

Background paper
QCA review of irrigation prices

Electricity costs

February 2010

Contents

1	Overview of electricity costs	4
2	Risk sharing and electricity cost forecasting	6
3	Cost drivers	7
3.1	Bulk water schemes.....	7
3.2	Distribution systems.....	7
3.3	Pumping conditions.....	8
3.4	Electricity tariffs.....	8
4	Energy management.....	9
4.1	Procurement	9
4.2	Off peak pumping.....	10
4.3	Condition monitoring and maintenance	10
4.4	Infrastructure modifications	11
4.5	Other programs.....	11
5	Forecasting electricity costs.....	13
6	Conclusion	17
	Attachment 1. Franchise tariffs adopted for each pump station.....	18
	Attachment 2. Electricity tariffs (2010/11)	21

1. Introduction

The Queensland Competition Authority (QCA) is to recommend prices for SunWater's irrigation customers. SunWater has prepared Network Service Plans (NSPs) that set out the forecast operating and capital expenditure for each water supply scheme and distribution system. These forecasts include electricity costs of pumping in distribution systems, as well as relatively minor electricity costs in bulk water schemes.

SunWater has also submitted to the QCA that the tariff structure for irrigation prices should reflect the fixed and variable costs of supply. Electricity costs of pumping are the only costs that vary in relation to the volumes taken by customers. Accordingly, it is important to establish a cost per ML delivered in bulk water schemes and distribution systems where water is supplied to users via pumping. This paper sets out SunWater's proposed electricity costs on this basis.

The Referral Notice to the QCA states that it must recommend appropriate regulatory arrangements, including price review triggers and other mechanisms, to manage the risks associated with the costs, such as electricity, that are outside the control of SunWater.

The purpose of this background paper is to describe SunWater's approach to managing its electricity costs and present the basis of the forecasts contained in the Network Service Plans.

This paper is structured as follows:

- Section 2 provides an overview of electricity consumption;
 - Section 3 considers risk sharing and electricity cost forecasting;
 - Section 4 sets out the key drivers for electricity costs;
 - Section 5 outlines SunWater's approach to managing electricity costs;
 - Section 6 presents the basis for electricity cost forecasts in NSPs; and
 - Section 7 provides a conclusion.
-

1 Overview of electricity costs

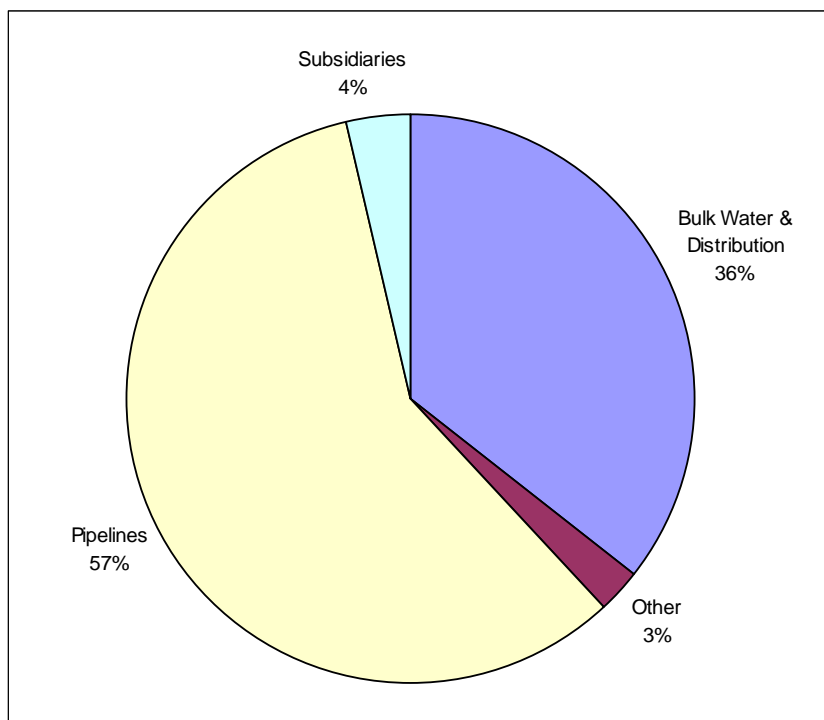
SunWater's electricity costs are a significant component to its overall operating cost base. Electricity is predominantly used to pump and transport water within distribution systems and industrial pipelines. It is a relatively minor costs in bulk water schemes, and only arises to any material extent in schemes that involve off stream storages (eg Eton, Dawson Valley, and Bowen Broken) or in bulk water schemes that require pumping to supplement stream flows (eg Redgate Relift, Upper Condamine North Branch).

SunWater has over 70 major pumping stations. Of these, 58 pumps are used to supply water in bulk water and distribution systems with the balance related to industrial pipelines.

Despite the relatively large number of pump stations involved in supplying irrigation users, the majority of SunWater's electricity costs are incurred at its industrial pipelines located throughout Queensland. For example, in 2009/10, 57% of SunWater's total electricity costs were incurred at the Tarong, Burdekin-Moranbah, Blackwater, Collinsville, Stanwell, and Awoonga-Callide pipelines. SunWater's subsidiary entities are also significant consumers of electricity for their various pipelines in northern and central Queensland.

The figure below sets out the proportional electricity costs across the business:

Figure 1. Electricity costs apportioned across SunWater (2009/10)



SunWater also manages electricity costs as part of its operating contracts for water pipelines and other assets owned by third parties.



