Submission to Draft QCA Report

31 January, 2018

seqwater
WATER FOR LIFE

SOURCE STORE SUPPLY

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1 Introduction

The Queensland Competition Authority (QCA) published its draft report for Seqwater's bulk water prices in December, 2017 and invited submissions to this report by the 31st January, 2018.

This is Seqwater's submission to the draft report.

Overall, the QCA recommended a maximum allowable revenue (MAR) that was 3.5% lower than Seqwater's proposal over the 10 years to 2028, and 1.4% lower than Seqwater's proposal over the next regulatory period (2018-19 to 2020-21).

While Seqwater accepts many aspects of the QCA's findings and recommendations, we have concerns about certain aspects of the recommended MAR, in particular:

- the exclusion of certain operating expenditure (opex)
- the methodology and outcomes used for assessing the efficiency of capital expenditure (capex), noting the vast majority of proposed expenditure was assessed as prudent
- the approach for setting the Market Risk Premium in the weighted average cost of capital (WACC).

This submission sets out these concerns and suggests alternative proposals.

The QCA also invited Seqwater to further justify our proposed ongoing efficiency target of 0.2% per annum, and this submission sets out our response.

In our July 2017 submission, and in the QCA's draft report, we foreshadowed that we would make certain additional proposals for consideration by the Authority, which are also set out in this submission.

Based on the above, we have structured this submission as follows:

- Section 2 sets out our responses to the QCA's recommended opex allowance
- Section 3 provides additional justification for Seqwater's proposed ongoing opex efficiency target of 0.2%
- Section 4 addresses the QCA's recommended capex allowance
- Section 5 responds to the recommended WACC
- Section 6 sets out our response to the proposed framework for Review Events, and proposes a methodology for calculating claims for extraordinary raw water quality events in particular
- Section 7 presents our additional proposals for recovery of operating costs arising from major shutdowns and provision of recycled water from the Western Corridor Recycled Water Scheme (WCRWS), and also presents a proposed framework for prudent discounting
- Section 8 is our response to the QCA's approach for setting the opening price path debt balance at 1 July, 2018.

Our submission includes two attachments with supporting information and analysis:

- advice from Frontier Economics on the market risk premium parameter for the Weighted Average Cost of Capital. (Attachment 1)

- Seqwater's procedure for tracking expenditure associated with extraordinary water events. (Attachment 2).

2 Operating expenditure

This section responds to the draft report's recommendations for opex, in particular the exclusion of some of our proposed one-off adjustments and step changes.

2.1 Base year and step changes

The draft report:

- proposed a reduction to the base year fixed expenditure of $0.6M per annum, based on KPMG advice that this expenditure was not recurrent in nature
- accepted the base year variable costs, but removed Seqwater's proposed contingency for chemical costs arising from dirty water events of $1.2M.

Seqwater accepts both of these findings. In relation to variable costs, Seqwater notes that QCA proposed that contingency costs continue to be claimed under the Review Event arrangements. Accordingly, we have proposed a methodology for calculating claims for additional costs arising from extraordinary raw water quality events in Section 6 of this submission.

However, we submit that certain costs put forward as one-off costs excluded by the QCA in the draft report should be included into the opex allowance. These are set out below.

2.1.1 Step changes and one-off costs considered base year expenditure

Seqwater undertook a rigorous process to identify changes in expenditure over the 10 year price path period that would change the base year expenditure. As noted by the QCA, the review consultants KPMG accepted some of these adjustments but re-categorised and included them into the base year.[1]

However, the draft report instead recommended that these items not be recovered at all, and excluded them from both step changes and the base year:

> *Where KPMG has assessed a step to be a typical operational activity and ongoing in nature, it has recommended that the step not be accepted but that an adjustment be made to base opex to account for the expenditure. However, we consider steps associated with typical operational activity are business-as-usual activities. We do not consider that step changes are an appropriate mechanism for allowing the pass-through of annual budgeted costs associated with baseline business activities. We would expect Seqwater to meet these costs within its base operating cost allowance.*[2]

This has resulted in around $5.6M of expenditure we (and KPMG) would consider as prudent and efficient and included into the opex allowance over 10 years. The components are set out below:

- Gold Coast Desalination Plant (GCDP) and WCRWS year-on-year changes ($4.2M)
- provision of additional drafting services ($0.6M)
- integrated master plan updates ($0.3M)

[1] KPMG (2017). Seqwater expenditure Review. Prudency and Efficiency Assessment. (pp178 – 184)
[2] Queensland Competition Authority (2017). Seqwater Bulk Water Price Review 2018- 2021, Draft Report. p22.

- EBA advice ($0.5M).

These costs were deliberately kept out of the base year, and separately identified in the year they would occur, to enhance transparency of the base year and future expenditure.

For example, Seqwater forecast changes in operating costs for the Gold Coast Desalination Plant and Western Corridor Recycled Water Scheme over the 10 year price path period to 2028, as required under the Referral Notice. Each asset is maintained in accordance with the state of readiness required under the Water Security Program.

The GCDP is kept in hot standby mode, ready to increase production if and when required to address water quality issues and supplement water production in the event that key storages reach regional drought trigger levels. The projected costs assume that hot standby operations will continue and that the plant will deliver, as part of maintaining its readiness, approximately 450 ML each year during the review period. This mode of operation is consistent with the Water Security Program.

The WCRWS is maintained under a "Care and Maintenance mode" with the renewal and replacement (R&R) strategy focussed on the assets required to maintain a reasonable level of service and meet the scheme shutdown requirements. The asset is maintained to allow it to be brought back into full service within 24 months of notice issued by Seqwater.

Seqwater prepared a detailed forecast for these two plants based on the above states of readiness. These forecasts were drawn from maintenance and renewals schedules. The precision of this forecast was evidence of the quality of asset management and forecasting for these assets.

The forecasts were also independently reviewed and verified by Jacobs.

The following tables show the annual changes in fixed opex over the ten year period for each plant, which have been excluded by the QCA in the draft report.

Table 1 - Changes in costs from base year – Western Corridor Recycled Water Scheme ($ nominal)

	Yr 2 2019-20	Yr 3 2020-21	Yr 4 2021-22	Yr 5 2022-23	Yr 6 2023-24	Yr 7 2024-25	Yr 8 2025-26	Yr 9 2026-27	Yr 10 2027-28
Treatment Chemical				31,442					
Sludge and Waste Disposal				3,668					
Employee Cost – Direct			92,100	106,983	121,865	136,747	151,630	151,630	151,630
Water Analysis and Lab Consumable				50,000					

	Yr 2 2019-20	Yr 3 2020-21	Yr 4 2021-22	Yr 5 2022-23	Yr 6 2023-24	Yr 7 2024-25	Yr 8 2025-26	Yr 9 2026-27	Yr 10 2027-28
Preventative repair and maintenance	54,095	23,806	59,920	176,060	29,783	31,403	39,913	38,747	148,102
Projects – repair and maintenance				550,000					
Total additional annual fixed Opex	**54,095**	**23,806**	**152,020**	**918,153**	**151,648**	**168,150**	**191,542**	**190,376**	**299,732**

Note: Main variance occurs in 2022-23 due to planned turnover of the bulk water pipeline west of Bundamba advanced water treatment plant. This is deemed required every five to eight years. Other changes are driven by variances in annual preventative maintenance program and impact of Superannuation Guarantee changes on employee costs.

Table 2 - Changes in costs from base year – Gold Coast Desalination Plant ($ nominal)

	Yr 2 2019-20	Yr 3 2020-21	Yr 4 2021-22	Yr 5 2022-23	Yr 6 2023-24	Yr 7 2024-25	Yr 8 2025-26	Yr 9 2026-27	Yr 10 2027-28
Treatment Chemical		3,127	8,338	12,507	18,760	21,886	26,055	30,224	39,604
Employee Cost – Direct and Indirect			15,797	31,595	47,392	63,190	78,987	78,987	78,987
Preventative Repair and Maintenance	107,222	23,579	-74,524	1,936	-75,388	7,731	125,308	170,520	221,155
Total additional annual fixed Opex	**107,222**	**26,803**	**-50,389**	**46,038**	**-9,236**	**92,807**	**230,350**	**279,731**	**339,746**

Note: Annual cost changes driven by variances in annual preventative maintenance program and impact of Superannuation Guarantee changes on employee costs.

As noted above, KPMG accepted these costs as legitimate but recommended they be annualised and added to the base year.[3]

[3] KPMG (2017). Refer to Table 85

The other three items relating to EBA advice, additional drafting services and integrated master plan updates (in total $1.4M) were also generated from a detailed review of changes in costs, and were accepted by KPMG as legitimate expenditure, with the allowance included into the base year.

While we are indifferent as to whether these items are treated as base year or step change, the opex allowance should provide for their recovery. Moreover, the Referral Notice requires that prices should be set to generate revenue to allow Seqwater to recover prudent and efficient operating costs. There has been no finding that these costs are not prudent or inefficient.

Seqwater therefore submits that the above items are included into the opex allowance, either as converted to a base year opex allowance (as recommended by KPMG[4]) or step change expenditure (as we originally proposed).

The QCA also excluded $1.6M of expenditure over 10 years relating to assessment of major contracts and additional leadership training consistent with KPMG's recommendations. We continue to be of the view that these costs are legitimate and we will need to incur this expenditure at the timelines indicated in our submission.[5] However, having already put our case forward to KPMG and the QCA, we accept (but do not agree with) the QCA's recommendations for these items.

2.1.2 Wyaralong Water Treatment Plant

Seqwater forecast operating expenditure arising from a new Wyaralong Water Treatment Plant (WTP), which is required to meet demand growth in the Beaudesert region.

This operating expenditure is associated with the sampled capex project "Project 1: All pipes – PAA Beaudesert WSZ Upgrade". This capital expenditure for this project was assessed as prudent,[6] however KPMG and QCA found that the efficiency of the project had not been established, mainly due to the preferred option not being articulated and the project program extending beyond 2028.

Seqwater has provided a response to this finding in Section 4. In that response, we highlight that the advances in this project planning which give greater certainty to the timing and scope of the solutions to meeting demand growth in Beaudesert, including construction of the Wyaralong WTP.

KPMG recommended, and the QCA accepted, that the operating expenditure for the WTP should be excluded as the efficiency of the corresponding capex has not been demonstrated.

The need for the WTP, along with the timing, has now been clearly established (section 4), and it is certain that there will be operating expenditure incurred associated with the WTP.

Moreover, the Referral Notice requires the QCA to provide Seqwater with sufficient revenue to recover prudent and efficient opex. Given there is a clear need to augment supply for Beaudesert, the costs of doing so should be recognised and recovered in prices. Seqwater has found that the Wyaralong WTP is the best option, the efficient opex for the WTP should be included into the expenditure forecast to meet the Referral Notice requirements. Seqwater submits that $703k should be included from 2023-24 which is the year following the proposed date of the commissioning of the Wyaralong WTP in 2022-23.

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[4] KPMG (2017). Refer to Table 85

[5] For example, we highlighted that certain very large, operationally significant contracts were due for expiry over the 10 year period, and there are clearly substantial transaction costs associated with re-tendering these arrangements. These costs are lumpy and above and beyond business as usual procurement activities and resourcing.

[6] KPMG (2017). Refer to Table 85

2.1.3 Budget adjustments

In preparing the base year, Seqwater sought to align data in our financial system, through our budgeting process, with the submitted opex. This was a deliberate effort to avoid the problems highlighted by the QCA in the 2015 review, when the quality of data was found to be poor and did not provide suitable audit trails and transparency between Seqwater's proposed expenditure and financial accounts. Since finalising the base year budget for 2018-19 in March 2017, Seqwater found some minor omissions and adjustments to the budget data which were incorporated into our proposed one-off adjustments and step changes. In this case, these items were adjustments to the base year rather than being described as step changes.

In doing so, we sought to maintain the transparency and audit trail back to Seqwater's financial accounts by highlighting these changes as separate items. Table 3 below sets out the three adjustment items.

Table 3 – Minor budget omissions and adjustments ($M nominal)

ITEM	18/19 $M	19/20 $M	20/21 $M	21/22 $M	22/23 $M	23/24 $M	24/25 $M	25/26 $M	26/27 $M	27/28 $M
Adjustment										
Technology Development and Deployment Resourcing (including Monitoring Control Systems) –	0.31	0.32	0.33	0.34	0.35	0.36	0.37	0.39	0.40	0.41
Omission										
Technology Development and Deployment Planning Resourcing - Monitoring Control Systems (correction from CAPEX to OPEX)	0.54	0.55	0.56	0.58	0.60	0.62	0.64	0.66	0.68	0.71
Corporate Strategy and Planning Resourcing	0.28	0.29	0.30	0.31	0.32	0.33	0.34	0.35	0.36	0.37
TOTAL	**1.13**	**1.16**	**1.19**	**1.23**	**1.27**	**1.31**	**1.35**	**1.40**	**1.44**	**1.49**

The QCA draft report the KPMG report indicate that the budget adjustments item should be disallowed due to an inappropriate driver and an ability to establish efficiency. The KPMG report notes the expenditure appears to be corrections of the budget.

Seqwater submits that these items (totalling $12.1M over ten years) should be included into the base year and outer years as per our July 2017 submission. Indeed in hindsight these items should have

been submitted and assessed as part of the base year, rather than as a step change. If assessed as base year expenditure, then we believe these items would have been included on the basis that:

- Seqwater has reduced its costs and the proposed fixed opex expenditure is well below the 2015 regulatory allowance
- overall, QCA accepted Seqwater's base year fixed opex as reflecting a normalised year of efficient opex
- the above adjustments are less than 0.5% addition to that base year
- the above adjustments are recurrent activities that are consistent with base year expenditure.

Notwithstanding the above, further detail for each item is provided below to assist the QCA in its assessment.

Technology Development and Deployment Resourcing

This is an adjustment relating to planning costs for the Monitoring and Control Systems class of assets, and represents the recurrent costs associated with establishing the need and identifying the preferred option for control system replacements and upgrades, prior to commencing design activities. This planning work is ongoing as individual components to the control system reach their end of life, and decisions are needed about renewal and replacement. Planning work is aimed at ensuring the best options are identified, amidst changes in technology, standards and business needs. This work also allows us to better understand the drivers for specific work, the timeframe within which the associated risks should be addressed and the preferred option which in turn informs project timing and a refined estimate.

These costs had been included in 2014-15 ($520k), 2015-16 ($625k) and 2016-17 ($510k) but were mistakenly omitted thereafter. Available historic cost for this activity average $550k however we have only sought a lesser amount representing a revised scope and cost.

Correction from capitalised to operating expenditure

This is a correction to the classification of expenditure for the planning costs for the Monitoring and Control Systems class of assets. A correction to change expenditure mistakenly categorised as capital to operating expenditure in the 2018-19 base year.

Inadvertent omission of corporate planning and strategy resourcing

During 2016-17 Seqwater's Brand and Customer Insights team was abolished as a savings measure. The public education campaign and community research functions of the team were transferred to the Corporate and Community Communications team.

