regulatory treatment of this excess.

On the basis that Bundamba pump station is a relatively new asset, is already in the RAB, and the costs are covered by insurance, LinkWater has not included these costs in its Capital Works Program as these capital renewals will have minimal impact on the RAB.

Authority's Analysis

The Authority considers it appropriate that LinkWater recovers the full cost of the repair and restoration of the Bundamba pump station. The Authority notes that the original Bundamba pump station is not individually specified in LinkWater's RAB, and therefore cannot be readily removed. For expediency, the Authority accepts LinkWater's proposal to avoid adjusting the RAB, and has instead included the insurance excess of $0.2 million as an Allowable Cost. The Authority considers that this provides the appropriate compensation to LinkWater within the constraint of the level of detail in the RAB.

QWC Levy

The QWC imposed a levy under section 360F of the *Water Act 2000*, which provides that the QWC is to be funded by an annual levy payable by each water service provider.

LinkWater submitted a QWC levy of $10.6 million, based on a 2.5% increase relative to 2011-12.

The Authority notes that QWC has not yet finalised it budgeting for 2012-13, and has not provided an estimate of the 2012-13 QWC levy at the time of the Authority's Draft Report. The Authority therefore accepts LinkWater's submission of a 2.5% escalation to the 2011-12 QWC levy as an interim estimate. The Authority understands that the QWC will be able to provide a finalised 2012-13 levy estimate for the Final Report.

The Authority's proposed recommended allowable costs are given in Table 5.33 below.

Table 5.33: LinkWater's 2012-13 Allowable Costs ($m)

Allowable Cost	*Value*
Queensland Water Commission Levy	10.6
Insurance Excess	0.2
Efficiency Gain From Moving to a Market Contract for Electricity	0.3
Total	11.1

Note: these figures may not add due to rounding.

5.7 Revenue offsets

LinkWater submitted that for 2012-13 it expected to receive revenue for non-regulated activities for telephone masts, and easements and other landholder services. As is consistent with the approach outlined in Chapter 3, the Authority recommends that 50% of the revenue ($79,647) should be offset against water charges while 50% should be retained by LinkWater to provide the incentive to utilise assets. Table 5.34 below presents this expected revenue.

Table 5.34: Revenue offsets

Item	*Total Revenue*	*Revenue to be offset against GSCs*
Easements and other Landholder Services	100,000	50,000
Phone Masts Income	47,347	23,647
Total	**147,347**	**73,647**

5.8 Summary of GSCs for 2012-13

LinkWater's proposed notional building block revenue requirement for 2012-13 is shown in Table 5.35.

The Authority's recommended GSC is $234,781,645 compared to LinkWater's proposed $227,597,742. Despite the Authority's recommended downward revisions to several of LinkWater's proposed costs, LinkWater's recommended capital charge is higher than 2011-12, and higher than that proposed by LinkWater, due to the correction of a computational modelling error in 2011-12.

The Authority's draft recommendation is that LinkWater's Grid Service Charge for 2012-13 is $234,781,645, summarised in Table 5.35 below.

Table 5.35: LinkWater's Revenue Requirements ($)

Revenue Component	*Approved 2011-12*	*Estimated Actual 2011-12*	*LinkWater Proposed 2012-13*	*QCA Draft Recommendation 2012-13*
Return on Drought RAB	$100,599,218	$102,962,626	$122,369,214	$125,365,834
Return on Non-Drought RAB	$56,475,071	$57,934,993	$57,394,146	$58,340,347
Depreciation	$42,564,186	$43,785,091	$51,700,070	$52,746,367
Asset Appreciation	-$52,624,338	-$53,952,261	-$62,922,855	-$64,677,614
Historic Adjustments	0	0	-241,202	$3,737,426
Working capital	$2,181,002	2,202,115	$2,191,304	2,430,467
Capital Charge	$149,195,139	$152,932,564	$170,731,879	$177,942,827
Fixed Operating Costs	**$43,007,592**	**$43,007,592**	**$42,983,452**	**$42,742,204**
Variable Operating Costs	**$2,520,866**	**$2,520,866**	**$2,852,922**	**$2,825,922**
Allowable Costs	**$10,975,000**	**$7,159,000**	**$11,270,692**	**$11,270,692**
Total GSC - Maximum Allowable Revenue	$205,698,597	$205,620,022	$227,597,742	$234,781,645

6. DUPLICATION OF EFFORT

6.1 Duplication of effort

The Direction Notice requires the Authority to provide advice on potential efficiency improvements and business savings based on good industry practice.

