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2016 Annual Network Service Plan

Bundaberg Bulk

June 2015

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Notes

All financial figures in this NSP are presented in nominal dollars.

Most of the financial figures in the QCA's final report on SunWater's irrigation pricing were presented in real dollars (\$2011). To allow comparison to this NSP, convert the QCA final report real dollar figures to nominal dollars by, multiplying the QCA \$real figures by the following factors, which are based on the QCA's assumed inflation rate of 2.5% p.a.

Table 1 – Conversion Factors for real \$2011 to Nominal Dollars

	2013	2014	2015	2016	2017
Conversion Factor	1.051	1.077	1.104	1.131	1.160

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Introduction

A recommendation from the 2013-17 review of SunWater's irrigation pricing was for SunWater to produce annual Network Service Plans (NSPs) to help keep customers informed throughout the pricing period. These annual NSPs will focus on both routine expenditure (opex) and non-routine expenditure. In particular, the NSPs will cover:

- past performance for routine opex and non-routine expenditure,
- forecast opex and non-routine for the approaching year, and
- the long-term outlook for material non-routine spend.

SunWater published draft 2016 NSPs for each of thirty Service Contracts during March 2015. This was followed by consultation meetings held throughout regional Queensland over March and April. These discussions involved many customers and other stakeholders at Irrigation Advisory Committee meetings and other forums. Valuable feedback was received from customers that can be found, along with SunWater's responses, at <http://www.sunwater.com.au/schemes/nsp/annual-nsp-and-performance-reports>

SunWater values customer feedback and will publish all submissions and SunWater's responses on our website. Customers can provide their feedback via email or post using one of the following addresses:

Email: nspfeedback@sunwater.com.au

Post: NSP Feedback
PO Box 15536 City East
Brisbane Qld 4002

Water Data

Table 2 – Water Data

	No. of Customers	Water Entitlements ML
Industrial		886
Irrigation		198,957
Urban		9,571
Other		46
SunWater		170,869
Total	1,101	380,329
QCA Assumed Water Usage for Irrigation		41.4%
QCA Assumed Water Usage for Total		46.7%

Table 3 – Revenue¹

	2013 SunWater Actual \$'000	2014 SunWater Actual \$'000	2015 SunWater Budget \$'000	2016 SunWater Budget \$'000
Irrigation Revenue*	250	431	430	450
Industrial and Urban*	722	599	615	634
Other Revenue	13	0	13	13
Total Revenue	984	1,030	1,059	1,098

* Bulk water charges have not been unbundled from Distribution charges therefore a portion of the Distribution revenue is attributable to the Bulk service contract.

¹ The budget figures form the basis for SunWater’s SCI submission, which is yet to be agreed with SunWater’s shareholding Ministers. While the budgets are not expected to change from here, there is always the possibility of further directions from Government and these may have budget implications.

Routine Expenditure

Table 4 – Routine Operating Expenditure²

	2013 SunWater Actual	%of 2013 Target	2014 SunWater Actual	%of 2014 Target	2015 SunWater Budget	%of 2015 Target	2016 SunWater Budget	%of 2016 Target
	\$'000	%	\$'000	%	\$'000	%	\$'000	%
Operations (Excl. Elect.)	1,103	153%	957	128%	961	128%	907	121%
Preventative	132	40%	93	27%	217	62%	326	94%
Corrective	122	93%	32	23%	100	72%	146	105%
Electricity	5	52%	6	60%	4	39%	4	36%
Total Routine Expenses	1,362	114%	1,087	88%	1,282	102%	1,383	111%

The budget routine spend is 11% above the QCA's target for 2015 however the budget falls to 99% of target when the above-QCA increases in insurance are taken into account.

Operations

The operations budget in 2016 is 21% above the QCA target; however this is mostly due to the increases in insurance costs being much greater than allowed for by the QCA. Increased premiums followed flood events that have occurred in the past few years in Queensland. This cost over-run is beyond SunWater's control. The budget for operations drops to 102% of the QCA target when the insurance over-run is taken into account.

Preventive Maintenance

SunWater restructured its bulk water business during 2013/14. As a consequence the bulk water business undertakes a number of maintenance tasks, such as electrical and mechanical servicing, utilising specialist private sector organisations. Therefore the budget for preventive maintenance, at 94% of target, reflects a reduction in internal labour that is offset by an increase in contract services.