The 'budget adjustment' is the reinstatement of funding ($0.5M per annum) for public education campaigns and community research, which was inadvertently removed from the base year when the Brand and Customer Insights team ceased. The budget for these activities should have been transferred to Corporate and Community Relations team.

Activities funded through this function include public education campaigns, such as the annual public safety campaign 'Play it Safe', which targets the 2.6 million people who visit Seqwater's dams,.lakes and parks each year to raise awareness about the safety risks associated with recreation and promote visitor safety. The 'Play it Safe' campaign supports a reduction in infringement notices to recreational visitors, assists compliance officers and rangers in talking to visitors about safe

behaviours and enables us to work with our partners such as Queensland Police Service in delivering important safety messages.

The funding also pays for Seqwater's ongoing community research program. Seqwater is committed to shaping strategies based on smart insights. Regular knowledge and intelligence gathering through independent community surveys informs decision-making about the management of water assets and delivery of water security. The surveys provide feedback from water consumers and the general community on the business's performance across a range of indicators plus community awareness and viewpoints on water services, demand management options and future water sources. As a bulk water authority, Seqwater does not have direct access to water consumers, so this research program is critical to understanding community attitudes, identifying issues and making business decisions that better reflect the needs of the people we serve.

The reinstatement of the $0.5M opex relating to this public education campaign and community research work is considered essential.

2.2 Input price escalation

Seqwater accepts the price escalation factors in the draft report, noting the most substantial change comes from updates to the (Australian Energy Market Operator) AEMO electricity price forecasts since our July 2017 submission.

We have also separately advised the QCA on a potential, though minor error to the KPMG electricity escalators to correct for the treatment of inflation.

2.3 Revenue and cost offsets

Seqwater accepts the QCA's proposed treatment of high priority customer revenue as a revenue offset as a reasonable alternative to our proposed cost offset approach.

3 Ongoing efficiency target

Seqwater proposed to incorporate a cumulative ongoing efficiency target (which is the ongoing cost savings Seqwater expects to make from continuing efficiency improvements) of 0.2% per annum of controllable costs across the remainder of the price-path period.

We proposed this factor apply to controllable costs, which we defined consistent with the IPART approach for Hunter Water, and represented around 55% of our total opex in the draft report, QCA included contract based costs, variable electricity and chemical costs and other miscellaneous expenditures within controllable opex, raising Seqwater's controllable opex from $134.4M to $211.8M in 2018-19. This represents around 87% of our total opex. We accept this change.

QCA requested additional justification for the 0.2% efficiency factor proposed.

This section provides our further justification for the 0.2% ongoing (or continuing) efficiency target.

3.1 Ongoing efficiency Target

The draft report noted that KPMG had recommended an ongoing efficiency target of 1.0%, which was at the low end of KPMG's observed regulatory precedent of between 0.25% and 2.5% per annum on controllable opex. KPMG stated they:[7]

> *… think that there is a case for a more challenging efficiency target to be applied over the course of the regulatory period. We recommend a 1% per annum continuous target be applied over the coming regulatory period. We note that this recommendation is based primarily on regulatory precedent and industry standards.*

KPMG went on to note that a 1% target reflects a conservative approach which is at the lower end of targets currently being adopted by businesses in other jurisdictions.

Seqwater's further justification to the QCA for its proposed 0.2% target is based on evidence to the contrary. In short, when our proposed target is considered in its proper context with a like-for-like comparison, it is at the upper end of the range applied by other regulators.

We examine the efficiency targets referenced by KPMG as precedent, namely Sydney Water, SA Water, Victorian Urban Water, Water Corporation and Icon Water. We begin by re-stating the basis and context for our proposed target, focusing on the target itself rather than the scope of costs to which the target applies.

3.2 Seqwater's efficiency target

In our submission of July, 2017 we noted that we had achieved and exceeded the catch-up efficiency targets set for us in the previous 2015 Review, and that an aggressive ongoing efficiency target is not warranted. We proposed a cumulative ongoing efficiency target of 0.2% per annum of controllable costs.

For clarity, this cumulative target is additive at 0.2% per annum, as demonstrated in our submission and associated revenue model. This differs from KPMG's interpretation, which was of a static target

[7] KPMG (2017). p185.

0.2% across years.[8] The table below presents the correct interpretation of our efficiency target, compared to the KPMG recommendation.

Table 4 - Seqwater's proposed ongoing efficiency targets (%)

Year	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28
Seqwater proposed	0.0	0.2	0.4	0.6	0.8	1.0	1.2	1.4	1.6	1.8
KPMG recommendation	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

The percentage savings are applied to the nominal controllable cost forecast, which is based on the 2018-19 controllable costs, adjusted year-on-year for escalation. Growth is accounted for through forecasts of increased production, translated to increases in variable costs. Fixed costs are not affected by growth, and only increase according to escalation of input prices. Our approach to growth was supported by KPMG.

3.3 Regulatory precedent and comparisons

KPMG proposed a 1% efficiency target based on a review of regulatory precedent, rather than from a first principles approach (e.g. using Total Factor Productivity). Our further justification is based on addressing the KPMG recommendations, and explaining how our proposal sits within the range of factors applied by other regulators, once other factors are taking into account.

3.3.1 SA Water

KPMG indicated that SA Water was given a 1% per annum continuing efficiency factor for the first two years, and 1.5% in the next two years of the regulatory period. This factor was static, rather than cumulative.

Around 70% of efficiency gains are forecast to be due to increased capex in IT systems, and the specified savings formed part of the justification for the IT investment.[9] Removing these IT investment savings would translate to an equivalent annual target of around 0.3% for two years, and 0.45% for the remaining two years of the four-year regulatory period for SA Water. Seqwater's cumulative targets over the same four year period are higher than those set for SA Water after removing these IT investment-related savings. For example, our target accumulates to 0.4% in the second year and 0.6% in the third year of our regulatory period.

When forecasting OPEX, SA Water first identified a base year, estimated incremental costs required on a bottom-up basis, and finally applied an efficiency factor across the cost base. This approach for cost escalation and growth appears to be similar to Seqwater. Importantly, there is no escalation of fixed costs to account for growth.

[8] KPMG (2017). See Table 88.
[9] ESCOSA (2016). SA Water Regulatory Determination 2016: Final determination.

3.3.2 Victorian Urban Water businesses

KPMG noted that the Essential Services Commission (ESC) proposed an average efficiency factor under the PREMO framework of around 2.0%, with a minimum of 1.0%. These factors are not cumulative, as is Seqwater's proposed 0.2%.

In the latest 2013-2018 regulatory period, the ESC required all Victorian water businesses to achieve a 1% per annum efficiency factor, without differentiating between continuing and catch up efficiency.

When forecasting opex, all utilities used a base-step-trend approach, implicitly applying connections growth to the entire opex cost base (including fixed costs) before applying an efficiency factor.[10] This factor is applied to base year opex, and is effectively a real escalator for fixed and variable costs. The ESC then determines prices in real terms, and applies inflation annually to prices based on actual CPI.

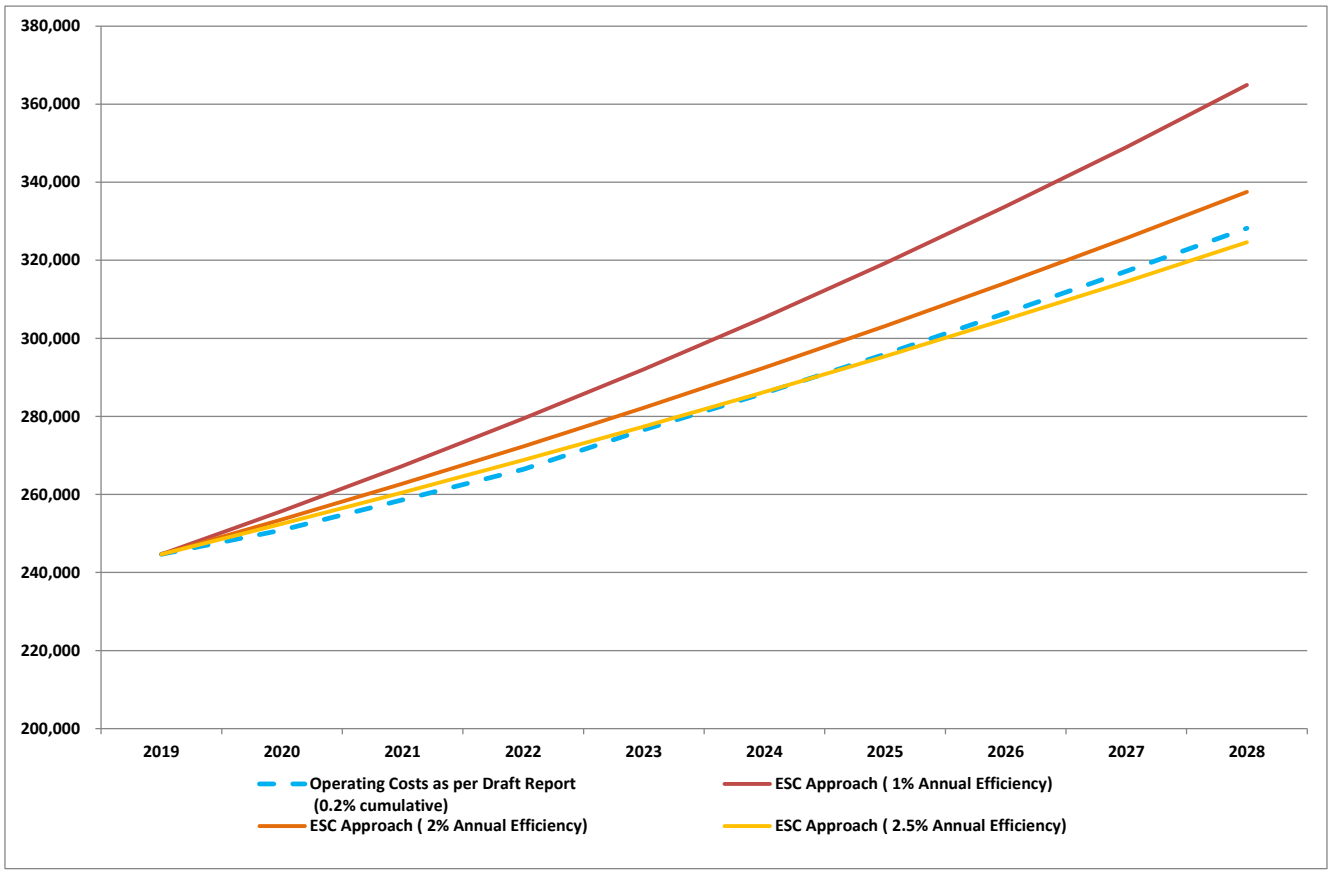
It is critical that the ESC's efficiency factors are viewed within this broader framework for cost escalation, as there are significant differences that distort comparisons. In order to meaningfully compare our proposed efficiency target with those set by the ESC, we have re-created our operating cost factors using the ESC's approach above. This involves:

- examining a range of efficiency factor values from 1% to 2.5% per annum (non-cumulative)
- escalating total operating costs (including fixed opex) in real terms by the volume growth rate projected in our demand forecasts which average 3.3% per annum across the 10-year period[11]
- translating these costs into nominal values over the remaining 10 years of the price path, using forecast inflation[12].

When comparing on this basis, the total operating costs proposed by Seqwater are less than the costs that would result if a 2% efficiency factor applied. That is, our overall proposal for escalating costs and achieving efficiencies results in a better outcome for customers. Figure 1 below illustrates this benefit, comparing the opex outcomes over 10 years using our proposed efficiency and escalation approach, to the ESC approach for efficiency and growth.

[10] Price Review 2013: Greater Metropolitan Water Businesses Final Decision. (Jun 2013). Essential Services Commission, p.73
[11] In developing the ESC comparators, Seqwater have applied the annual average growth rate (3.28%) across the remaining 10 year Price Path period rather than individual year on year demand growth rates given we are dealing with longer timeframes.
[12] This is broadly equivalent to having prices indexed at actual CPI, as occurs for Melbourne water prices.

Figure 1 - Comparison of operating costs under Seqwater and ESC approaches ($'000 nominal)



In closing, Seqwater's proposed ongoing efficiency target when considered in equivalent terms (taking into account differences in approaches to growth and cost escalation) provides a better outcome for customers. Adopting efficiency targets to align with the ESC would be incorrect without making corresponding changes to the underlying opex forecast.

3.3.3 Water Corporation

KPMG indicated Western Australia's Water Corporation was set a 2.5% per annum continuing efficiency target.[13] A connections growth rate was applied to the entire opex cost base (including fixed costs) before applying an efficiency factor.[14]

The above analysis for Victorian urban water businesses also applies for Water Corporation. Our analysis suggests that an efficiency target at 2.5% per annum will give very similar outcomes for customers to Seqwater's proposal for growth and efficiency.

It is also relevant to note that Cardno previously recommended to Economic Regulation Authority (ERA) for a continuing efficiency target of 0.25%, and a catch-up efficiency target of 0.25%, net of connections growth.[15]

[13] We understand this target may have comprised a mix of catch-up and continuing efficiency.
[14] The efficient costs and tariffs of the Water Corporation, Aqwest and Busselton Water: Draft Report. (Aug 2017). Economic Regulation Authority, pp. 41 - 44

3.3.4 Icon Water

KPMG indicated Icon Water was set a 1.75% per annum continuing efficiency target.[16] However, as for Victorian water businesses and Water Corporation, KPMG did not take account of the broader approach for cost escalation and growth.

When forecasting opex, ICON Water used a base-step-trend approach, applying connections growth to the entire opex cost base (including fixed costs) before applying an efficiency factor.[17]

As evidenced above, an efficiency target at 1.75% per annum will give worse outcomes for customers compared to Seqwater's proposal.

3.3.5 Sydney Water

KPMG referred to efficiency factors applied by IPART to Sydney Water at that maxed at 3% per annum in 2020. We understand that IPART set Sydney Water a 0.25% per annum cumulative continuing efficiency target. This is just higher than our proposed target at 0.2%.

When forecasting opex, Sydney Water adopted a bottom-up approach, based on adding business unit specific inputs to develop an overall opex budget. This approach for cost escalation and growth appears to be similar to Seqwater.

Seqwater accepts that our proposed ongoing efficiency target is just below that set for Sydney Water, but only by 0.05%. Moreover the analysis above shows that this target is the upper end of the range of regulatory precedent, when considered on a like-for-like basis after taking into account different approaches to escalating costs for growth and input prices.

3.3.6 Conclusion

The above analysis illustrates that, on a like-for-like basis, our proposed efficiency factor is at the upper end of the range across recent regulatory decisions.

We submit that our approach to forecasting opex, adjusting for growth and escalating input costs combined with our proposed 0.2% cumulative ongoing efficiency target is therefore both challenging and above the industry benchmark.