For this purpose, the Authority sought to identify any duplication of effort relating to fixed operating costs between GSPs, Seqwater and LinkWater, their contractors and the WGM.

6.2 SKM's Review

SKM reviewed each entity's roles and responsibilities, their organisational charts and descriptions of objectives for each of the positions in order to identify the common objectives and areas of responsibilities between the different organisations. SKM was then able to identify those areas within these entities where duplication of effort might be expected to exist.

In an assessment across 29 activity areas at Seqwater, its alliance contractors and the WGM, SKM identified 24 areas that potentially contain varying degrees of duplication. Of the 25 activity areas assessed at LinkWater, its alliance contractors and the WGM, SKM identified 18 areas that potentially contained varying degrees of duplication.

Table 6.1 below provides a summary of each of the areas that SKM has identified where potential duplication exists across the GSPs, their alliance contractors and the WGM. Also included in the table is a guide to potential cost savings that could be achieved ('$' for minimal cost savings to '$$$' for major cost savings). SKM has not quantified the magnitude of saving expected or associated in defining each category.

SKM's assessment of Seqwater, its alliance contractor and the WGM identified three areas where major cost savings could be expected (Agency Contract Management, Asset Planning Strategic and Asset Planning Capital), 11 areas where reasonable cost savings could be expected and 10 areas where minimal cost savings could be expected.

SKM's assessment of LinkWater, its alliance contractors and the WGM found the potential cost savings that could be expected if the duplication of effort was removed to include 11 areas where reasonable cost savings could be expected and seven areas where minimal cost savings could be expected.

SKM noted that for functions of a corporate nature (such as finance and human resources) there will be a tendency for some level of duplication and hence inefficiency arising from having multiple organisational support functions within the water grid. Further, that there would be an element of corporate overhead costs arising from this arrangement that would be associated with the areas of functional duplication.

Table 6.1: Activities of Potential Duplication of Effort Identified by SKM

Activity Area	*Water Grid Manager*	*Seqwater*	*Veolia Water*	*Cost Savings Potential*	*LinkWater*	*United Utilities & Transfield Services*	*Cost Savings Potential*
Administration	✓	✓	✓	$$	✓	✓	$
Agency Contract Management	✓	✓		$$$	✓		$$
Asset Engineering		✓	✓	$$			
Asset Maintenance EMC		✓	✓	$			
Asset Maintenance I&C	✓	✓	✓	$	✓		$
Asset Planning Strategic	✓	✓		$$$	✓		$$
Asset Planning Capital		✓	✓	$$$	✓	✓	$$
Compliance Management and Regulation	✓	✓		$$	✓		$
Corporate Governance	✓	✓		$	✓		$
Corporate Knowledge Management	✓	✓		$$	✓		$$
Corporate Support	✓	✓		$$	✓	✓	$$
Environment and Sustainability		✓	✓	$			
Finance	✓	✓	✓	$$	✓		$$
Human Resource Management	✓	✓	✓	$	✓		$$
Information and Communication Technology (ICT)	✓	✓	✓	$$	✓		$$
Legal Services	✓	✓		$	✓		$
Operations Pipe Networks		✓	✓	$			
Operations Water Treatment Plants		✓	✓	$			
Procurement		✓	✓	$			
Project Delivery		✓	✓	$$	✓	✓	$$
Relationship management	✓	✓		$$	✓		$$
Research		✓	✓	$			
Risk Management	✓	✓		$$	✓	✓	$
Water Quality Management	✓	✓	✓	$$	✓		$$

Activity Area	*Water Grid Manager*	*Seqwater*	*Veolia Water*	*Cost Savings Potential*	*LinkWater*	*United Utilities & Transfield Services*	*Cost Savings Potential*
Workplace Health and Safety					✓		$

6.3 Duplication of effort by the WGM and GSPs

Table 6.2 below lists the activity areas that SKM has identified as containing the most duplication of effort between the GSPs and the WGM.