Corrective Maintenance

Corrective maintenance is budgeted 5% above the QCA's target for 2016. Significant corrective maintenance will also be undertaken by specialist contractors, as described above.

Electricity

Electricity costs are budgeted at \$7k below the QCA target in 2016. This is despite the QCA limiting estimated tariff increases to around 35% over the first four years of the price path when actual increases have been around 50%. Bundaberg electricity costs can vary from year-to-year and represent less than 1% of total routine costs.

² The budget figures form the basis for SunWater's SCI submission, which is yet to be agreed with SunWater's shareholding Ministers. While the budgets are not expected to change from here, there is always the possibility of further directions from Government and these may have budget implications.

Non-Routine Expenditure

SunWater has developed a whole of life strategy around the replacement and maintenance of its asset portfolio which is based on the concept of optimised life. The key drivers in this approach are the risk and condition of each asset. The current condition of an asset drives an estimate of the future work required to ensure an asset continues to be able to provide the required level of service into the future. SunWater maintains a program of asset inspections and condition assessments which continually updates our knowledge of asset condition. This information feeds into the annual review of the renewals program and items requiring immediate maintenance or replacement are included in the budget for the following year.

While the immediate program for the next year's budget is well defined; the further into the planning timeline, the more uncertain the estimates become. Consequently, the program of works is not a specific forecast of when individual projects are expected to be executed but rather it is portfolio level estimate of works based on the best-available risk and condition information for the service contract as a whole. This information feeds into calculation of the annuity to fund renewals. Having an annuity funding arrangement acknowledges that a long-term view of renewals spend is required to ensure adequate funding and to address issues such as inter-generational equity.

The QCA targets were set against a snapshot of the estimated program of works taken during the 2010-11 year. While this was the best estimate of expected work at the time, there has been significant project churn since this estimate was made. This can mean that, in some cases, the QCA's funding allowance for renewals work does not cover the total expenditure required to maintain asset condition to the required standard. In addition, there are unexpected events, such as floods, that are not allowed for in the QCA's annuity funding allowance. Notwithstanding these points, SunWater aims to limit renewals expenditure to the QCA's targets over the 2013-17 price path in order to manage the annuity balance to reasonable levels.

Non-Routine Budget

The budget non-routine spend for 2016 is shown in the table below, along with the actual spend for 2014 and the budget spend for 2015. There have been significant corrective works in this service contract. The actual spend for 2015 is expected to be less than the 2015 budget shown below due to carrying forward of the flood repairs for Ben Anderson Barrage into 2016. The condition of these assets will continue to be monitored. Corrective works are unplanned and were not allowed for in the QCA's targets. Consequently, it is clear that non-routine expenditure will exceed the QCA's target for the 2013-17 price path.

Table 5 – Non-Routine Expenditure

	2013 SunWater Actual	% of 2013-17 Target	2014 SunWater Actual	% of 2013-17 Target	2015 SunWater Budget	% of 2013-17 Target	2016 SunWater Budget	% of 2013-17 Target
	\$'000	%	\$'000	%	\$'000	%	\$'000	%
Annuity Funded								
R&E - Annuity Funded	157		207		510		301	
Corrective	501		3,927		6,690		7,534	
Other	0		0		0		0	
Non-direct	287		776		1,105		1,207	
Annuity Funded Total	946	55%	4,910	286%	8,306	484%	9,042	527%
Non-Annuity Funded								
R&E - Non-Annuity Funded	0		3		0		0	
Non-direct	0		0		0		0	
Total Non-Annuity Funded	0	n/a	3	n/a	0	n/a	0	n/a

The details for the five major projects planned for 2016 are provided below:

Table 6 – Non-Routine Projects 2016

Project Title	Project Scope	2016 Budget (\$'000)
2013 Flood damage repairs - BEN ANDERSON BARRAGE	Following the 2013 Australia Day Flood Event, post flood inspections at the barrage identified some areas of damage. An options analysis and risk assessments were undertaken which identified remedial works to maintain the assets structural integrity. This involved reinstating the upstream concrete protection and installing an additional row of sheet piling.	6,592
15BUN11 (2013) FD01 - Refurbishment under flood damage FRED HAIGH DAM	During the January 2013 flood event, caused by ex-Tropical Cyclone Oswald, significant flow passed over the spillway of Fred Haigh Dam, resulting in damage to the spillway discharge channel and the accumulation of a large debris field deposited within the channel of the Kolan River. This project is to undertake repairs to the spillway discharge channel and clear debris. The budget cost estimate is 'worst case' with the actual costs of the remediation works claimable under SunWater's insurance policy, once completed.	1,995
Refurbish 10 Shutters - BEN ANDERSON BARRAGE	This project is a reoccurring project for the refurbishment of 10 shutters at the barrage. Because the downstream side of the Barrage is salt water, the shutters tend to continually corrode. This intends to stop the advance of the corrosion.	119
Refurbish concrete in several locations (Rec 2.51a, b, 2.54a, 2.6.2b 2014DS) - BEN ANDERSON BARRAGE	A number of concrete deficiencies were identified in the 2014 dam safety inspection. These were deemed a moderate risk to the structural integrity that should be refurbished. These include spalling at the down-stream face slabs, differential settlement in rock pitching left bank, & spalling on outlet structure end sills.	77
14BIA19 Install redesigned nut and spindle on Bucca Weir gate to original arrangement 2014 Design project	This project is to upgrade the gate operating mechanism at Bucca Weir to improve the reliability of operation and minimise the risk of gate failure. The thrust nut on the gate has failed in the past. If it fails while the gate is in the open position, it may become impossible to control the flow. This project aims to mitigate that risk.	57
Other works	Various replacement and refurbishment projects.	202
Total		9,042

Annuity Balance

The estimated 2015 and 2016 annuity balances are shown below; the annuity income shown has been set by the QCA until the end of the current price path in 2017. SunWater aims to limit the annuity spend to the QCA's targets over the 5-year price path in order to manage the annuity balance to reasonable levels.

The impact of the budget non-routine spend on the annuity balance for 2016 is shown in the following table. The balances for 2015 and 2016 are estimates only at this stage because the final actual spends for 2015 and 2016 will not be known until after each of these years is completed.

Table 7 – Annuity Balances

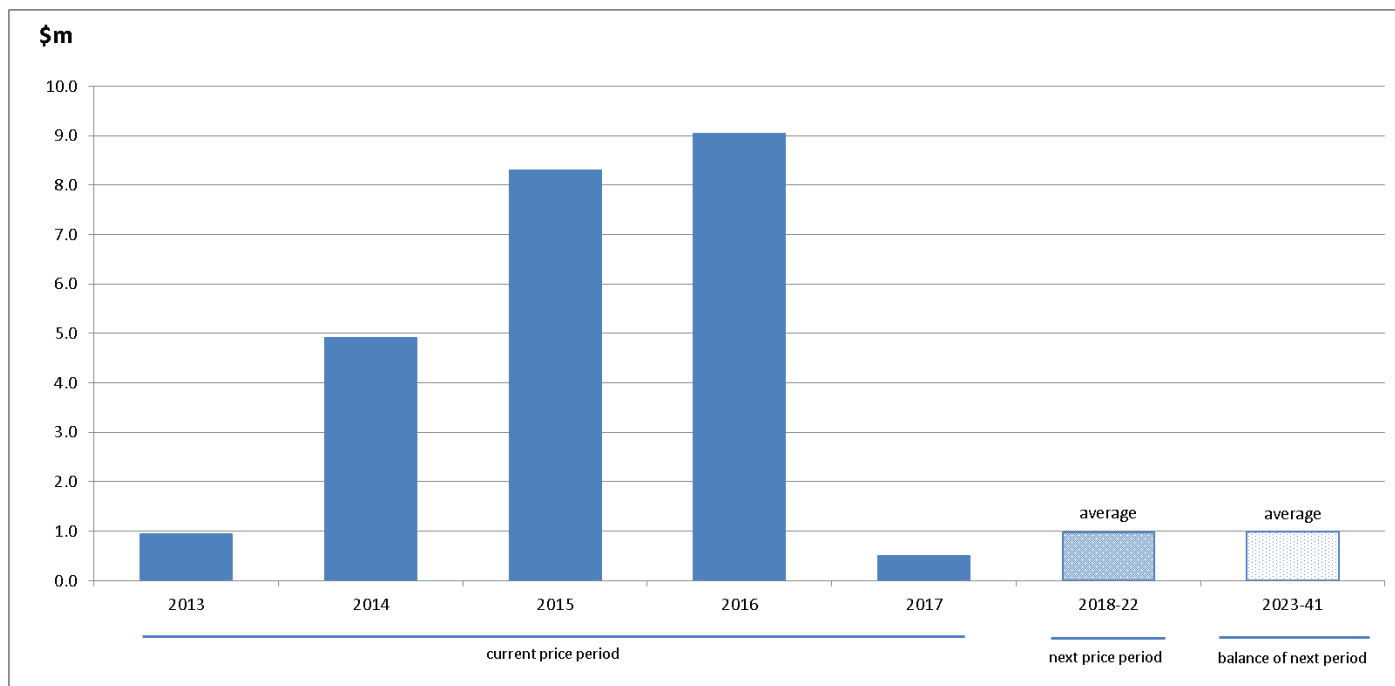
ANNUITY	2013	2014	2015*	2016
	\$'000	\$'000	\$'000	\$'000
Opening Balance	(2,771)	(3,363)	(7,952)	(16,268)
Annuity Income	561	574	585	599
Spend	(946)	(4,910)	(8,306)	(9,042)
Interest	(208)	(252)	(596)	(1,218)
Closing Balance	(3,363)	(7,952)	(16,268)	(25,930)