[15] The efficient costs and tariffs of the Water Corporation, Aqwest and Busselton Water: Draft Report. (Aug 2017). Economic Regulation Authority Western Australia, p.265-266
[16] We understand this target may have comprised a mix of catch-up and continuing efficiency.
[17] 2018-23 Water and Sewerage Price Proposal Attachment 7: Operating Expenditure. ICON Water, p.7

4 Capital expenditure

Seqwater undertakes annual, long-term capital planning through updates to its Asset Portfolio Master Plan (APMP). This formed the basis of our regulatory submission for capital expenditure.

In its draft report the QCA reduced Seqwater's proposed capital expenditure to 2028 from $1,558M to $1,008M, a reduction of 35.3%. There were two tranches of reductions:

- reductions of projects that were sampled totalling $367.9M
- a reduction of $168.1M for unsampled projects from 2018-19 to 2020-21 that did not pass Gateway 2 (i.e. did not have an approved business case).

The QCA also made recommendations regarding Seqwater's asset management practices. This section responds to these findings, addressing:

- the QCA's recommendations for sampled capital expenditure projects
- the reductions to the balance of unsampled projects
- our broader concerns with the KPMG methodology, and suggests improvements to the regulatory guidance for presenting capital projects for future reviews.

4.1 Adjustments to reviewed capex sample

Based on KPMG's recommendations, the QCA reduced the capex allowance in 12 sampled projects by $367.9M, or around 39%. These reductions related to six of the 12 sampled projects, five of which were found to be prudent but were not accepted as being efficient at this point in time. For these projects, the capital expenditure allowance was set to $0. The sixth project, Enterprise Resource Planning, was found to be not prudent and partially efficient, and the capex allowance reduced from $17.0M to $11.4M reflecting the historical level of capital ICT spend.

We do not agree that projects found to be prudent should be assigned zero value where the information sought by KPMG to assess efficiency was not to the standard they required or expected. Seqwater's methodological concern with this approach is further discussed in section 4.4 of this submission.

Notwithstanding this view, we have provided additional information for three of the above six projects which should meet the KPMG standard. For the other three projects, we propose alternative approaches for determining an efficient capex allowance.

4.1.1 Projects with additional information

We have prepared additional information for three of the sampled projects where KPMG did not accept our proposed efficient cost:

- Somerset dam safety upgrade, where we have since established a preferred option
- Beaudesert water supply zone upgrade, where we have updated our planning and identified a preferred solution
- Enterprise Resource Planning, where we have further advanced our proposal to demonstrate both prudency and efficiency.

Somerset Dam safety upgrade

Based on KPMG's advice, the QCA found that our proposed Somerset Dam safety upgrade was prudent, however the efficiency of the project was not demonstrated. Consequently the full $153.8M of proposed expenditure was excluded. The project was forecast for completion, and addition to the regulatory asset base (RAB) in 2028.

In providing information to KPMG for this project, Seqwater highlighted that the stage of planning for the project had progressed significantly from the original 2017 APMP, which was the basis of our submission, with the project advancing from Gateway 0 to Gateway 2 (options assessment) stage.

A needs analysis was prepared in April 2017 and approved by the Seqwater Board in June 2017 to progress the design of the upgrade options through to preliminary design, complete the geotechnical investigation program and undertake physical hydraulic modelling. At approval of the needs analysis the options development for the project had not been finalised and a preferred option was not presented to the Seqwater Board.

The most recent investigations of options for the Somerset Dam upgrade were completed by AECOM in July 2017 when the final report was received by Seqwater. A range of upgrade options were developed by AECOM with oversight from the project Expert Review Panel and Seqwater staff. We provided this report to KPMG for their assessment.

To increase the flood capacity of the dam five broad option types that exist:

1. Widen the existing spillway
2. Raise the existing dam
3. A combination of widening and raising
4. A new spillway
5. Allow overtopping of the dam

Following the completion of the AECOM upgrade options assessment five options have been shortlisted to take through to preliminary design. These options are:

- Option 1 – Raise the existing dam crest to EL115m and add concrete to the downstream face to increase stability with a 74m wide spillway at the current crest level of EL 100.45m AHD at an estimated cost of $255M
- Option 2 - Raise the existing dam crest to EL114m and add concrete to the downstream face to increase stability with a 74m wide spillway at a crest level of EL 99m AHD at an estimated cost of $246M
- Option 3 - Raise the existing dam crest to EL113.8m and add concrete to the downstream face to increase stability with a 94m wide spillway at a crest level of EL 100.45m AHD at an estimated cost of $258M
- Option 4 – Strengthen the existing dam and allow the dam to overtop at the abutments with a 74m wide spillway at a crest level of EL 100.45m AHD at an estimated cost of $252M
- Option 5 - Raise the existing dam crest to EL113.9m and add concrete to the downstream face to increase stability with a 74m wide primary spillway at a crest level of EL 100.45m AHD and a 100m wide secondary spillway at an estimated cost of $260M.

Significantly, the range of forecast cost for these options is around 5%, with the cost range (before interest during construction) being $246M to $260M.

KPMG findings and our response

In relation to efficiency, KPMG made the following findings:

- Seqwater had not adequately justified the final scope of works as a preferred option has not yet been identified. KPMG also stated that the Gateway 2 assessment had not yet been completed
- the standard of works cannot be assessed given that design has not progressed beyond preliminary design and a further review of options is still to occur
- the proposed cost estimates have not been developed to a robust stage as options assessment is still underway.

KPMG concluded that they were unable to assess the efficiency of the proposed expenditure, and proposed to remove the expenditure from the capital program. The QCA accepted this recommendation. KPMG also were concerned that the Options Analysis did not recommend a preferred option.

Seqwater has a number of significant concerns with the KPMG findings and methodology. These can be summarised as follows:

- Seqwater had presented a completed Gateway 2 assessment to KPMG, which set out the five options above. This assessment concluded that given these options were showing similar cost and it would be imprudent to rule out options until more information was gathered to validate cost and technical assumptions. To do otherwise could lead to significant re-work (and cost) at a later stage, or result in a decision being made before the least cost is revealed
- the dam upgrade project is complex, with a number of feasible alternatives or variations. Seqwater has diligently worked to identify the least cost option, and has been careful to only exclude options when there is sufficient information to do so
- the information to support final design and rule out options or variations includes hydraulics assessment, finalisation of the geotechnical data to provide foundation strength data and consultation with the community, Building Queensland and the Qld Dam Safety Regulator. This information takes time and involves significant cost to gather
- given the shortlisted options were within such a narrow band, KPMG could have instead selected the lowest cost option and included this into the capital program. This would have been a more accurate reflection of the efficient expenditure for the project, compared to a value of $0. This issue is discussed more broadly later in this chapter.

Given that the current cost estimates for the five options are within 5% of the least cost option Seqwater will continue to take multiple options forward into preliminary design. Further assessment will refine the design of the options and provide greater certainty in the estimated costs. However this should not prevent KPMG assessing efficiency for this project, and Seqwater should not be put into a situation where it needs to select a final option to satisfy regulatory timeframes.

However, if KPMG still require a specific option to be identified for their assessment, then the lowest cost option (Option 2, $246M) should be selected for this assessment.

Accordingly, Seqwater submits that $246M ($Dec 2017 plus interest during construction (IDC)) is included into the capital program for Somerset Dam, based on Option 2 above. The table below sets out the distribution of capex.

Table 5 – Proposed capex allowance for Somerset Dam Upgrade ($ Dec 2017, excluding IDC)

	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26
Project cost by year ($000's) ($ Dec 2017)	$2,500	$4,000	$65,600	$74,900	$73,900	$25,100

Beaudesert Water Supply Zone Upgrade

Based on KPMG's advice, QCA found that our proposed Beaudesert WSZ upgrade project was prudent, however the efficiency of the project was not demonstrated. Consequently the full amount of $80M of proposed expenditure was not approved. The project was forecast for completion, and addition to the RAB in 2027.

The Beaudesert project reviewed by KPMG was based on the 2017 APMP. This was compiled from project information as at November 2016. At this time, the options analysis (supplied to KPMG) concluded the preferred option was a pipeline connection from Beaudesert directly to the water grid. This is known as option 2, as referred to in the report previously provided.

Subsequent planning work on this preferred option identified new project risks that increased the cost and delivery of this option. This cost increase was material enough to necessitate a review of options previously discounted.

This review included updating the options analysis, considering the new risk information and concluded that a previously discounted option is now the preferred option. This is known as option 3 and is documented in the Beaudesert WSZ Investigation – Wyaralong WTP and Route K Options Analysis and Concept Design (February 2017). Note that in previous information provided to QCA only a reference number was provided for this report as it was completed after the cut-off date for the 2017 APMP. The February 2017 Options Analysis has now been provided to the QCA.

In February 2017, the Board endorsed the change of the preferred option and approval of funding to continue with detailed planning on this preferred option 3.

The preferred option is comprised of discrete projects which are listed in Table 6 below. This is an extract from Table 17 Initial Infrastructure of the Options Analysis report. Logan City Council and Queensland Urban Utilities projects, which will not be funded by Seqwater, are shown below for completeness as they were considered in the NPC analysis.

Table 6 – Beaudesert Water Supply preferred option - project timing

Timing	Project	Comment
2019	New storage at Beaudesert (Project A) Pipeline from Beaudesert to Logan City Council (LCC) network via site of Wyaralong WTP (Project B)	Beaudesert Storages delivery is being brought forward to mitigate short term supply risks
2021	Wyaralong WTP stage 1 (Project C) Pipeline Grid connection from Chambers Flat to Travis Road reservoir (Logan City Council Project – not funded by Seqwater)	Ex Exact timing will be based on demand triggers
2031	Pipeline upgrade Beaudesert to Birnam Range reservoir (Queensland Urban Utilities Project – not funded by Seqwater)	
Beyond 2031	Wyaralong WTP stage 2	Exact timing will be based on demand triggers

KPMG findings and our response

In relation to efficiency, KPMG made the following findings:

- The business case and preliminary design for the current preferred option will not be completed in time to meet the original completion date of mid-2018
- Seqwater has not justified the proposed timing, as current expenditure profile included in the 2017 APMP is based on previous option which is no longer viable
- Seqwater does not have appropriate supporting justification to support the recent changes of preferred option and still has significant work to be completed with the project now in the preliminary design phase, including assessment of options
- Seqwater has not justified the final capital cost estimates for the works required, as demonstrated by recent material increases in the proposed capex with none of the previous cost estimates justified either
- Seqwater has not supported the proposed scope of work, as it has not provided an updated program of works reflecting the new preferred option.

KPMG concluded that they were unable to assess the efficiency of the proposed expenditure, and proposed to remove the majority of the expenditure from the capital program. The QCA accepted this recommendation. KPMG also were concerned that the Options Analysis did not recommend a preferred option.

QCA also noted that the currently preferred option has a profile of expenditure with some costs to be incurred beyond 2028 that would result in a commissioning date for the Beaudesert project beyond 2028. This implies that the project would not be included in the current review. However as discussed below the current preferred option is a series of discrete projects, with their own specific drivers, most of which are commissioned / capitalised before 2028 and should be included individually in the RAB at the date of capitalisation.

Seqwater has a number of significant concerns with the KPMG findings and methodology. These can be summarised as follows:

- Seqwater had demonstrated prudency with growth being the driver. Therefore a capital investment will be required
- There is a considerable time lag between the currency of the collated data (November 2016) for the original submission and the commencement (July 2018) of the three year price path period to which it is being applied. Planning work has progressed considerably since the original submission. This has identified new information that has updated the preferred option which may not have been considered by KPMG. Specifically:
  - approved options report including timing, project scope, phasing and cost estimates of the preferred option
  - a business case for additional storage will be approved by the Board very shortly (the business case was recently endorsed by the Investment Review Group), which will address concerns raised by KPMG about project timing and scope.

Planning work is continuing on these projects to ensure they are efficient. Table 7 below shows:

- the original Beaudesert project as put forward in the 2017 APMP ($Dec 2016); and the refined suite of projects to be included in the 2018 APMP ($Dec 2017), which form the basis of our recommendations.

Table 7 – Beaudesert Water Supply Zone project components ($M Dec 2017)

FY	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	TOTAL
2017 APMP	1	10	30.3	33.4	0	0	0	0	0	4.9	0	79.8
2018 APMP as below												
New Beaudesert storage (project A)	6.4	0.8										7.2
Pipeline Beaudesert to LCC network (Project B)	3.0	47.6	20.2									70.8
Wyaralong WTP stage 1 (Project C)			2.5	7.6	25.3	17.7						53.1
Wyaralong WTP Stage 2	Not required until 2041 - Exact timing will be based on demand triggers											

The preferred option is made up of discrete projects, which will have separate business cases. The business case for Project A above is provided in response to the QCA draft report. Together, they form the long term supply strategy for the Beaudesert WSZ, however the timing of their individual

delivery is based on growth triggers. As such we propose to capitalise each project when it is complete.

In closing, Seqwater submits that $131M ($Dec2017) plus interest during construction is included into the capital program for projects that make up the Beaudesert WSZ upgrade, based on the preferred Option 3 above and as per the profile in Table 7.

Seqwater believes this project is a good example of how the Gateway process works to continually review projects to ensure the prudency and efficiency of projects. Seqwater believes that the projects should be included for $131M on this basis.

Enterprise Resource Planning capex

Seqwater agrees with KPMG's finding that ICT is an important component of the capital expenditure program, as it is critical to ensure that the business can deliver the services expected of it to their customers. One of Seqwater's key Strategic Focus Area is Business Process Management (BPM). The current Enterprise Resource Planning (ERP) software facilitates over 60% of Seqwater's enterprise processes and as such has a significant impact on Seqwater's ability to maintain and improve its operational efficiency, effectiveness and overall performance. Key functional processes include Asset Maintenance Scheduling & Dispatch, Water Quality Management, Finance, Human Resources, Payroll, Purchasing and Strategic Asset Management).

Two key documents as outlined below will be provided for further justification of the ERP. Seqwater believes that these two documents, which are BAU planning documents, will address KPMGs and QCA's concerns around prudency and efficiency. The two documents are:

- the ERP Strategy
- the Business Case for the Enterprise Resource Planning System.

The ERP Strategy

KPMG stated that "No scope of works has been provided by Seqwater as an overall strategy is yet to be completed". The overall strategy in relation to the ERP has now been completed. In 2017 Seqwater engaged Ernst & Young to develop the ERP strategy, which was finalised in December 2017, and has been provided as part of this response. The purpose was to review potential options to address the limitations in the existing instance of Seqwater's existing ERP TechnologyOne. This is the first time Seqwater has had a consolidated business wide approach for understanding its needs relating to an ERP. The ERP Strategy is aligned to, and supports the realisation of Seqwater's corporate strategy and vision. The ERP strategy will be delivered through the ICT Enterprise Resource Planning Portfolio and will support Seqwater to deliver current and future strategic outcomes.