Table 6.2: Duplication of activities by the WGM and GSPs.

Activity Area	*Description of duplication*	*Organisation*
Agency Contract Management	The WGM has this function to manage the standardised contracts it has with grid participants and customers to ensure compliance, and manage related issues as they arise. Seqwater has a team that manages projects involving infrastructure ownership and associate property or commercial matters. The majority of these projects involve liaison and negotiation with the distribution/retail entities, LinkWater and/or the WGM. LinkWater also has a function for contract management with other agencies. The existence of these services in each organisation by its nature would suggest that there is a duplication of effort and cost that would not be evident if a whole of grid organisation were to provide the same service.	WGM, Seqwater, LinkWater
Asset Planning (Strategic)	The WGM provides a holistic view to strategic planning through the policy team of the Operations Department. Seqwater's Asset Delivery area has the responsibility for strategic planning for the asset portfolio, which is split across its Asset Policy and Strategy Team, the Integrated Asset Planning Team and Program Management Office, and to a lesser extent the Strategic Maintenance Team. LinkWater's Operational Services area has a role in infrastructure planning through system modelling and strategic assets management via asset capital planning. The existence of these services in each organisation by its nature would suggest that there is a duplication of some cost that would not be incurred if a whole of grid organisation were to provide the same service.	WGM, Seqwater, LinkWater
Asset Maintenance I&C	The WGM's Risk and Technology unit has a role in influencing grid wide SCADA and technology adoption. Seqwater has a number of functions regarding SCADA: SCADA inter-site network management and support in its Business Services, ICT services area. SCADA Maintenance in its Water Delivery, Infrastructure Maintenance area and SCADA systems project delivery in its Asset Delivery area. LinkWater's has a role in SCADA controls and system engineering in its Operational Services, Service delivery area. The existence of these services in each organisation would suggest that there is a duplication of some cost that would not be evident if a whole of grid organisation were to provide the same service.	WGM, Seqwater, LinkWater

Activity Area	*Description of duplication*	*Organisation*
Compliance Management and Regulation	The WGM's Governance and Regulatory Compliance area manages and coordinates compliance reporting across all of its business units. Seqwater's Governance and Compliance area provides oversight and leadership in Seqwater's corporate governance and compliance programs including establishing the appropriate framework & programs, reporting, monitoring and ongoing improvement. From a projects perspective, it undertakes compliance activities relating to the Market Rules such as ensuring compliance with all metering standards. It also undertakes ASIC Reporting in its Office of the CEO. LinkWater undertakes a regulatory reporting and compliance in its Business Services area. The existence of these services in each organisation by its nature would suggest that there is a duplication of some cost that would not be evident if a whole of grid organisation were to provide the same service.	WGM, Seqwater, LinkWater
Information and Communication Technology (ICT)	The WGM's Risk and Technology unit performs ICT and project delivery services at both an organisational and whole-of-grid level. Seqwater's Business Services/ICT services area performs server and network infrastructure and network architecture. LinkWater's Corporate Services Knowledge area performs roles in IT project management and IT systems coordination. The existence of these services in each organisation by its nature would suggest that there is a duplication of some cost that would not be evident if a whole of grid organisation were to provide the same service.	WGM, Seqwater, LinkWater
Relationship management	The WGM's Communications Unit provides media relations, branding, marketing and proactive communication activities. Seqwater's Organisation Development area undertakes functions in corporate and community relations, internal and external communications and stakeholder engagement. LinkWater's Corporate Services area performs a role in communications and community stakeholder engagement. The existence of these services in each organisation by its nature would suggest that there is a duplication of some cost that would not be evident if a whole of grid organisation were to provide the same service.	WGM, Seqwater, LinkWater
Risk Management	The WGM performs risk and emergency management functions. Seqwater has risk management located within the legal and risk team with a focus on insurance, fraud and critical infrastructure and risk education. LinkWater's Operational Services area provides a role in emergency operations support. The existence of these services in each organisation by its nature would suggest that there is a duplication of some cost that would not be evident if a whole of grid organisation were to provide the same service.	WGM, Seqwater, LinkWater
Water Quality Management	The WGM's Operations unit performs water quality, water quality monitoring and compliance functions. Seqwater's Water Delivery/Water Quality and Environment area has a Water Quality team which manages and implements its overarching water quality and ensures it is aligned with the expectations of key stakeholders. This team is also responsible for related laboratory services, data management, implementation of drinking water management plans and environmental compliance. LinkWater's Operational Services area also has a role in water quality and compliance. This activity would merit a further investigation to indentify the areas that would be	WGM, Seqwater, LinkWater