* All 2015 and 2016 figures are subject to change once actual spend is known.

Overview of Annuity Funded Non-Routine Projects 2013-41

The renewals annuity is calculated over a 20-year planning period; given that the following pricing period ends in 2022, the estimated renewals spend out until 2041 will affect the next pricing review. The estimated renewals expenditure out to 2041 is shown in the chart following. The annuity chart below has been updated to include the estimates of flood damage repairs over 2013-15.

Figure 1 – Annuity Expenditure 2013-41



All material renewals items out until 2041 are discussed in the sections following. Materiality is defined as >10% of the present value of the period in question. SunWater will develop options analyses for all material items in the annuity calculation planning period. These reports will be tailored to suit project complexity and budget, with detailed options analyses being completed within the current and following 5-year pricing periods and high-level options analyses for the 20-year period beyond the next price path. The materiality tests will be applied each year as part of annual planning process. Given that there will be project churn, some items will no longer require options analysis in future years and new items may join the list.

Material Projects 2016-17

Flood damage repairs - BEN ANDERSON BARRAGE

Year: 2016

Current estimate: \$6.59m

Options analysis completed: Yes

In January 2013, high flood flows in the Burnett River caused extensive damage to Ben Anderson Barrage which is located on the Burnett River at AMTD 25.9 km. The flood peaked at the Barrage on the 27 January 2013 at EL 17.54 m which was 15.41 metres above the concrete crest slab. There was a subsequent smaller peak on the 4 March 2013 at EL 9.36 m which was 7.23 metres above the crest slab. The estimated probability of the flood at Paradise Dam, 103 km upstream of the Barrage, was 1:170 AEP.

The Barrage storage was drawn down one metre to allow inspection of the flood damage on Wednesday 4 September 2013. A 50 metre wide section of the upstream 300 mm deep concreted rockfill in the central section of the barrage, along with the upstream 600 mm thick layer of rock pitching and underlying clay, had been removed. Material was removed to a depth of 1.5 metres just upstream of the crest slab and to a depth of 4.0 metres, twenty metres upstream of the slab. On the left side of the river, a section of the concrete rockfill 70 metres wide had settled approximately 0.5 metres. This was probably caused by the underlying supporting material being drawn through the cracks in the concreted rockfill by the flood flows. Large rock boulders up to 1.5 metres in diameter were deposited at the toe of the sloping face slab, downstream of the 50 metre wide section where the concreted rockfill and rock pitching had been removed.

Divers inspected the condition of the exposed 1.5 metre deep part of the upstream row of sheet piling supporting the crest slab. They visually observed the narrow exposed section above the water level and observed the remainder below the water level by touch. Apart from aquatic growth and clay on the surface, the piling was found to be in good condition with no corroded layers of steel. The primary barrier between the fresh and salt water on each side of the Barrage is the upstream Row 1 steel sheet piling. This row was driven to bedrock and varies in depth from 16 to 6 metres. In the new condition there would have been a seepage path through the clutches in the piling. A clay layer of 1200 mm minimum thickness and extending 15 metres upstream was provided to increase the seepage path to the upstream row of piling.