Within the Strategy an ERP Vision was set *"The ERP vision is to support Seqwater's transformation, contributing to increased operational effectiveness, supporting business process efficiency and improved organisational performance by providing an integrated and automated ERP solution that is easy to use."*

The Business Case

The purpose of the Business Case for the Enterprise Resource Planning System is to seek approval to commence Phase 1 of the ERP project. Phase 1 will include the development of detailed requirements, documentation of current state processes, completion of the ERP Tender process and development of the Phase 2 (implementation) business case. The business case contains a detailed

breakdown of tasks, procurement strategy and timing requirements. Timing requirements are key to the project as the current TechnologyOne services contract expires in 2019. It was chosen to split the project into two phases as there will be key decision points after the requirements and business processes have been documented, the key considerations are:

- whether Seqwater can still optimise the TechnologyOne platform and reduce transition costs
- selection of the ERP Solution(s) and implementation partners
- determining the method of design and order of implementation
- ensuring that the benefits have been quantified and support the continued investment.

Following the development of the detailed requirements and future state processes, an EOI process will be completed to understand the markets input and recommendations around potential solutions for a Water Utility and organisation the size of Seqwater. This will allow Seqwater to develop the Business Case to support the selection and implementation, the Request for Proposal (RFP) and develop the implementation approach. The RFP process will also inform vendor selection efforts, determine comparable costs, and contribute to the development of formal agreements and contracts.

APMP 2017 figures were based on a renewals approach, based on maintaining and enhancing the existing Technology One solution. The costs relating to the development and implementation of the ERP have been further reviewed with assistance from KPMG in developing the ERP business case and consultation with Ernst Young around ERP implementation benchmarks. Throughout the development of the ERP Strategy in 2017 it had become clear that maintaining the platform was not an option and that further funds were required to move to an alternative platform. The below table outlines the new forecast costs, detailing both the “low” and “high” cases, that the ERP project outlines, and the forward program of renewals associated with the ERP in the long term.

The ERP solution may contain one or more application solutions and therefore implementation partners. To accommodate this, Seqwater has used two estimating scenarios - the high case ($35.782m) and the low case ($31.282m).

Table 8 – ERP capex estimates, low and high ($ Dec 2017, no IDC)

($’000s)	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28
APMP 2017 ($Dec2016)	$3,528	$3,528	$2,655	$1,925	$1,925	$1,925	$3,568	$2,566	$1,925	$1,925
Proposed ERP Cost (low case utilised) * ($Dec2017)	$5,902	$4,780	$4,700	$4,350						
Proposed EPP (high case utilised ** ($Dec2017)	$5,902	$6,280	$6,200	$5,850						
Renewals of new ERP ** ($Dec2017)					$1,925	$1,925	$1,925	$1,925	$1,925	$1,925

* Includes costs to maintain the existing Technology One solution until the transition period has been completed

** A historical figure has been used to estimate the renewal of the ERP.

Seqwater submits that the lower estimate ($31.282M) is included into the capex forecast as per the table above.

4.1.2 Other sampled projects

Three other projects were sampled and found to be prudent, but not efficient. These projects are:

- North Pine Filtration Upgrade
- Holts Hill pH correction upgrade
- Mount Crosby East Bank Sedimentation Upgrade

These projects were found to be not efficient on the basis there was insufficient information to substantiate the proposed cost. This was largely due to the early stage of the planning cycle for these projects

Seqwater submits that assigning a $0 for such projects does not represent good regulatory practice, is inconsistent with the Referral Notice and will lead to unnecessary price increases at the next review.

Regulatory practice

Seqwater is unaware of any Australian regulator that would set capital expenditure for a prudent project to a $0 value into the capex forecast, based on uncertainty for scope or cost.

The most contemporary guidance has been provided by the ESC in Victoria for the current 2018 water price review. In this guidance, the ESC specifically deals with capital projects that are at an early stage of the planning cycle, and clearly provides for some level of cost to be included unless the need for the project itself is highly uncertain or unforseen (which prudent projects are not):[18]

> *Where capital projects are not fully scoped, costed or internally approved (via an approved business case for example) at the time of preparing the price submission, a business should consider the following options so that customers are not asked to bear the full cost should the project scope or timing change:*
>
> 1. *Include sufficient expenditure to cover only the development costs of the project…*
> 2. *Include development costs and a notional allowance for construction, with the balance of efficient construction costs (plus associated interest) to be rolled into the RAB at the end of the period. This allows a reasonable portion of the project, based on the various options and cost estimates at the time of preparing the price submission, to be included in prices.*
> 3. *Identify the project as a possible 'uncertain and unforeseen event' ….*

The three projects above are not uncertain or unforeseen, and Seqwater has put forward sufficient information about the estimated cost of these projects for a "reasonable portion of the project" to be included in prices.

The QCA's review of prices for Gladstone Area Water Board (GAWB) also encountered a number of large sampled projects where the scope and costs would not have met the threshold standard set by KPMG (e.g. detailed design and final costing). For this review, the QCA (on advice from its

[18] Essential Services Commission. 2018 Water Price Review – Guidance Paper, p35

consultants Jacobs) allowed an independent assessment of reasonable costs, into the capex forecast.

The QCA's last 2015 Review adopted a similar approach. For example, the CH2M Hill was able to form a view on the reasonableness of scope and cost of projects that were only at the concept-level investigation or preliminary design phase. Where CH2M Hill had concerns about the proposed efficient cost, it recommended an alternative value based on its judgement. For most projects, the QCA accepted CH2M Hill's recommendation. For one project (Mt Crosby Westbank WTP Renewals), the QCA did not accept a finding of efficiency, and set a lower capex allowance. The QCA did not impose a $0 value but instead used its judgement about a reasonable capex allowance based on the information at hand.[19]

The above approaches avoid a number of problems associated with setting a project allowance to $0, even though the need for the project is established, including:

- creating uncertainty for the business as to the future regulatory treatment, which could affect investment decisions
- introducing price shocks to customers once the projects are included in the RAB
- incentivising businesses to prepare fully completed and scoped business cases to fit with regulatory cycles, in order to obtain a proper capital allowance, rather than following good asset management practice.

Consistency with Referral Notice

In our view, setting prudent capex projects at a $0 expenditure allowance is inconsistent with the Referral Notice requirements. In this Notice, prices are to recover bulk water costs that include prudent and efficient capital expenditure. Section (C)(2) of the Notice clearly contemplates the expenditure assessment to be ex-ante, considering 'capital expenditure from 1 July 2018 to 30 June, 2028". The QCA's proposed approach instead only provides for cost recovery on an ex-post basis, which means bulk water prices from 1 July, 2018 will not provide for recovery of any expenditure on these projects.

Mild price shocks at the next review

The QCA noted that by setting sampled and unsampled projects to $0 did not preclude the inclusion of those projects into the RAB. We estimate the inclusion of these projects into the RAB at the next review (sampled and unsampled) will lead to an increase in prices by around 1% higher than would be needed if the project costs were included now. We submit this is an unnecessary and undesirable consequence, and this impact is material in the context of price increases generally, which are generally around 2.5% for the common price. [20]

Proposed approach

Seqwater submits that a reasonable portion of the project costs should be included into the capex forecast for these projects, consistent with the ESC guidance above under Option 2. Seqwater submits that this reasonable portion should normally be established through a high-level engineering review of the proposed costs, similar to the approach for GAWB. If such an assessment was not to

[19] Another exception was North Pine WTP renewals, where QCA did not accept certain expenditure based on a number of shortcomings in the project justification that related to both prudency and efficiency.
[20] The QCA's draft report identified price increases in 2019-20 and 2020-21 of 2.5% for Option 1, refer Table 59.

occur, then the reasonable estimate should be set at the lower-end cost range implied by the estimation accuracy range at each gateway (for example Gateway 2 estimates are +/- 30%, in which case 70% of the project estimate would be applied). Where a final option has not been established, then the above rule should be applied to the option with the lowest estimated cost.

Applying this rule to the three sampled projects above would result in the following capex allowance (plus indexation and interest during construction):

- North Pine Filtration Upgrade (Gateway 2): $26.2M, being 70% of the preferred option cost estimate
- Holts Hill pH correction upgrade (Gateway 2): $6.4M, being 70% of the preferred option cost estimate
- Mount Crosby East Bank Sedimentation Upgrade (Gateway 2): $23.3M, being 70% of the preferred option cost estimate.

Table 9 - Sampled projects ($ Dec 2017)

($'000s)	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28
Somerset Dam Safety Upgrade			$2,500	$4,000	$65,600	$74,900	$73,900	$25,100		
Beaudesert WSZ Upgrade Projects:										
New Beaudesert storage (project A)	$6,400	$800								
Pipeline Beaudesert to LCC network (Project B)	$3000	$47,600	$20,200							
Wyaralong WTP stage 1 (Project C)			$2,500	$7,600	$25,300	$17,700				
Proposed ERP Cost (low case utilised) * ($Dec2017)	$5,902	$4,780	$4,700	$4,350	$1,925	$1,925	$1,925	$1,925	$1,925	$1,925
North Pine Filtration Upgrade ($Dec 2016)			$2,760	$11,768	$11,718					
Holts Hill pH correction upgrade ($Dec 2016)	$1,013	$2,710	$2,680							
Mount Crosby East Bank Sedimentation Upgrade ($Dec 2016)	$968	$11,169	$11,169							

4.2 Adjustments to the unsampled capex program

KPMG assessed systemic issues from its sampling and governance review (above), to determine adjustments to the broader capex program. KPMG did not find any systemic concerns with the renewals program, and consequently accepted Seqwater's renewals forecasts.

For non-renewals projects, KPMG recommended excluding projects that had not reached the Gateway 3 stage of assessment, and which were due to commence in the three year regulatory period ending 2020-21. The QCA took a more conservative approach, only excluding non-renewals projects that were at Gateway 0, 1 or 2 and that were scheduled for completion in the regulatory period.

This resulted in the removal of $168.1M of capital expenditure from the broader sample of $950.9M, reflecting non-renewal projects at Gateway 2 or before, and expected to be commissioned in or before 2020-21 being the end of the next regulatory period.

Our response to this recommendation is set out below and includes:

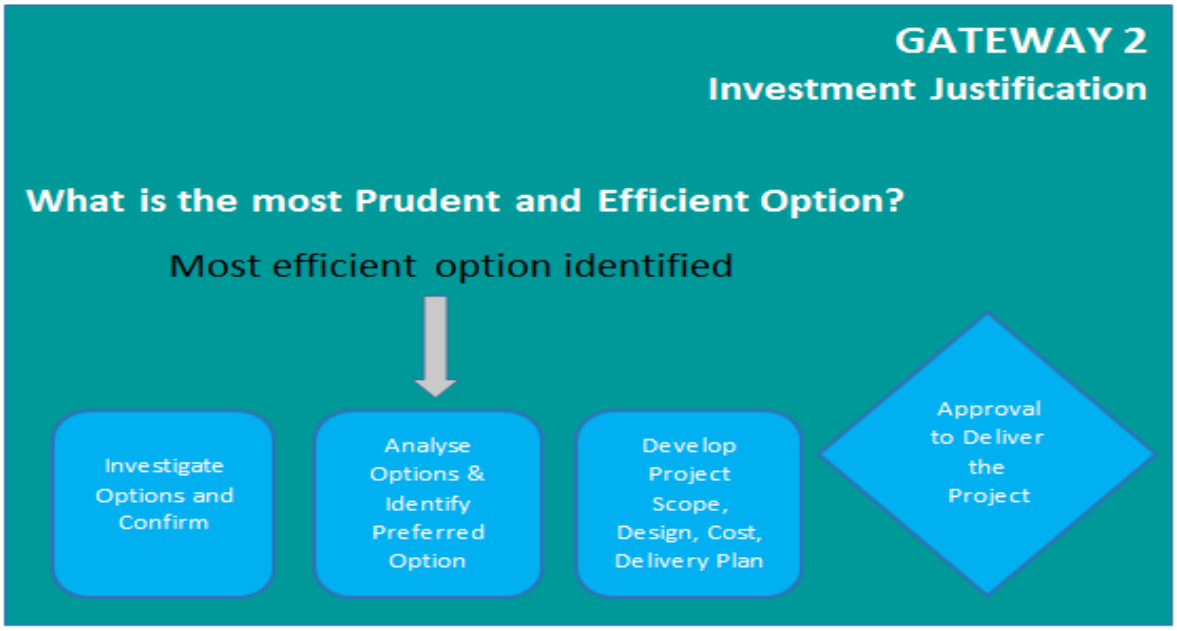
- further information about the nature of options assessment at Gateway 2. This will demonstrate that most projects at Gateway 2 had a recommended option and therefore are able to be assessed for efficiency
- updated information about the status of projects. This will demonstrate that much of the program has progressed across the gateways since the 2017 APMP which was the basis for our submission
- further information about the nature of most project assessments at Gateway 0 and 1, which demonstrates that it is often impractical to identify options three years in advance, and in most cases a likely option (and indicative cost) has been identified.

4.2.1 Gateway 2 and recommended options

Seqwater understands from further discussion with KPMG that the key concern was that if a project had not passed Gateway 2 then a preferred option had not been determined, and therefore assessment of efficiency of the response could not be made. This appears to have been based on the sample projects reviewed by KPMG above. However this sample was dominated by large, complex projects that were not typical to the broader program.

In practice, the most efficient option is usually determined within Gateway 2, before it has formally passed Gateway 2. Figure 2 below diagram shows when this “most efficient option” milestone is reached in the gateways of the project lifecycle. This control point includes option definition and a cost estimate of the most efficient option.

Figure 2 – Gateway 2 Efficient option identification



The next step prior to the business case approval is to further define the project scope of the preferred option and development of the delivery plan.

Seqwater has since provided further information to the QCA and KPMG, demonstrating the above practice, which normally results in a preferred option at Gateway 2 being identified. Of the $39M of Gateway 2 projects removed, approximately $31M of projects (80%) had a preferred option at the time of submission. Notwithstanding our methodological concerns set out in section 4.3, Seqwater submits that the threshold for allowing projects into the capital program is set at projects within Gateway 2 (rather than through Gateway 2, i.e. in Gateway 3), as most projects at this point have a preferred option identified. However this does not mean we support excluding projects simply because they fall within Gateway 0 or 1.

4.2.2 Updated status of projects by Gateway

Regulatory submissions require a point-in-time projection of capital expenditure, to provide a stable base for review. In reality, the scope and cost of projects changes constantly as further information is gathered. Moreover, Seqwater has designed its capital planning to align with its annual budget cycle, which is necessary for prudent financial management. This budget cycle for capital will not always align with the timings for regulatory submissions. In our case, we presented the most recent capital program, the 2017 APMP, which was formally approved in April 2017 and based on information gathered over the preceding months. This means the 2017 APMP data will have been gathered at least 18 months prior to the commencement of the next regulatory period, and around 14 months prior to the QCA's final report.

Over this time, projects in the 2017 APMP have progressed across the gateways. Seqwater has provided a list of non-renewal projects from the 2017 APMP that finish prior to the end of the regulatory period that are now at or beyond Gateway 2. The value of projects at each gateway is now as follows:

- Gateway 2 (preferred option identified): $40M
- Gateway 3: $39M
- Gateway 4 or beyond: $8M.