Activity Area	Description of duplication	Organisation
	duplicated.	

SKM noted that it is possible that some of the areas discussed above would be related to inter-organisational support functions for a developing business process, even if a single whole of grid organisation existed.

6.4 Duplication of activities between the GSPs and their alliance contractors

Seqwater and Veolia Water

SKM identified the following activity areas as likely containing the greatest scope for cost savings between Seqwater and its major service provider, Veolia:

(a) Asset Engineering: Seqwater and Veolia Water have engineering support teams. Seqwater has two areas, one which deals with the manufactured water assets and the other which deals with the "natural" water production assets. Veolia has a functional requirement related to the day-to-day operations of the manufactured water assets, building business cases for equipment changes to improve operation and managing the project delivery for approved projects.

Under this arrangement, Seqwater contractually has the responsibility to provide a management mechanism by which the Veolia proposals are approved or rejected or modified to an acceptable outcome. As such, SKM stated that this activity merits further investigation, as in SKM's view there is duplication of effort in this activity;

(b) Asset planning for capital projects is an area where both organisations have at least one business unit (the Integrated Asset Planning team and Project Delivery Team in Seqwater and the Technical Warranty and Development team in Veolia) performing a number of activities associated with this function;

While each organisation is responsible for different assets, duplication is likely where the two business processes converge for approval and authorisation to proceed. SKM considers that there is likely to be a high amount of duplication of effort in this activity;

(c) Corporate functions, such as Administration and Finance exist in both organisations, while in part providing independent functions to their respective entities, similar skills and function duplication would likely exists and therefore contain sufficient numbers of full time equivalents as to merit further investigation;

(d) Project Delivery: Seqwater's project delivery team has primary responsibility for delivery of capital projects, however, Veolia is also responsible for project closures and defects liability periods.

Due to the nature of the business process employed in the delivery of projects, it is likely that duplication of effort would occur;

(e) Water Quality Management: Seqwater and Veolia both have water quality responsibilities. Seqwater has a Water Quality and Environment team, while Veolia has

both an Environment Management Team and a Technical Process Laboratory which focus on the manufactured water assets.

LinkWater, United Utilities and Transfield

SKM identified the following activity areas as likely containing the greatest scope for cost savings between LinkWater and its major service providers (Transfield Services and United Utilities):

(a) Asset planning capital: LinkWater provides this activity through the infrastructure planning team in the Operational Services Department. United Utilities is required to provide proposals, scopes and pricing for additional works under the Operation and Maintenance deed. The business process for this function has the planning being performed by LinkWater and the result of this planning (depending on value) provided to United Utilities for pricing. A duplication of effort is likely in this area arising from the need for LinkWater to review and verify the proposals for capital works proposed by United Utilities;

(b) Corporate functions such as Administration, Human Resource Management and Finance exist in both organisations while in part providing independent functions to their respective entities, similar skills and function would exist and contain sufficient numbers of full time equivalents as to expect duplication of effort;

Project delivery: the Operations and Maintenance Deed between LinkWater and United Utilities requires United Utilities to undertake similar project delivery activities to those undertaken by LinkWater's. In particular, LinkWater's Project Services area provides project management, contracts management, cost control, systems and quality and procurement processes. A clause in the Operations and Maintenance deed requires United Utilities to undertake similar project delivery activities. SKM therefore consider the effort duplication to be worthy of further investigation.