The stability of the Barrage relies on the ability of the upstream row of sheet piling to provide a secure water retaining barrier to prevent seepage. If sufficient material is removed from the upstream side, the piling may become unstable and the toe may move upstream. Seepage under the piles could lead to the formation of pipes in the supporting sand and eventually failure of the structure.

The following restoration options were considered for the upstream protection:

- Reinstatement like for like,
- Pinned concrete blocks or mattresses anchored at the upstream toe with concrete piles,
- Rock-filled gabions,
- Concrete slab anchored by new row of upstream piling.

After considering the options, the preferred option for the restoration of the Barrage is to construct a reinforced concrete sloping slab 6 metres wide attached to the existing upstream row of sheet piling and anchored along the upstream edge by a new row of sheet piling 6 metres deep. The aim of the new piling and slab arrangement is to retain the supporting material upstream of the existing row of sheet piling.

The insurance claim for the Ben Anderson barrage repairs is still being developed. A proportion of these costs will be covered by insurance, however the amount to be returned is uncertain and insurance claims of this nature can take years to settle. The difference between the cost of repairs and the insurance returns will be funded from the annuity.

Material Projects 2018-22

The evenness in the spread of estimated project costs means there are no projects which exceed the materiality threshold for this service contract for the 2018-22 period.

Material Projects 2023-41

The program of works for 2023-41 should be viewed as indicative at this stage and will be refined as the next pricing review draws closer.

20yr Dam Safety Review - Fred Haigh Dam - FRED HAIGH DAM

Year: 2038

Current estimate: \$608k

Options analysis completed: No

Fred Haigh Dam is a category 1 referable structure and the 20 Year Dam Safety Review is required for Queensland Government Regulatory Compliance. The review is a procedure for systematically assessing the safety of a dam after its original construction. It is a fresh engineering assessment of the integrity of all elements of a dam. It usually incorporates a:

- current failure impact assessment,
- detailed review of structural, hydraulic, hydrologic and geotechnical design aspects,
- review of historical operational performance,
- review of surveillance reports,
- comprehensive inspection of the dam, and
- comparison of the standards used for building and upgrading the dam against current design standards.

Given this requirement is mandatory, an options analysis will not be completed.

Appendix – Total Expenditure by Expense Type

Table 8 – Expenditure for Activity by Type

	2013 SunWater Actual \$'000	% of 2013 Target %	2014 SunWater Actual \$'000	% of 2014 Target %	2015 SunWater Budget \$'000	% of 2015 Target %	2016 SunWater Budget \$'000	% of 2016 Target %
ROUTINE EXPENSES								
Operations								
Labour	272		156		192		160	
Materials	6		3		6		6	
Contractors	29		9		26		43	
Other	242		475		304		291	
Non-direct	554		313		433		408	
Operations Total	1,103	153%	957	128%	961	128%	907	121%
Preventative								
Labour	37		33		37		66	
Materials	7		4		5		5	
Contractors	13		5		100		101	
Other	1		2		0		0	
Non-direct	74		49		74		154	
Preventative Total	132	40%	93	27%	217	62%	326	94%
Corrective								
Labour	31		10		9		17	
Materials	16		4		9		9	
Contractors	4		0		63		78	
Other	0		0		0		0	
Non-direct	70		17		19		42	
Corrective Total	122	93%	32	23%	100	72%	146	105%
Electricity	5	52%	6	60%	4	39%	4	36%
Total Routine Expenses	1,362	114%	1,087	88%	1,282	102%	1,383	111%
	2013 SunWater Actual \$'000	% of 2013-17 Target %	2014 SunWater Actual \$'000	% of 2013-17 Target %	2015 SW Budget \$'000	% of 2013-17 Target %	2016 SW Budget \$'000	% of 2013-17 Target %
NON-ROUTINE EXPENSES								
Annuity Funded								
R&E - Annuity Funded	157		207		510		301	
Corrective	501		3,927		6,690		7,534	
Other	0		0		0		0	
Non-direct	287		776		1,105		1,207	
Total Annuity Funded Non-Routine	946	55%	4,910	286%	8,306	484%	9,042	527%
TOTAL REGULATED EXPENSES	2,308		5,997		9,587		10,425	
Non-Annuity Funded								
R&E - Non-Annuity Funded	0		3		0		0	
Non-direct	0		0		0		0	
Total Non-Annuity Funded	0	n/a	3	n/a	0	n/a	0	n/a
TOTAL EXPENSES	2,308		6,001		9,587		10,425	