This demonstrates the speed at which projects can move through gateways, which makes a point-in-time assessment of efficiency based on gateway status problematic. If KPMG were to update their assessment, the current status would suggest that at least an additional $47M of projects would be included (being Gateway 3 and 4). Further to the section above, if Gateway 2 (with preferred option identified) was instead applied as the threshold for efficiency, a further $40M would be included in an updated assessment.

The following tables show the gateway status of non-renewals, non-sampled projects that finish prior to the end of the regulatory period that have progressed through gateways.

Table 10 – Capital projects with a preferred option identified within Gateway 2

Within Gateway 2 - Options Analysis with preferred Option identified			
Location	**Project**	**Seqwater submission (2017 APMP)**	**Current Gateway**
Mount Crosby West Bank WTP	TWB: Sludge handling system improvements	Gateway 1	Gateway 2 - Options analysis with identified preferred Option
Ewen Maddock Dam	DEM: Ewen Maddock Dam Upgrade Stage 2	Gateway 2	Gateway 2 - Options analysis with identified preferred Option
North Pine WTP	TNP: Sludge Disposal Area (SDA)	Gateway 2	Gateway 2 - Options analysis with identified preferred Option
North Pine WTP	TNP: Replace 6.6kV Main Switchboard	Gateway 1	Gateway 2 - Options analysis with identified preferred Option
North Pine WTP	TNP: MCS Renewal Stage 2 &3	Gateway 0	Gateway 2 - Options analysis with identified preferred Option
Mount Crosby East Bank WTP	TEB: Basin 1 Flocculation Upgrade	Gateway 2	Gateway 2 - Options analysis with identified preferred Option
Catchment Upper Brisbane	CUB: Riparian Condition Improv - Reveg Stg 1	Gateway 1	Gateway 2 - Options analysis with identified preferred Option

Table 11 – Capital projects with a draft business case within Gateway 2

Within Gateway 2 - Draft Business Case			
Location	**Project**	**Seqwater submission (2017 APMP)**	**Current Gateway**
Kenilworth WTP	TKE: Kenilworth WTP Upgrade	Gateway 2	Gateway 2 - Draft Business Case
Mount Crosby Weir	WMC: Bridge Structure Upgrade	Gateway 1	Gateway 2 - Draft Business Case
Mount Crosby West Bank WTP	TWB: Chemical Dosing Upgrades	Gateway 2	Gateway 2 - Draft Business Case
Catchment Mid Brisbane	CMB: Bank Stabil Stg 2	Gateway 1	Gateway 2 - Draft Business Case

Table 12 - Capital projects with approved business case within Gateway 3

Within Gateway 3 - Business Case Approved			
Location	**Project**	**Seqwater submission (2017 APMP)**	**Current Gateway**
Pump Station Lloyd Street	SLL: Sparkes Hill to Aspley Pipeline Capacity Upgrade	Gateway 1	Gateway 3 - Approved Business Case
SRWP	SRWP: MCS Renw Stage1-Sth Reg Pipe	Gateway 0	Gateway 3 - Approved Business Case
Pump Station Byrnes Road	SBY: Byrnes Road Pump Station Upgrade	Gateway 0	Gateway 3 - Approved Business Case
Multiple Sites	AIC: SBI Kingfisher Sites Brisbane	Gateway 0	Gateway 3 - Approved Business Case
Linville WTP	TLI: Treatment Process Upgrade	Gateway 2	Gateway 3 - Approved Business Case
Dunwich WTP	TDU: New Bore Upgrade	Gateway 2	Gateway 3 - Approved Business Case
Wivenhoe Dam (Recreation) WTP	TWR: Wivenhoe WTP Upgrade	Gateway 2	Gateway 3 - Approved Business Case
Beaudesert WTP	TBE: Ammonia Treatment Upgrade	Gateway 2	Gateway 3 - Approved Business Case
North Pine Dam	DNP: additional boating access	Gateway 1	Gateway 3 - Approved Business Case
Somerset Dam (Township) WTP	TST: Somerset WTP Upgrade	Gateway 2	Gateway 3 - Approved Business Case
All Pipes	PAA: Paynters Creek pipeline connection	Gateway 0	Gateway 3 - Approved Business Case
Multi-site connections	AIC: MCS Communications	Gateway 0	Gateway 3 - Approved Business Case
Mount Crosby Weir	WMC: Weir Structure upgrade	Gateway 1	Gateway 3 - Approved Business Case

Table 13 – Capital projects with contract approved within Gateway 4

Within Gateway 4 - contract has been approved			
Location	**Project**	**Seqwater submission (2017 APMP)**	**Current Gateway**
Cooloolabin Dam	DCO: Cooloolabin Dam Upgrade Stage 2	Gateway 2	Gateway 4
Catchment Mid Brisbane	CMB: SP Partnership Stg 1	Gateway 1	Gateway 4
Catchment Baroon Pocket	CBP: Ag PI - Intensive Stg 1	Gateway 1	Gateway 4
Catchment Upper Brisbane	CUB: Bank Stabil Stg 2	Gateway 1	Gateway 4
Catchment Stanley River	CST: Bank Stabil Stg 2	Gateway 2	Gateway 4
Catchment Nerang River	CNR: Riparian Condition Improvement	Gateway 0	Gateway 4
Catchment Pine Valley	CPV: Ag PI - Intensive Stg 2	Gateway 1	Gateway 4

4.2.3 Projects not yet at Gateway 2 (Gateway 0 and 1)

We do not agree that projects at the early stage of planning, Gateway 0 or 1, should automatically be excluded from the capex forecast.

KPMG expected that projects due for delivery within three years would be at an advanced level of planning, and implied that a project due for delivery in the regulatory period 2018-19 to 2020-21 needed to be at Gateway 3 to be considered efficient. That standard expected before a project due for delivery within three years could be considered efficient appears to be for a detailed design for the preferred option, fully costed.[21]

> *Whilst our scope of works requires an assessment of the prudency and efficiency of all capital projects in the ten year price path period, we note that this approach is likely to result in a large number of projects failing the efficiency test primarily due to the lack of supporting documentation (outlining the detailed scope of works for the preferred option, the standard of works applied in the detailed design, and the detailed final cost estimate) available for the projects at the time of review.*
>
> *We would expect that projects commencing within the next three years would have a robust level of supporting documentation, as described above.*

We do not agree that completing project documentation, including detailed design and final cost estimate for projects not due for delivery until the end of a three-year regulatory period is feasible nor good practice. In particular:

[21] KPMG 2017. Seqwater Expenditure Review. p137.

- regulatory proposals are based on capex forecasts that must be prepared at least 6 months prior to the regulatory submission. Those submissions are lodged at least 12 months prior to the start of the regulatory period. Hence there is at least an 18 month lag in data. This would mean a business would be expected to prepare business cases, complete detailed design and finalise a cost estimate up to 4.5 years before commencing delivery
- the 2017 APMP identifies around 110 projects that are less than $500,000 in the 2017 /18 capital program that start and finish in 2017-18, totalling around $19M. These projects are scheduled to be delivered within that financial year. Progression from Gateway 0 to 3 typically takes around 6 months. This demonstrates that within our gateway process, projects can move from gateway 0 past Gateway 4 well within 4.5 years. It is therefore not efficient to plan for small projects several years before they are needed, if they can be delivered with one year
- the above would inevitably lead to re-work and other significant costs between completing the business case and commencing the project
- many projects are part of programs or simply cannot be planned 3 years (or 4.5 years) in advance. For example, capital works on natural assets or involving technology such as control systems need to respond to changing conditions.

The following sections provide examples of this last point for different types of programs of work.

Natural program

A number of capex projects such as for Natural Assets are akin to renewals or a program of works. In these cases there is an ongoing annual expenditure which will be comprised of a number of projects. Prioritisation of these projects within the program is flexible and can change especially in the Natural Assets area due to weather events and localised small-scale flooding or other unpredictable reasons. Each project will require justification at the time but overall will still be a fairly steady level of annual expenditure. In general the individual projects are of a size that does not justify the full gateway process and Gateway 1-3 will be combined. Furthermore, the delivery mechanisms of the natural asset programs mean that preparation of business cases far in advance of delivery would be unworkable, as outlined below.

Seqwater's natural asset investment program is delivered through the following two mechanisms:

- partnership arrangements with catchment groups and local councils
- directly engaging contractors through Seqwater's procurement procedures.

Seqwater recognises the value of financing on-ground Landcare and catchment groups and leveraging their capacity through the establishment of partnerships to deliver measurable water quality improvement outcomes in the water supply catchments. Accordingly, we are increasingly working with these groups to deliver natural asset projects and maximise co-investment opportunities, which also derive regional economic, environmental and social benefits for communities and businesses. Having established partnerships with six catchment groups to date, we have a strong platform to ensure delivery of an increasing number of our natural assets projects through this mechanism. Partnership investment has increased over the past three years, with 15 projects in place though partnership arrangements in 2017-16 at a total cost of $3.6M, with a number of these projects spanning multiple years. This expenditure will increase in 2018-19 as new partnerships are established and existing partnerships are further leveraged to deliver priority natural assets projects across the catchment.

Our partnerships with Landcare and catchment care groups mean that Seqwater can engage with communities through a reliable and trusted channel with significant local knowledge and established landholder relationships. This is an important mechanism as approximately 95% of our drinking water catchments are privately owned and a large portion of our own land is subject to long term leases. Most natural asset investment requires permission from a land owner or lessee to proceed and as such, relationships with private landholders is extremely important to ensure projects can be delivered in a timely manner. Another important consideration in regards to deliverability of projects on private or leased lands is that land owners don't like being asked to sign up for a project and then waiting for years before works commence, and new partnerships often require a 12 month pilot program to assess the efficacy of the arrangement and inform the decision for long term efficient investment. As such, business cases for new partnership projects are prepared as required the year before or the same year as delivery, but once established are normally put in place for multiple years.

Other natural asset projects, which largely comprised more complex, engineering solutions, such as bank stabilisation works, continue to be delivered by Seqwater through the engagement of specialist contractors through our provider panels. Catchments and waterways are by their very nature complex and dynamic systems, and sensitive to extreme weather events and changes in land use. Many aspects of a well described natural asset can therefore change, including their dimensions, their condition and their behaviour. This impacts the investment priority, risk profile and chosen solution and can affect timing of delivery. Scientific understanding and management practices are also developing rapidly and our long term plans for catchment improvement are adapted as we learn. Our business cases for these projects are therefore developed just in time to make the most of the latest information available.

Significant progress has been made in the Strategic Assessment Stage of planning for investment in the Natural Asset Portfolio. All high priority catchments now have a long term plan that describes in broad terms all investment required over 20 years within each catchment. In addition, 5 year Priority Program Plans are approved or are being developed for each investment program to streamline the preliminary evaluation of projects in Gateway 1. There are now more approved multi-year and multi-catchment projects than at any other time in Seqwater's past. A Decision Support System is under development to further inform priorities.

Table 14 – Natural asset projects

Location	Project	APMP 2017 Gateway	Current Gateway
Catchment Logan River	Program: CLR: Erosion and Sediment control	Gateway 0	Gateway 1
Catchment Six Mile Creek	Program: CSM: Source Protection Partner	Gateway 0	Gateway 1
Adelaide St (Flood Ops)	CAA: Contaminated Lands Stg 1	Gateway 1	Gateway 2 - Needs analysis finished

Monitoring and Control Systems

Similar to the natural asset program, the Monitoring Control Systems (MCS) program is predominantly (approx. 75%) renewals with site work and some communications and networks activities focused on

updating aging infrastructure and systems. The work is effectively a renewals program for the Control System asset class that will require on-going funding.

As asset lives for this Operational Technology (OT) class of assets are relatively short (i.e. 5 to 15 years) and, as the applicable technology evolves quickly, renewals are very seldom like-for-like and the prioritisation of projects within the MCS program can change due to changes to the applicable technology, standards and cyber security environments. The rapidly changing nature of these environments means that preparation of business cases far in advance of delivery would be unworkable. Detailed planning too far in advance of delivery can result in delivery of systems that are, or soon will be, out of date. The MCS program consequently requires an adaptive approach within an outcome focussed framework.

Seqwater has a robust framework for managing the MCS program which includes:

- Engineering Standards that have been verified against, Water Services Association of Australia (WSAA) Supervisory Control and Data Acquisition (SCADA) Guideline WSA302-2016 Version 1.1. These standards have also been validated through consultation with industry peers (e.g. WaterCorp WA, Queensland Urban Utilities (QUU) and Christchurch City Council) and through implementation within the organisation. Standard equipment has been established through market tested processes for control system hardware and software. The standards are regularly reviewed to ensure they address emerging issues.
- Arrangements with a panel of providers have been established so that procurement can be progressed expediently and standards applied consistently. These arrangements can be leveraged irrespective of the contract arrangements.
- Permanent control systems planning resources have been engaged and control systems assets are now managed as an Asset Class similar to Dams, Treatment Transport and Natural Assets. The program is governed through the Gateway process and program assurance is provided through the scheduled Internal Audit program.
- Detailed financial and schedule management, dedicated steering committee oversight and specialist Change Management resources.

The non-renewals components of the MCS program are associated with improving the reliability and security of communications and establishing a centralised environment (the Central Management Function – CMF) to enable system wide visibility and consolidate operational information collection.

With regard to the non-renewals components of the program, the business cases for the Central Management Function Stage 1, the communication and networks related Stages 1 and 2 of the Control domain and iWAN projects have been completed. Further work is required to define the scope of the second and final stage of the CMF and the third and final stage of the control domain work.