6.5 Authority's Analysis

SKM's review is not sufficiently detailed to establish whether duplication of effort exists and cost savings could be achieved.

The Authority considers that, given that the potential cost savings identified by SKM are indicative rather than quantified, it is not appropriate to adjust its draft recommendations at this stage.

The Authority proposes to progress its review in more detail for the Final Report.

7. REVIEW THRESHOLDS

7.1 Introduction

The Review Thresholds define the circumstances and timing under which any review of GSCs recommended for a particular year may be undertaken.

Under the Ministerial Direction, the Authority is required to develop a process, and appropriate review thresholds, for reviewing the 2012-13 GSCs.

7.2 Process

The Market Rules define a process for reviewing GSCs which is consistent with that used in 2011-12. That process was accepted by the Price Regulator. The Authority sees no reason to vary that process, as outlined below.

Review of GSCs

The Market Rules (s. 8.7) state that the Price Regulator may direct the Authority to review GSCs at any time if:

(a) the Price Regulator is made aware of any change that it considers to be sufficiently material to justify an additional review of GSCs; or

(b) a GSP or the WGM makes an application to the Authority for a review in accordance with the Market Rules (s. 8.15).

Application for Review of GSCs

Upon receipt of an application for review, the Authority:

(a) may request information that is required to determine GSCs (s. 8.9). Details of the information to be incorporated in submissions appears further below;

(b) shall apply such of the principles and procedures in the Market Rules (ss. 8.9–8.14) as it shall consider relevant in determining the merits of such application; and

(c) upon completion of its investigation, make a recommendation to the Price Regulator as to whether any revisions to the GSCs should be allowed.

Amendment of Review Thresholds

The Market Rules (s. 8.15) also state that the Authority may (and must, if so directed by the Price Regulator), when investigating GSCs determine, vary and notify a Review Threshold for all or some components of GSCs.

When doing so, the Authority must:

(a) circulate a draft of the proposed Review Threshold; and

(b) allow GSPs and the WGM an opportunity to comment on the proposed Review Threshold.

The Authority may, in its sole discretion, accept or reject some or all of the comments made by GSPs or the WGM or initiate its own amendments to the draft. The Authority shall notify its

determination of the proposed Review Threshold when it finalises its report to the Price Regulator.

7.3 Review Events and Thresholds (2011-12)

For 2011-12, the nature of the events which could require a review of GSCs (Review Events) and the associated thresholds over which a review might be triggered (Review Thresholds) were defined by the Authority with reference to an earlier version of the Market Rules. These Review Thresholds were developed in consultation with stakeholders.

These were subsequently accepted by the Price Regulator.

The Authority's 2011-12 recommendations are summarised in Table 7.1 below.

Table 7.1: 2011-12 Review Thresholds

Review Event	*Eligible Cost category*	*Review Threshold*
Change in law or policy, or Government specified emergency event	All	Zero, with assessment to be undertaken at end of regulatory period unless cost impact (in combination with impact of other Events) is 5% of GSC in which case assessment will commence on the date of the GSC's request.
Change in Demand or Supply Source (applications by GSPs).	Variable Operating Charge	As above
Change in Demand or Supply Source (applications by WGM)	Variable Operating Charge	As above
Change in Cost of Debt	Capital Charge	As above
Change in RAB	Capital Charge	As above
Change in actual capex from that initially estimated	Capital Charge	As above

7.4 Review Events (2012-13)

Nature of Changes from 2011-12

For 2012-13, the Authority has sought to:

(a) address additional matters raised by stakeholders (clarification);

(b) remove references to previous Market Rules and an associated Manual (simplification);

(c) more clearly identify separate categories of review events (specificity); and

(d) remove unnecessary constraints related to the nature of the costs affected by review events. Essentially, leaving it up to the GSP to identify and justify the nature of the costs affected.