The forecast expenditure on renewals and non-renewals components of the MCS program over time is shown in figure 3 and table 15 below:

Figure 3 – Renewal and non-renewal expenditure for monitoring and control systems ($ Dec 2017)

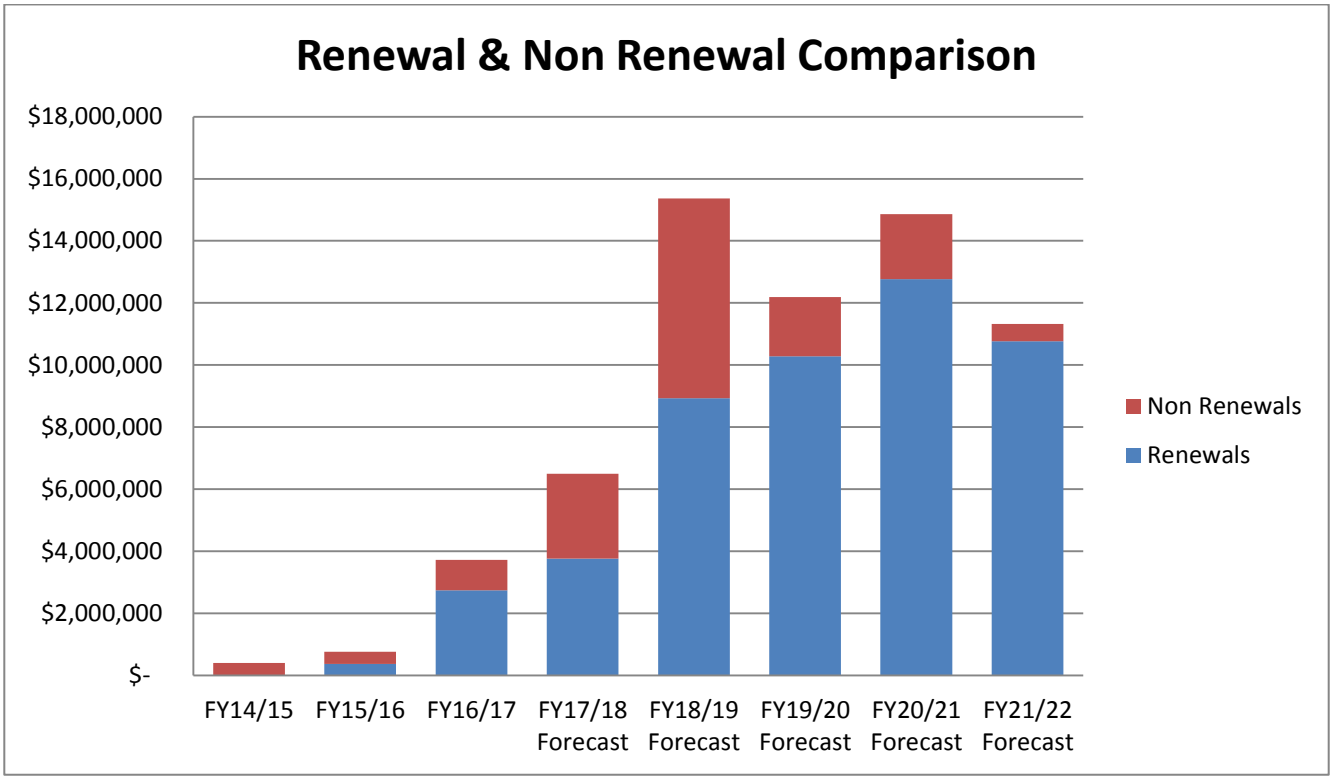


Table 15 – Percentage of expenditure on renewals and non-renewals for monitoring and control systems

	% Renewals	% Non-renewals
FY14/15		100%
FY15/16	49%	51%
FY16/17	74%	26%
FY17/18 Forecast	58%	42%
FY18/19 Forecast	58%	42%
FY19/20 Forecast	84%	16%
FY20/21 Forecast	86%	14%
FY21/22 Forecast	95%	5%

Table 16 - Monitoring and control systems program of works

MCS Programs of work - to be included on the rolling program basis			
Location	**Project**	**APMP 2017 Gateway**	**Current Gateway**
Multiple Sites	AIC: MCS Central Bulk Supply	Gateway 0	Gateway 1
Multiple Sites	AIC: MCS Transport Renewal	Gateway 0	Gateway 1
Multiple Sites	AIC: MCS Storage Renewal	Gateway 0	Gateway 0
Kenilworth WTP	TKE: MCS Treatment Renewal Stage 1	Gateway 0	Gateway 0
Landers Shute WTP	TLS: MCS Renewal	Gateway 0	Gateway 0
Molendinar WTP	TMO: MCS Renewal	Gateway 0	Gateway 0
Mudgeeraba WTP	TMU: MCS Renewal	Gateway 0	Gateway 0
North Stradbroke Island WTP	TNS: MCS Renewal	Gateway 0	Gateway 0
Mount Crosby East Bank WPS	SEB: MCS Renewal	Gateway 0	Gateway 0
Mount Crosby East Bank WPS	SEB: MCS Renewal Stage 1	Gateway 0	Gateway 0

Mount Crosby East Bank Water Pump Station Flood Resilience Program of works

Other programs of work include the Mt Crosby Flood Resilience Program. As this is a program of work, the business cases and options report for the program of work are not included in the tables above, and are included in Table 17 below. The current flood immunity of East Bank Pump Station (the only source of raw water to the East Bank Treatment Plant) and the substation (feed to the Pump station and the treatment plant) are between 1:100 and 1:200 Annual Exceedance Probability. The project involves a number of asset renewals which have been triggered by asset condition or performance and will be delivered in a cascading manner. However, due to the dependency of each project on delivery of the other project and their criticality, it was decided that it is more efficient to deliver these packages of works as a program of works

The two Mt Crosby water treatment plants provide over 40% of the drinking water to the greater Brisbane area. Flood modelling and analysis has demonstrated that following a flood event causing loss of supply for an extended period from both water treatment plants, an immediate and sustained 35% reduction in domestic and commercial consumption would be required to sustainably supply the central grid region from alternative supply sources. The reduction would necessitate average residential consumption of no greater than 120 litres per person per day. Greater reductions would be

necessary if other assets are not available at full capacity or to mitigate the impacts on business and industry.

At an enterprise level, these consequences are considered an unacceptable risk to drinking water supply. The purpose of the flood resilience package of projects is to define the planning criteria for flood immunity as minimum of 1:1,000 Annual Exceedance Probability (AEP) for existing infrastructure and 1:10,000 Annual Exceedance Probability (AEP) for new infrastructure on this site and apply these criteria to renewals and growth projects.

Twenty-one sub-projects were identified as a part of this program and were categorised into eight main business cases with an overarching strategic business case. To allow the project management team to have a comprehensive overall visibility of the tasks covered under each sub-project, it was decided that the delivery model of the program of works is more suitable than independent business cases. This model ensures better coverage of the scope of works, interface points and allows for more flexibility in the delivery. These projects are at various stages of the investment gateway process. As this program has progressed, cost estimates for the individual projects have progressed as well. Below is an update on projects that have materially progressed since the previous Asset Portfolio Management Plan (APMP) was prepared.

Table 17 – Mt Crosby flood program projects with preferred option or business case

Projects within Crosby Flood Resilience Program	Cost ($'000s Dec2017)	Current Gateway
Mt Crosby Weir - Bridge Rail Remedial	$100	Gateway 3 – Approved Business Case
Mt Crosby Weir - Pier 7 Repair and Sluice Gate Upgrade	$970	Gateway 3 – Approved Business Case
East Bank Pump Station Pipe Gallery Repair	$493	Gateway 3 – Approved Business Case
Mount Crosby East Bank Water Pump Station (WPS) - RWPS Historical Building Refurbishment	$995	Gateway 3 – Approved Business Case
Refurbishment of Tractor/Paint Shed, Amenities Building & Blacksmith's Workshop and the Demolition of the Mechanical and Compressor Sheds	$508	Gateway 3 – Approved Business Case
SEB: FR Development Application preparation and project support	$660	Gateway 2 - Draft Business Case
SEB: FR Critical electrical infrastructure upgrade	$33,042	Gateway 2 - Options Analysis with Preferred Option Identified

Other projects at Gateway 0 or 1

The draft report excluded non-renewals projects that were due to be completed by the end of the regulatory period not at Gateway 3. As indicated above, projects at Gateway 2 should be included given the status of planning at that stage.

Moreover, we do not agree that projects at Gateway 0 or 1 due for delivery in the same timeframes should also be excluded. As indicated above, there are various reasons why projects would not only be at an earlier stage of planning (and could only be expected to be so, based on good practice) and still deliverable within the regulatory period.

Instead, we submit that all non-sampled projects within these gateways are included into the capex forecast. At the very least, a reasonable portion of capex for projects at these gateways should be included into the forecast, given there have been no findings that these projects are not prudent. This minimum would reflect the lower end of the estimate range at those gateways, being 50%, consistent with our approach above for the sampled projects found to be prudent.

4.3 Under-delivery of the capex program in the current period

In its draft report QCA noted that Seqwater had underspent its Capex allowance in the 2015-18 period stating that "the majority of Seqwater's underspend in the current regulatory period was due to capex deferrals implying that Seqwater overstated the need for this capex or does not have the internal capacity to deliver a programme of this magnitude".

The QCA allowance for 2015-18 was $442.8M and Seqwater capitalised $311.7M. In its July 2017 submission Seqwater recognised this and noted some of the measures it had adopted to improve. Seqwater has had consistent year-on-year improvement in its processes since inheriting a number of legacy issues following amalgamation in 2013. Partly these have been in response to previous QCA reviews. There have also been a number of uncontrollable issues such as Cyclone Debbie and drought response.

Examples of that improvement include Asset Class planning, Gateway process, Procurement panels and SOA arrangements, program planning and scheduling, and program workforce planning.

This continuous improvement approach is ongoing.

The Seqwater underspend in the 2015-18 was not related to overstatement of the need for the capex or lack of internal capacity to deliver the program. The key reasons for deferral of major projects were that as further information became available during the assessment process, including geotechnical data, the specific response was re-evaluated to achieve the best whole-of-life outcome.

As noted in the Seqwater submission and acknowledged by KPMG of the $131M underspend, the following factors accounted for $121M of this:

- $88M was attributable to dam safety projects, including Lake Macdonald ($60M)
- Mt Crosby Filter Upgrade ($33M).

Lake Macdonald in particular is an especially complex project from a geotechnical, construction and regional supply perspective that required circling back as new geotech information was discovered during investigations. This was not a resourcing issue or an overstatement of the importance of the work; rather it was to ensure that the best ultimate answer was chosen, based on the best information available.

The Mt Crosby East Bank Filter upgrade similarly has been delayed due to issues discovered during further investigations and also to provide for an overall lower cost outcome across a number of projects, by bundling them together. This was not a resourcing issue or an indication that the proposal was not required.

There is a substantial increase in Seqwater's proposed expenditure in the 2018-21 period to $624M. However, as stated in our July 2017 submission Seqwater is confident in our ability to achieve this level of expenditure for a number of reasons:

- The increased expenditure is largely due to a small number of large projects referred to as "top" projects in the submission

- The base expenditure across the period to 2028 is relatively stable and in fact is less than usual over the next three years
- Due to their scale and complexity the top projects will usually require specific governance processes and project specific resources
- Establishment of a multi-disciplinary Major Projects Steering Committee and project PCGs
- Major projects are anticipated to attract Tier 1-2 contractors, with demonstrated experience and resources to deliver
- This approach will mean that large projects will be conducted simultaneously, although Seqwater is conscious that there may be external resourcing issues and will stagger projects requiring similar resources where this is beneficial.

Over the recent past Seqwater has delivered at or above its budgeted capex spend. Whilst the budgeted spend was less than the QCA allowance for the reasons outlined above, we have demonstrated our capacity to deliver major capital programs. The 2016-17 Capex spend was achieved within the Board-approved financial target. As at November 2017, the 2017-18 spend is approximately $11M above budget. The full year budget of $119M is very likely to be achieved or exceeded. For clarity, these figures are as expended, not as capitalised.

The 2015-18 review figure for 2017-18 of $195.9M reflected an estimate of the capitalised amount. In the current review Seqwater submitted a new estimate for 2017-18 of $129.4M. Again this is a capitalised figure. The figure above of $119M is as spent. Capitalised figures can vary from as spent figures for the same year due to:

- Multi-year projects expenses will only appear in the year of capitalisation (i.e. project completion)
- The inclusion of interest during construction for multi-year projects.

4.4 Broader methodological concerns and need for future regulatory certainty

Our concerns about the broader KPMG methodology are set out below, and provide background for our proposal for greater regulatory guidance and certainty for future reviews.

4.4.1 Concerns with methodology

We have set out a number of concerns with aspects of the methodology for assessing capex and adjusting prudent capex projects to $0 value over the capex forecast period, including the impact on prices at the next price review. These are part of broader concerns with the overall approach, set out below.

Inconsistency with QCA's published Regulatory Pricing Principles

The QCA's Statement of Regulatory Pricing Principles for the Water Sector (QCA, 2000), notes the Authority considers that prices of water delivered to an end user should:

a) be cost reflective – that is to reflect the costs of providing the service

b) be forward looking – they represent the least cost incurred to provide the level of service over the relevant period

c) ensure revenue adequacy – the revenue needs of the business must be addressed where possible

d) promote sustainable investment – where services are to be maintained into the future, the investor must be given the opportunity to enjoy an appropriate return on investment.

The QCA has set the capital expenditure allowance for many prudent projects at $0 on the basis of not being able to assess their efficiency linked to what stage they are at in business case development, setting Gateway 3 as the threshold based on KPMG advice.

Gateway 3 is an advanced stage for high value business case development. For small value capital expenditure projects a preferred option is determined earlier as business case development is simplified. Therefore, the approach adopted by the QCA has the potential for perverse outcomes.

As indicated above, setting capital expenditure allowance for projects at $0 is not consistent with the cost reflective pricing principle as this does not reflect the forward cost of providing Seqwater's bulk water supply service. This approach does not provide revenue adequacy and is of particular concern when projects driven by population growth in South East Queensland are allocated $0 allowance. The approach does not lend itself to promoting sustainable investment so that Seqwater can continue to maintain adequate water supply services to meet current and future bulk water demand.

The consequence of this approach adopted by the QCA is for uncertainty in the regulatory process to be introduced.

Inconsistent with QCA's prior approach and approach in other jurisdictions

In the 2015 Review process the capital expenditure allowance was based on the QCA's consultant's assessment of available cost estimates. All prudent projects had expenditure allowed. In contrast, for this pricing review process, prudent projects do not have expenditure allowed. As indicated earlier, there has been a fundamental change in approach without any prior guidance of a change.

Moreover, Seqwater has based its capital planning processes on what we believe to be good industry practice. This also aligns with regulatory approaches in other jurisdictions. As set out above, we are not aware of a decision rule in other jurisdictions to disallow expenditure not at a certain level of development (gateway). Generally, a reasonable (central estimate) of costs are allowed for projects deemed to be prudent. The efficiency of capital investment expenditure is informed by review of capital processes and benchmarking. To our knowledge the approach applied by the QCA's consultant has never been applied to any other water utility in Australia.

Does not reflect efficient or ongoing project development

Seqwater has implemented a robust business case development framework that incorporates a gateway process. This aligns with industry good practice. The gateway process has been improved since the last review and Seqwater's capital program has been developed using this gateway process. The approach applied by the QCA's consultant, whereby projects that are pre gateway 3 are totally disallowed, undermines Seqwater's robust framework. Furthermore, the approach which requests more highly developed documentation earlier in project development, suggest that Seqwater's gateway process is inappropriate. This is contradictory to the QCA's Draft Report that indicates Seqwater's corporate governance arrangements for capital expenditure and delivery are designed to be fit for purpose.[22]

[22] QCA, Draft Report Seqwater Bulk Water Price Review 2018-21 November 2017, page 35

A capital expenditure assessment process that requires greater justification earlier in project development increases project uncertainty. This has the potential for negative consequences including:

- Solutions may not reflect the latest information on project drivers (e.g. demand) and therefore may be oversized or become stranded
- Solutions may not reflect new lower cost technology
- Solutions may not adequately reflect changes in the rest of the water supply system.

Seqwater believes this approach is inconsistent with industry best practice to refine solutions over time and commit when an appropriate trigger is reached.

4.4.2 Need for regulatory certainty

This capex review process has highlighted to us the need for greater regulatory certainty about how future reviews will assess capex proposals, and the expectations upon us for the standard and type of information provided. The benefit from such guidance has been recognised in other jurisdictions. For example, IPART conducted a review of regulatory tests of capital expenditure in 2010, and concluded there was a need to provide a 'map' to "help ensure that consultants, regulated business and us all share a clear, consistent understanding of our approach for capex assessments".[23] The ESC also issues guidance to regulated businesses well before they need to prepare their regulatory proposals.

To date, we have relied upon the findings and guidance on asset management practices from past bulk water price reviews. We also look to past QCA decisions and how capital expenditure was assessed (for example the GAWB review referred to above).

We have had very high regard to the findings about capital planning and delivery in past reviews, and put significant time and resources to implement QCA recommendations, which we have interpreted as the QCA's expectations for the standard of proposals at subsequent reviews.

For example, following the 2015 Review, Seqwater took a systematic approach to incorporating the QCA recommendations into our capital planning processes. These recommendations included the introduction of a formal gateway process as well as numerous other changes and improvements.

However the approach taken by QCA's consultants, KPMG, was very different from the previous 2015 Review. Seqwater had no prior knowledge of these requirements or expectations before making our submission, but instead was managing to the findings from the 2015 Review and the approach taken in other QCA reviews (e.g. GAWB).

We understand that the current regulatory arrangements may not easily provide for the QCA to provide guidance for future reviews. However we would encourage the QCA to prepare such guidance regardless or seek a mandate to do so. At the very least, we ask that the QCA explain how we should interpret and apply the assessment methodology and findings for capital expenditure when preparing our next regulatory proposal.

In the absence of any guidance to the contrary, we can only refer to the draft and final reports issued by the QCA to inform our approach to future regulatory proposals as we have done for this review. Given our concerns set out above about the KPMG methodology and rules for assessment, we are concerned this could drive us to inefficient asset planning processes, particularly in preparing a large

[23] Independent Pricing and Regulatory Tribunal (2010). Regulatory tests of past and forecast capital expenditure. Research – Final Report December 2010.

number of final business cases for projects not expected to be delivered for at least 3 to 4.5 years after making our next submission.

The QCA and its consultants KPMG have also made recommendations about governance, capital planning and asset management. Seqwater largely supports these recommendations, however as indicated above it is not clear how these recommendations form part of the overall regulatory arrangements given the recommendations made in 2015 were not considered for this review. We would prefer to see more concrete guidance on the expectations for future capex proposals rather than management-style recommendations. Indeed we do not believe these need to be recommendations made to the Treasurer and Minister.

4.5 Summary of our capex submission

In closing, Seqwater submits that:

- in general, projects found to be prudent should not be assigned a $0 value if efficiency cannot be demonstrated. Rather, the QCA should require its consultants to recommend a reasonable portion of project costs where the scope and costs of prudent projects are uncertain

- specifically, for sampled projects:
  - based on updated information provided to the QCA, the Somerset Dam upgrade ($246M)[24] and Beaudesert water supply projects ($131M)[25] have been demonstrated as efficient due to their progress since submission
  - the updated information for the ERP capital project now supports its prudency and efficiency, warranting inclusion of a reasonable estimate of project costs at $31.282M[26]
  - the efficient cost for the remaining three sampled projects should not be set to $0, but reflect a reasonable portion of the project cost. The best approach is to conduct a high-level assessment as has been the practice for past reviews. Another approach is to set the reasonable portion at the lower end of the cost estimate (70%) for each project.

- for unsampled projects ($168M) excluded from the capex forecast:
  - Gateway 3 is not an appropriate threshold for excluding non-renewal capital projects due to the following:
    - around 80% of the projects excluded at Gateway 2 had recommended options nominated, and could therefore be assessed as efficient
    - a large portion of the unsampled projects have progressed across the gateways since the our July 2017 submission
    - many projects and programs in the capital program do not lend themselves to planning multiple years in advance of delivery.

[24] $2017, excluding interest during construction
[25] $2017, excluding interest during construction
[26] $2017, excluding interest during construction

- given the above, the full value of the unsampled projects are included into the capex allowance
- at the very minimum, the $168M of projects excluded should be reduced by including back into the capex forecast:
  - the full value of projects now within Gateway 2 and which have recommended options identified (as per Tables 10, 11 and 17)
  - the full value of projects that have now progressed to Gateway 3 or 4 (as per tables 12, 13 and 17 above)
  - the full value of non-renewal projects relating to the natural assets program and MCS (tables 14 and 16)
  - the full value of projects in the Mt Crosby Flood Resilience program that have a preferred option, draft or approved business case
  - a reasonable portion of the project cost for the balance of projects at Gateway 0 or 1, which should be no less than the lower end of the cost estimation range at those gateways (50%).

- methodology and guidance
  - the QCA recommends (or simply proceeds to) provide guidance to regulated business about its expectations and standards for capital expenditure submissions, and provides that guidance as the framework for consultant reviews in the future.

5 Weighted average cost of capital

The QCA recommended a post-tax nominal (vanilla) WACC based on parameters that mostly aligned with Seqwater's submission. Importantly, our submission put forward parameter values that were based on QCA precedent, noting we accepted those values for this review but did not necessarily agree with them. We took this approach given the long-standing QCA approach to WACC, and on the expectation we would participate in industry-wide reviews at a later date.

Seqwater is concerned that the approach taken by QCA in setting the Market Risk Premium (MRP) component for the return on equity is not appropriate.

Our view is that the regulator should set the allowed return equal to what it considers to be appropriate in the prevailing market conditions.

QCA did not use the latest market-based and best current estimate in its draft report but instead defaulted to Seqwater's proposal which was:

- the figure provided by Seqwater based solely on QCA's previous decisions and because in the 2016 QR decision QCA had determined that the MRP had effectively become a "non-time-variant parameter"
- developed using an approach that Seqwater believed was inadequate and about which Seqwater provided evidence of the inadequacy
- not based on the latest market-based information.

Appendix 2 of Seqwater's July 2017 submission (which was the Frontier Economics report on WACC) stated that "we consider that the MRP is a parameter which changes over time with changes in conditions in financial markets. Therefore, the MRP should be informed by the latest available evidence and should not be fixed to a figure that was derived from evidence that is now more than three years out of date".[27]

A number of problems arise when a regulator sets a parameter such as MRP below the figure that it considers to be appropriate and commensurate with the prevailing market conditions including that it:

- is inconsistent with incentive-based regulation
- is internally inconsistent with the approach to the risk-free rate
- introduces asymmetry and directional (downwards) bias
- provides incentives for ambit claims.

These arguments are detailed in the attached Frontier Economics report "Market risk premium issues in the QCA's draft report for Seqwater" January 2018 (Attachment 1 to this submission).

This attachment also sets out the arguments for estimating the current MRP.

In closing, Seqwater submits that the MRP value should be set to the most contemporary estimate.

[27] Refer to page 9 of that appendix.

6 Review events

6.1 Extraordinary raw water quality events

Seqwater included a 'contingency' provision of $1.2M per annum in its 2017 submission to cater for extraordinary water events (i.e. dirty water and/or water with high conductivity). The QCA did not accept this allowance, in favour of the existing ex post operating cost adjustment pursuant to a methodology being implemented by Seqwater that appropriately tracks additional costs. Seqwater accepts the QCA's recommendation, and we outline below our proposed methodology for identifying the costs of extraordinary raw water quality events.

On a yearly basis Seqwater will typically experience a number of 'extraordinary' water events which can include:

- 'Dirty' water; that is, water that has high turbidity
- Water with high conductivity
- Water with taste and/or odour issues
- Other water quality issues which are shown to have a demonstrable impact on treatment costs.

Whilst there may be day to day spikes in the quality of water, extraordinary water events will last over a period of days to weeks and are managed as discrete events, requiring changes to roles and responsibilities and normal operating protocols. These events will generally trigger a discrete action plan, e.g. the Mt Crosby Bromide Management Plan.

The costs associated with treating extraordinary water events can be substantial, particularly the chemical costs. For example, as a result of rainfall from 15 to 22 October 2017, Mt Crosby experienced three conductivity spikes lasting several days each. In order to maintain water quality, substantial additional chemicals were required at Mt Crosby Water Treatment Plants (WTPs) from 20 October and 15 November 2017, resulting in $443k in additional chemical costs. Seqwater is also seeking to claim this additional operating expense. The Mt Crosby WTPs typically experience dirty water events of this scale 2-3 times each year.

Seqwater has developed a robust methodology for tracking and claiming the additional costs (i.e. over and above normal operating mode) incurred as a result of an 'extraordinary' water event. The intent is to ensure Seqwater recovers the justifiable additional costs (i.e. costs not included in the OPEX budget for normal operations) incurred in treating extraordinary water events to ensure water quality requirements are met.

Seqwater has developed a business process that incorporates a business procedure and formal sign off process for cost claims.

In closing, Seqwater submits:

- QCA accepts the proposed methodology for calculating and claiming for extraordinary raw water quality events
- a claim for $0.43M in additional costs, using this methodology, for an event in October/November 2017.

6.2 Drought costs

Seqwater has provided to the QCA additional costs that were incurred by Seqwater during 2017/18 to supplement bulk water supply to the Northern region of South East Queensland. The northern pipeline interconnector was operated in a more costly northerly flow direction in response to diminishing dam levels in the Sunshine Coast resulting from diminished rainfall and low storage inflows.

The cost of these drought response costs claimed to date are $0.83M.

7 Additional proposals

This section sets out Seqwater's three additional proposals for bulk water pricing, namely:

- recovery of opex that for regulatory pricing purposes are better treated as capex
- recovery of additional operating and capital costs associated with recommissioning one train at the Luggage Point advanced water treatment plant
- a proposed framework for prudent discounts to the bulk water price, which would benefit SEQ water consumers overall.

7.1 Operating expenditure better treated as capex

In our July 2017 submission Seqwater flagged its intention to put forward supplementary proposals to QCA to seek more flexible arrangements in relation to large projects which are categorised as operating costs by accounting definitions but are more akin to capital expenditure, and which can be difficult to estimate when projects are at the early planning phases. Specific examples include:

- operating plants normally in hot-standby to maintain supply during major shutdown for works at other water treatment plants
- large payments for assets owned by third parties for capital-related work or assets that is defined as opex under accounting standards.

We are proposing that:

- these costs, provided they can be demonstrated to be prudent and efficient, should be able to be recovered
- this recovery should occur over the life of the assets being upgraded through capitalising the costs of operating higher cost sources during the period of capital works or payments to third parties.

Background

Seqwater is proposing to undertake capital upgrades at a number of treatment plants (Molendinar WTP, Mt Crosby WTP (East Bank) and North Pine WTP). These capital upgrades are necessary to maintain the resilience and efficiency of the network.

In order to undertake these upgrades, these plants will need to be taken offline for the period of the works. This in turn will require alternative sources of water (i.e. the Gold Coast Desalination Plant) to be brought into production to supply customers during these periods. Seqwater carefully plans plant upgrades to ensure downtime is minimised and the timing of the works is optimal.

The costs of maintaining water supply through efficient usage of alternate grid resources, over and above business-as-usual operating costs, are directly attributable to the upgrade projects, as these projects could not occur without providing an alternate source of water.

At this stage, Seqwater estimates these operating costs will be around $0.1M in 2017-18 and $1.0M in 2018-19.

Seqwater has identified that Lake Macdonald Dam is one of a number of dams identified for upgrade over the next six years. During the upgrade the dam will not be available for water supply purposes for a period of 3 years. In order to meet demand alternate grid resources will have to be used at a

higher operational cost. At this stage, Seqwater estimates the additional opex will be around $0.25M in 2018/19, $1.0M in 2019/20, $1.0M in 2020/21 and $0.75M in 2021/22. For clarity, these costs are not included in the base year or step changes to the opex allowance.

Seqwater is also undertaking major works that involve payments to third parties for changes to their assets. In some cases these payments can be considered operating costs under accounting conventions.

Recovery of prudent and efficient costs is in the long-term interests of customers

A fundamental tenet of economic regulation is that a regulated business should have an opportunity to recover its efficient and prudent costs. In this regard, the Minister's Referral Notice explicitly requires the QCA to recommend prices for the period 1 July 2018 to 30 June 2021 which allow Seqwater sufficient revenue to recover prudent and efficient costs incurred from providing bulk water supply services and to repay Price Path Debt by 2027-28, including prudent and efficient capital expenditure and operating expenditure.

The recovery of the efficient costs associated with the three upgrades is therefore appropriate. If recovery of efficient costs were not allowed, this would create an incentive for Seqwater to defer investment, which would be inefficient and could impact reliability and water security which would not be in the long-term interests of customers.

While the current regulatory framework allows for Seqwater to recover the (prudent and efficient) capital costs of the upgrades themselves, we note that recovery of costs associated with controllable outages may not be allowed. In its discussion of risk allocation in the 2015-2018 decision, the QCA noted that:

> *... the GCDP can be used as a high-cost, back-up source of supply, providing partial redundancy for Seqwater's WTPs. This use is at Seqwater's discretion, and Seqwater should therefore bear the associated cost risk. For example, if a controllable outage at Molendinar WTP causes Seqwater to ramp up supply from GCDP, Seqwater should bear any additional operating costs incurred as a result.*[28]

Seqwater accepts that it should face strong incentives to optimise the operation of the system and that customers should not bear higher than necessary costs for outages which Seqwater could reasonably have avoided through prudent management of these assets.

However where Seqwater is following good industry practice by upgrading the WTPs at an appropriate time, thereby minimising required additional grid operations, it is appropriate for it to recover the costs of doing so, as this represents the prudent and efficient costs of providing services to our customers.

Similarly, payments to third parties for their asset modifications or upgrades form part of the prudent and efficient cost of some projects. These costs also need to be recovered, but the specific accounting treatment often rests on the specifics of the situation which are often not known until closer to project delivery. Until this time, the default assumption is that such expenditure is capital and would be added to the RAB accordingly. This means opex forecasts do not need to include large and uncertain allowances for such projects. However, issues can arise at the point of capitalisation depending on the application of accounting rules to specific project circumstances.

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[28] SEQ Bulk Water Price Path 2015-18, p89.

Recovery of these costs through the RAB ensures current and future customers contribute to these costs

We propose that these prudent and efficient costs of providing services to our customers by recovery through the RAB—as a result of capitalising the expenditure — given that the higher costs of grid operations during the delivery of the works are a direct result of capital expenditure and benefit current and future customers.[29]

The capital policy of Seqwater, assessed by SKM in the 2012 review of bulk water prices, states:

> *The capital cost of an asset includes its purchase price or direct construction costs and any other 'directly attributable' costs that are incurred in bringing the asset to a location and condition ready for use.* [30]

The higher costs associated with drawing on higher cost sources of water to replace the output from the plants which are taken offline during the upgrades are clearly 'directly attributable costs' in ensuring the assets are brought up to the new state required to supply services over their future lives. These projects could not occur without providing an alternative source of water to meet ongoing demands. It is therefore appropriate that the efficient incremental expenses of operating other assets during this time are capitalised (through being added to the RAB), so that all of the costs associated with the capital upgrades are recovered from both current and future users of those assets. The alternative, applying the incremental expenditure to opex, would lead to the project being funded entirely in the current period by existing customers. This is not appropriate since the benefits of the expenditure accrue primarily to future customers.