Notwithstanding these changes, the essential nature of the Review Events and their proposed treatment has not changed from 2011-12.

Changes in Law or Government Policy

Changes in law or Government policy are beyond the control of the GSPs, although GSPs are able to ensure that their response is prudent and efficient.

Recent relevant examples of changes in law or government policy include:

(a) requirements for impact assessments and potential dam upgrades in response to the *Water Supply (Safety and Reliability) Act 2008*; and

(b) costs relating to the merger of Seqwater and WaterSecure under the *South East Queensland Water (Restructuring) Regulation 2011*.

The Authority considers that, in a competitive market, the prudent and efficient costs arising from such events would apply to all service providers and would be passed through to customers.

Emergency Events

In the 2011-12 investigation, the emergency events and changes in law and government policy were addressed as a single Review Event.

Emergency events, such as the January 2011 floods, have the potential to require responses from GSPs. This may include activation of emergency response plans, staff overtime and rectification costs.

An emergency event is an incident that impacts on water quality, water supply reliability and/or public reassurance, and can have a differential overall severity rating (see SEQ Water Grid Emergency Response Plan[4]) which may affect the need for and nature of a response.

Where the GSP is not at fault for the emergency event, all prudent and efficient costs incurred in response to the emergency event should be recovered by the GSP.

Feedwater Quality Event

In the 2011-12 investigation, the Authority addressed feedwater quality in combination with emergency events. As submitted by Seqwater in 2011-12, feedwater quality is not necessarily correlated with emergency events. In contrast to emergency events, a feedwater quality event may increase treatment costs without affecting the water quality or water security achieved by water users.

The Authority notes that the quality of input water into Seqwater's treatment processes is largely outside of Seqwater's control. Seqwater does manage catchments to varied extents around its storages, but cannot influence other contributing factors to feedwater quality such as weather and topography.

This is primarily relevant to freshwater extracted from rivers and dams which may decline in quality due to rainfall, algal, flooding or run-off events. The Authority considers that this could also possibly apply to seawater input to the Gold Coast Desalination Plant, and the treated wastewater that feeds the WCRWS.

A reduction in the quality of feedwater is expected to impact costs associated with treatment chemicals and sludge disposal. The Authority considers that, to the extent this cost impact is

[4] http://www.floodcommission.qld.gov.au/__data/assets/file/0019/8038/Seqwater_Supplementary_Submission_Att_13.pdf

outside of Seqwater's control and that Seqwater's response is prudent and efficient, Seqwater should fully recover this cost.

Changes in Forecast Demand or Water Source

Under the Direction Notice, GSPs are not to be subject to volume or source risk whether in total or across production or dispatch points over the regulatory period.

The use of actual (rather than forecast) volumes for billing purposes was employed during the 2011-12 year, and successfully reduced the within-period volume and source risk borne by GSPs. The Authority therefore recommends that 2012-13 variable operating costs are invoiced (monthly in arrears) to the WGM based on actual volumes and recommended $/ML unit rates.

The Authority also acknowledges that the actual $/ML unit rates may differ from those recommended by the Authority due to a change in demand or water source. For example, the unit rates of operating the desalination plant vary significantly with throughput rates. Further, higher than anticipated demand may reduce GSPs' ability to rely on gravity feed and cause an increase in per ML pumping costs.

As the volume and source of water demand are established by the WGM and therefore are outside of the GSPs' control, the Authority recommends that prudent and efficient costs arising from a change in demand or source be fully recovered by GSPs.

Changes in the Cost of Debt

Under the Direction Notice, the Authority is required to ensure that asset returns are equal the actual cost of debt in order for the GSPs to be immunised from interest rate exposure. The Authority notes that the cost of debt rate of return applied to drought assets and the cost of debt component of the WACC provided by QTC are forecasts, and may change during the course of 2012-13.