This proposal recognises that there is more flexibility in how expenditure is treated for regulatory purposes than under accounting rule. It is common regulatory practice for decisions on what to capitalise into RAB for regulatory purposes to depart from strict accounting rules and to instead reflect views on the appropriate way to recover costs from current and future users. For example, UK regulators have used the concepts of total expenditure (totex) and 'fast money' (akin to opex) and 'slow money' (akin to capex) to encourage overall cost-effective solutions irrespective of whether that solution involves opex or capex. Under the RIIIO model, companies have a fixed percentage of their total network costs capitalised into the RAB ('slow money') and the rest is funded in the year (fast money). A capitalisation percentage is set for each business for the duration of the regulatory period with the aim of a "fair balance between existing and future customers in light of the nature of the expenditure expected over the price control period". A recent example in the Australian water sector was the ESC's decision in its review of prices charged by Melbourne Water to capitalise the lease payments made to the owners of the Wonthaggi desalination plant to better reflect the services provided over the life of the asset (which is greater than the remaining period of the PPP contract).

A further benefit of capitalising the incremental expenditure associated with drawing on higher cost sources of water while capital upgrades of WTPs are taking place is the inherent uncertainty in forecasting these costs in advance. Seqwater's annual operation mode can change in response to emerging or actual water security issues, so that the optimal grid operation response developed at the time a business case for a capital upgrade of a water supply asset is developed can differ from the optimal response when the project is actually delivered. Capitalisation of these costs avoids the need

[29] The efficient costs may be reflective of performing the upgrade at a time when the grid is well placed to compensate for the shortfall, for example at a time when existing WTPs have spare capacity and dams are sufficiently full.
[30] Grid Service Charges 2012-2013: Phase 2 - Assessment of Capital and Operating Expenditure, Grid Service Provider: Seqwater, p40.

for re-opening the price review. Similarly, incorporating an additional one-off step increase in incremental costs is problematic when the quantum and timing of such expenditure is uncertain.

Similarly, payments to third parties for asset augmentations or modifications as a result of a Seqwater project are best considered part of that project's capital cost, and recovered over the asset life. As set out above, accounting treatment may not always support this approach.

Seqwater accepts that this operating expenditure may be subject to ex post review by the QCA to ensure it represents prudent and efficient capital expenditure.[31] This would include substantiation that those operating costs were not already recovered under the opex allowance in the MAR.

7.2 Supply of water from the Western Corridor Recycled Water Scheme

The WCRWS is a critical component to water security in SEQ to provide additional source water in times of significant droughts.

Seqwater has decided to fully remobilise a single train at the Luggage Point Advanced Water Treatment Plant (AWTP) to reduce key risks to the restart of the full WCRWS, when required as a drought response. The water produced would be supplied for industrial or community education purposes.

7.2.1 Background

Since 31 March 2015, the WCRWS has been maintained in a care and maintenance mode such that it can be remobilised within a two year notice period.

The scheme pipeline (some 220km) needs to be periodically flushed to avoid water quality problems as part of the care and maintenance program. Due to that requirement, one of the three reverse osmosis trains at the Luggage Point AWTP remains operational, albeit in a reduced preservation state.

That train is capable of supplying 23 ML/day but currently only runs minimally several times a year to produce approximately 200 ML/year for pipe flushing purposes.[32] The other two AWTPs at Gibson Island and Bundamba remain shut down.

The costs associated with keeping this single train in a state of readiness are included in our opex forecasts, including in Table 1 above.

During 2017, a WCRWS Remobilisation & Restart Program Plan was developed and completed after our July 2017 submission. The plan outlines the high level activities that would be required to be undertaken to remobilise the scheme and includes a detailed risk assessment.

Scheme Restart Risks

The Water Security Program specifies that remobilisation commences when the Grid 12 water storages reach 60% of combined storage capacity. The program requires that the WCRWS be operating to its full installed capacity of 180 ML/day within two years of the scheme remobilisation trigger. This is a critical component to drought response, and it is essential that the risks of delay following this trigger are managed. The key risks identified in the restart program relate to both technical and community acceptance.

[31] Subject to the terms and limitations of any Referral Notice.
[32] Refer also to Table 1, which sets out how those costs change and specifically identifies the costs for periodic flushing in future years.

In relation to technical risks, remobilisation will:

- enable validation testing to commence, along with the update of associated water quality management plans
- increase certainty about the drought response timeframes and options about when to mobilise the other two AWTPs
- reduce remobilisation risks by staging remobilisation of the three AWTPs, enabling a core team to be established and a robust method established and progressively refined
- provide time, prior to readiness for augmentation of supply, to operate the Luggage Point AWTP and applicable network assets and thereby gain an understanding of the operational condition of assets and allowing for operating and maintenance strategies to be developed to improve scheme availability
- enable the treatment process to be proven under current conditions and allow for any current process risks to be identified early and addressed now
- enable Seqwater and contractor operational knowledge and expertise to be built up and kept current in an operating environment
- demonstrate to stakeholders and the broader community that recycled water assets are being used to reduce the demand on surface water supplies to help delay the potential introduction of mandatory water restrictions and other drought response measures. This approach is supported by community research that shows support of recycled water use for industrial purposes.

In relation to stakeholder and community acceptance risks, recommissioning the Luggage Point AWTP will enable Seqwater to actively engage with key stakeholders, before broader engagement with the community, about the scheme and its potential future use. Indeed every successful indirect potable reuse community engagement program has involved a demonstration plant, preferably an operational asset. The capability to produce recycled water will demonstrate the technology and provide an opportunity for stakeholders and the wider community to understand the treatment process and the safety and quality of the water produced.

Scope of 2017-18 activities and costs

Remobilising one train at Luggage Point will take approximately 4.5 months and will involve:

- reinstating assets not in service, including rectifying any associated restart punch list items, reversing the asset's dormant state to an operational ready state, system reinstatement and then performance testing of the system and assets
- replacing all reverse osmosis membranes on a single train, inspecting vessel condition and undertaking necessary repairs
- reviewing and updating operational and maintenance activities, management systems and plans to suit the ongoing production scenario (including operational procedures, sampling and laboratory testing, preventative maintenance work orders and monitoring)
- reviewing requirements for and reinstating critical spares, plant consumables, and laboratory consumables
- reviewing and updating existing regional supply agreements to suit production requirements (including bulk chemicals, sludge disposal, specialist maintenance and external lab testing)

- implementing required process control system changes at Luggage Point and in the network.

Following train remobilisation and membrane renewal a commissioning validation & verification program will commence for which recycled water production will operate continuously at 23ML/d for 7 days and then at 11.5ML/d for 21 days and thereafter at 6ML/d twice a week.

The additional capital costs of the remobilisation are estimated at $1.4M in the 2017-18 year, which is within the current regulatory period. Seqwater intends to add this expenditure to the regulatory asset base (RAB) accordingly when the 2017-18 RAB is updated at the next review. Additional Operating costs of $1.5M will also be incurred in 2017-18 as part of the remobilisation process, while the plant is operated and the water production validated.

Users of the scheme's recycled water

As set out above, the recommissioning is predicated on production of around 6ML per day or around 2,000 to 2,200ML per annum for industrial and other uses. Seqwater is in discussions with a number of large industrial users for a recycled water supply from the scheme, as a substitute to bulk water. While these discussions remain commercial in confidence at this stage, Seqwater is satisfied that it will achieve substitution of 6ML/day from 2018-19. Further information can be provided to the Authority on a confidential basis.

Ongoing costs

Ongoing future costs for producing 6ML/day are estimated at an additional $3M per annum for operational expenditure above existing care & maintenance costs and $0.5M per annum additional capital expenditure for asset replacement and renewals.

The additional $3M in operating cost comprises:

- $2M in fixed operating costs, net of avoided fixed operating costs under the current care and maintenance mode
- $1M in variable operating costs, based on production of 6ML per day or 2,000 to 2,200ML per annum. The variable cost is net of the avoided costs of producing water at the current sources, which for this submission is assumed to be Mt Crosby WTP.

Input costs would be indexed as per the QCA's recommended escalators.

The following below provides a breakdown of these additional costs:

Table 18 - Additional costs to recommission and operate one train at luggage point

Component	2017-18 Costs	2018-19 Ongoing Costs	Description
Capex expenditure	$ 1.4M	NA	Capital costs to bring one train of the asset back to production ready status. Costs include $0.9M for Reverse Osmosis Membrane replacement and $0.2M for UV Lamp replacement.
Additional operating expenditure	$1.5M	NA	Additional expenditure incurred to operate the plant and produce water for regulatory approval.
Ongoing fixed operating costs	NA	$ 2.0M	Additional fixed operating costs (independent of production volume). Costs include $0.8M labour, $0.3M water analysis, $0.5M repairs & maintenance, $0.4M Contractor fee.
Ongoing variable operating costs	NA	$ 1.0M	Additional variable operating costs (based on 6 ML/d). Costs include $0.4M chemicals, $0.2M sludge & waste removal and $0.4M energy.
Additional capex (renewals)	NA	$0.5M	Asset replacement and renewals allowance

Seqwater's modelling suggests this additional cost would translate to a 0.2% increase on the bulk water price. This is considered a relatively small cost to greatly improve confidence and reduce risk in a key component of the water grid and the region's water security.

In closing, Seqwater proposes that additional fixed and variable operating costs for the WCRWS of $3.0M be added to the 2018-19 Base Year (indexed accordingly). Seqwater does not propose any adjustment to the capex forecast given the above renewals costs are immaterial and will be recoverable through ex-post processes.

7.3 Prudent discounting framework

7.3.1 Background

Some water users may have alternatives to their current water supplies through the bulk water / distribution network such as local recycled water, stormwater or desalination. Such alternatives reduce demand and can have the effect of increasing bulk water prices as there is a smaller customer base and /or volume to recover the remaining fixed costs.

For example, if a water user currently paying $5M in bulk water charges (via their retailer / water service provider) were to shift to an alternative supply, bulk water prices would need to increase to recover the remaining fixed costs.

In some cases, it might be better to offer a discount to avoid this situation, and reduce the impact on prices that would otherwise occur. This concept is referred to as a prudent discount in the electricity sector, and results in remaining customers being better off compared to doing nothing and not influencing the water user to maintain their current arrangements. Using the example above, if the water user had a viable alternative at $4M per annum, then a discount could be provided for up to the $1M difference, which would make that water user and the other users better off compared to if the water user adopted the alternative.

There is merit in such a regime being in place in SEQ to enable Seqwater to respond to such circumstances should they arise.

7.3.2 Specific issues in SEQ

While the prudent discounting arrangements in the National Electricity Rules provide a working model, there are a number of issues specific to the market arrangements for bulk water in SEQ that need to be considered, particularly:

- water users are customers of water service providers such as QUU, Unitywater, and Logan / Gold Coast / Redland councils, and both Seqwater and these water service providers have an interest in any situation that could lead to a discount (e.g. a water user with an option to bypass the network)
- circumstances are likely to arise within or across regulatory periods, and Seqwater will need to respond in reasonable timeframes. This means that arrangements (and potential prices) will need to be decided within period
- bulk water prices are set by the Minister for Natural Resources, Mines and Energy and paid by water service providers. Seqwater does not have discretion to reduce prices, and any discount would need to be approved by the Minister for Natural Resources, Mines and Energy.

7.3.3 Proposed features of a prudent discounting framework in SEQ

The following features are proposed, which are an adaptation of the prudent discounting framework in the National Electricity Rules to account for the specific issues above.

In short, a prudent discounting framework for bulk water in SEQ should have the following features:

- the proposed discount must encompass all components to the end users water bill, including bulk water and distribution/retail charges
  - be in response to an application from a water user with a viable alternative option
  - be no more than that required to influence the water user to maintain their current arrangements for supply
  - not place other customers in a worse position than if the discount was not offered
  - be equitably shared between Seqwater and the relevant water service provider (where the water user is a retail customer of the service provider)
- the discount would translate into an amendment to the bulk water price paid by the water service provider, and that service provider would have to agree to reflect that discount in their retail charges to the water user subject to the application
- the price impact from the discount would be manifest in the next regulatory period, when prices were adjusted for updates to price path debt (based on actual revenue received), and amended demand and revenue forecasts
- applications should be made jointly between Seqwater and the affected water service provider to the Minister for Natural Resources, Mines and Energy, and address how the discount to the end user's water costs are being shared between them

- the Minister would decide any amendment to the bulk water price and any mechanisms required to ensure the discount was being passed on as intended. This decision would be informed by the above guidance. In doing so, the Minister for Natural Resources, Mines and Energy could seek further guidance from the QCA for the particular application.

In closing, Seqwater proposes that the QCA recommend that the Treasurer and Minister adopt a framework for prudent discounting as set out above.

8 Opening price path debt at 1 July, 2018

The QCA recommended an opening price path debt balance that was slightly higher than our proposal. This was largely due to the exclusion of savings in variable costs due to lower demand. The QCA also adjusted our proposal for asset disposals. We have also provided updates to costs arising from Review Events in 2017-18, which will need to be incorporated into an updated assessment of the price path debt estimate.

8.1 Exclusion of variable costs

In our submission, we offset the avoided variable costs associated with lower demand to calculate a net revenue outcome for the price path debt calculation. This approach was in the customer's favour, and in our view represented a fair account of actual revenue for the price path debt calculation. The QCA excluded the offset from variable cost savings on the basis the Referral Notice did not ask for this adjustment to be made.

We agree that the Referral Notice is silent on this matter. However the broader framework for the bulk water price and price path debt repayment involves customers bearing the long-term demand and volume risk through regular price path true-ups for actual revenue. In our view, demand and volume risk allocation should take account of the changes in variable costs associated with changes in demand. Hence while the Referral Notice is silent, we do not believe making the variable cost adjustment (our approach) is inconsistent with the broader price path framework. We would therefore encourage the QCA to incorporate changes in variable costs into the revenue adjustment, as we have proposed, or otherwise seek further guidance on this matter.

8.2 Asset disposals

We proposed an incentive mechanism for land disposals within the asset disposals process. The QCA did not accept this proposal, but recognised the need to establish a broader incentive framework when regulatory arrangements would allow. We would support the development of such a framework in the future.

8.3 Feedwater quality events

As set out in Section 6.1, we experienced a feedwater quality event (or an extraordinary raw water event) in October, 2017. The costs of this event ($0.43M) have been developed using our proposed methodology for all such events. We submit that these costs are incorporated into the price path debt calculation.

8.4 Drought response events

Section 6.2 sets out our claim for $0.83M for drought response events to date in 2017-18. We submit that these costs are incorporated into the price path debt calculation.