As a consequence, the Authority recommends that any change in the cost of debt be fully reflected in the GSCs recovered by the GSPs. The Authority will seek QTC's assistance in verifying any change in the cost of debt.

Under- or Over-Spend of Capital Expenditure

Stakeholder Submissions

LinkWater (2012) requested the Authority's advice on when eligible over-spent capital expenditure will be rolled into the RAB. LinkWater noted the timing difference between when capital expenditure was incurred and any ex-post assessment by the Authority.

Authority's Analysis

The Authority's recommended GSCs are based on forecasts for capital expenditure that are likely to vary from actual costs incurred throughout the period. The Authority considers that the capital expenditure risk can be controlled, to a certain extent, by GSPs.

However, the Authority considers that GSPs should receive a Capital Charge consistent with actual prudent and efficient capital expenditure from the date of its inclusion in the RAB. This is likely to require an ex-post review of actual 2012-13 capital expenditure to ensure GSPs recover only prudent and efficient capital expenditure.

In response to LinkWater's submission, the Authority notes it was required to include capital expenditure in the RAB at its commissioning date as part of the 2011-12 investigation. While

that particular component of the Ministerial Direction was not included for the 2012-13 investigation, the Authority believes that, for consistency, the actual commissioning date of the asset remains the appropriate date for inclusion of capital expenditure in the RAB. That is, GSCs will be adjusted retrospectively to take account of the actual prudent and efficient capital expenditure from the corresponding actual commissioning date.

Non-Review Events

As for 2011-12, the Authority expects that fixed operating costs will vary from forecast for reasons other than a Review Event. The Authority considers it appropriate that GSPs bear and manage this risk. However, as noted previously, where GSPs can make efficiency savings (including to fixed operating costs) GSPs should be able to retain 100% of their saving in the year it was achieved and 50% in the following year if achieved as a result of specific initiatives put in place by GSPs.

7.5 Review Thresholds (2012-13)

Framework and Approach

As in 2011-12, the Authority notes the limited magnitude of the risks assumed by the GSPs. In particular:

(a) the GSCs are currently calculated annually using the latest available estimates of efficient costs. This differs from most regulated entities which have their efficient costs reviewed every three to five years;

(b) the GSPs do not bear a number of risks normally borne by regulated entities. In this regard:

  (i) the GSPs are not to bear any volume or source risk;

  (ii) drought assets are to achieve returns equal to the actual cost of debt for each asset; and

  (iii) the GSPs are to be immunised from interest rate exposures, through the full recovery of the actual cost of debt in both the rate of interest payable in respect of drought assets and the interest rate incorporated in the WACC applicable to non-drought assets; and

(c) the 1 July 2011 opening RAB is not to be optimised.

As such, the GSPs' major risks relate to:

(a) any under- or over-expenditure of fixed operating costs in 2012-13 that is not subsequently addressed in the calculation of GSCs in future reviews;

(b) the temporary impact on free cash flows due to a cost variation in 2012-13 that is subsequently addressed in the calculation of GSCs in future reviews; and

(c) capital and operating expenditure that is not considered to be prudent and efficient. This is a risk that should not be compensated for.

End-of-Period Review

As in 2011-12, given the limited magnitude of the risks to be assumed by the GSPs, and having regard to the cost of regulation, the Authority proposes that the most appropriate way to ensure

GSPs recover their prudent and efficient costs is to adjust 2012-13 GSCs at the end of the period. The Authority recommends that GSPs submit Review Submissions for the 2012-13 GSCs as part of their regulatory submissions regarding GSCs from 1 July 2013.

To allow GSPs to fully recover prudent and efficient costs related to Review Events, the Authority will consider all submissions, regardless of materiality. In other words, the Authority proposes a zero Review Threshold for all end-of-period reviews.

The changes in costs should be applied from the date the additional costs are incurred (or commissioned in the case of capital expenditure).

Within-Period Review

Stakeholder Submissions

As part of its 2012-13 submission, LinkWater argued that the Authority's Review Threshold for within-period adjustment during 2011-12 of 5% was too high. LinkWater submitted that to trigger this level would require an increase in fixed operating costs of over 20% or a capital expenditure impact larger than its entire capital expenditure program. LinkWater submitted that recent decisions by the AER and the Authority's GAWB recommendation have adopted a threshold of 1%. LinkWater proposed that 1% would therefore be a more appropriate Review Threshold.

Authority's Analysis

The Authority notes that the within-period review mechanisms were not triggered in 2011-12.

It is considered that Review Events should only be considered within a regulatory period if a GSC's free cash flows have been materially affected.

The Authority is aware that the GSPs' free cash flows are quite constrained as:

(a) the return on drought assets is limited to the actual cost of debt;

(b) drought assets account for 65% of the RAB across the Grid. The proportion of drought assets held by GSPs is 62% for Seqwater and 71% for LinkWater; and

(c) the GSPs carry a high level of debt as determined by Government (about 90%).

The Authority's modelling estimates free cash flows of the order of 12% of the total GSC for Seqwater and 8% for LinkWater. The Authority therefore considers that a within-period review should only be undertaken if the financial impact of Review Events is likely to account for at least 5% of a GSP's GSCs. This threshold is lower than GSPs' estimated free cash flows and is consistent with that adopted in 2011-12.

In response to LinkWater's submission that a 5% threshold is too high, the Authority notes that the electricity distributors regulated by the AER and the GAWB face a five-year regulatory period, rather than the one-year periods faced by LinkWater. Therefore, the average length of time that LinkWater will be forced to fund an unexpected cost impact before its charges are adjusted is much shorter.

The Authority also notes that the regulatory cost of a GSCs review is not trivial, and that for the end-of-period review a Review Threshold of 0% is recommended (as discussed in the previous section). Cost changes that qualify as a Review Event will therefore only be borne by GSPs until the end of period. Further, the Authority recommends that adjustments to GSCs to account for Review Events are neutral in NPV terms, meaning that the timing of any review of GSCs is

immaterial. As a result, the Authority considers that a Review Event will only have a detrimental effect on the GSPs' financial sustainability if it exceeds their available cash-flows. The Authority therefore proposes to continue to set one-year Review Thresholds based on an analysis of GSPs' free cash flows.

The Authority considers that a Review Threshold of 5% for a one-year regulatory period is reasonable in all the circumstances.

7.6 Summary of Review Thresholds

A summary of the proposed Review Events and Thresholds appears in Table 7.2 below.

Table 7.2: Summary of 2012-13 Review Thresholds

Review Event	*Review Threshold for end-of-period review*	*Review Threshold for within-period review*
Change in law or Government policy	Zero	5% of total GSCs
Emergency event	Zero	5% of total GSCs
Feedwater quality event	Zero	5% of total GSCs
Change in demand or source	Zero	5% of total GSCs
Change in cost of debt	Zero	5% of total GSCs
Under- or over-spend of capital expenditure	Zero	5% of total GSCs

7.7 Review Submissions

As for 2011-12, in order to facilitate such a review of GSCs, the Authority recommends that GSPs and the WGM provide a Review Submission, with details including:

(a) demonstration of the business case for expenditure, including justification of the expenditure in terms of the GSP's approved strategic and operational plans;

(b) demonstration that the expenditure is the most effective means of achieving the required outcome;

(c) demonstration of compliance with internal governance (including board approvals), business case approvals, procurement, and project management processes and audit;

(d) where a significant emergency event has occurred, demonstration of how the additional costs are required to meet the requirements of the SEQ Water Grid Emergency Response Plan; and

(e) detailed supporting documentation enabling independent engineering review or other assessment of the reasonableness of capex or opex (with relevant details as indicated in earlier chapters).

Review Submissions should be certified by the Board of Directors as with any submission relating to the setting of GSCs.

In recommending an adjustment to GSCs, the Authority will seek to ensure that only prudent and efficient costs relating to a Review Event are recovered by GSPs. The Authority may require additional information on a case by case basis in order to properly assess claims by GSPs or the WGM.

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