Accordingly, SunWater has significant experience in managing electricity costs across a range of situations.

2 Risk sharing and electricity cost forecasting

SunWater notes the requirements of the Referral Notice for QCA to recommend appropriate regulatory arrangements, including price review triggers and other mechanisms, to manage the risks associated with lower bound costs outside the control of SunWater.

SunWater's submission on the form of regulation set out the need to establish such review triggers so that water prices reflected actual changes in electricity prices.

In SunWater's background paper setting out its cost forecasting assumptions for electricity, it stated:

SunWater proposes that tariffs be cost reflective to mitigate volume risk and that consumption charges recover the variable costs of supply, namely electricity costs for pumping. The consumption tariff would then be adjusted each year to reflect the impact of changes to the retail electricity prices.

In some bulk water schemes, electricity costs do not vary with demand and hence would not be recovered through consumption charges. For example, costs associated with pumping into offstream storages do not bear a relationship to water taken. In cases where it is not practical to make an annual adjustment to the electricity component of the variable tariff, SunWater proposes to maintain a running balance across the price path with a revenue neutral 'unders and overs' adjustment applied to prices for the next price path to account for differences between forecast and actual electricity costs. These costs will vary not only with changes to electricity prices, but also in accordance with changes in year-on-year pumping into offstream storages, which will depend upon streamflow events during each year.

SunWater has not included any real electricity price increases on the basis that the above risk sharing arrangements are in place.

SunWater has not incorporated any real prices increases for electricity into its NSPs nor the proposed \$/ML costs for pumping set out in this paper. This has been done on the basis that regulatory arrangements, including price reviews triggers or other mechanisms would be implemented as per SunWater's proposed arrangements outlined above. ..

3 Cost drivers

Electricity costs are essentially a function of volume pumped and the unit cost of pumping. Both of these drivers are largely beyond the control of SunWater.

There are of course different drivers for electricity costs between bulk water schemes and distribution systems. Pumping conditions and the pricing of electricity are also important drivers of cost. All these factors have implications for the efficient management of electricity cost as well as forecasting electricity costs and the unit cost of pumping water to supply customer demand.

3.1 Bulk water schemes

Three bulk water schemes - Dawson Valley, Bowen Broken and Eton - have offstream storages into which water is pumped during defined streamflow events. The rules for pumping and releasing water are contained in Resource Operations Plans (ROPs).

In these schemes, electricity costs are driven by the frequency of those events and the other rules set out in the ROP for the release of water from the storage.

In other schemes, water is pumped from a storage to supplement a different stream. The need to pump water is driven both by customer demand and the streamflows in the supplemented stream. These schemes include Upper Condamine (North Branch) and Barker-Barambah (Redgate Relift).

In closing, electricity costs for offstream storages are not driven by customer demand, while costs in supplemented streams are only partly driven by demand, and partly by natural streamflows. This also means that pumping is infrequent and difficult to predict, and when pumping occurs it is usually at maximum capacity.

Accordingly, SunWater has proposed that the costs of electricity in these schemes be subject to an 'unders and overs' regime with adjustments to the actual, aggregate cost of pumping at the next price path.

3.2 Distribution systems

The need to pump water in distribution systems is driven by customer demand. Related factors driving electricity costs in distribution systems include:

- variability in customer use driving peak and off peak power consumption; and
- distribution efficiencies, given losses within a distribution network must also be pumped. Higher efficiencies will lead to lower costs per ML of water delivered to customer outlets.

Aggregate and unit (\$/ML delivered) forecasts of electricity costs in distribution systems will therefore be influenced by usage forecasts. However, aggregate water usage is difficult to predict evidenced by variability in historic demand. There is also significant volatility in usage within a weekly or monthly period. For example, local rainfall can quickly reduce water use in any given week. Conversely, a lack of rainfall or other climatic conditions (eg temperature) can drive peaks in use on a daily or weekly basis. This leads to high variability in electricity consumption which has implications for procurement and tariff selection (discussed below).

3.3 Pumping conditions

There are a number of factors generic to both bulk water schemes and distribution systems that impact on the amount of electricity required to pump water. These are clearly important for managing and forecasting electricity costs, and include:

- variability in storage levels on suction and discharge heads. The higher the pumps lift, the more energy required to pump per ML;
- variability in the pump operating efficiency. This is dependant on where the pump is within its wear/refurbishment cycle. When it is late in the cycle it is less efficient¹. Cycles vary from pump to pump depending on quality of water being pumped and other factors; and
- power and water meter accuracy. Variability impacts directly on accuracy of the calculation.

Clearly, pumping conditions are not static and can change relatively quickly (eg storage levels) or over longer timeframes (eg operating efficiency). This presents challenges for forecasting electricity costs and developing a unit cost (\$/ML).

3.4 Electricity tariffs

The level and structure of electricity prices is also a key driver of cost. For example, tariffs based on maximum demand will generate different cost outcomes to tariffs based simply on use.

While SunWater has elected to procure electricity from the contestable market for some industrial pipelines (where there have been cost savings in doing so), it has elected to continue with Franchise Tariffs for its bulk water schemes and eight distribution systems.

These Franchise Tariffs generally involve a very minor fixed charge with a nominal monthly service fee per metering point. One exception is Tariff 43, which is adopted for four pump stations in the Burdekin-Haughton Distribution System, and involves a Demand Charge of \$13.87/kW of chargeable demand per month.

Attachment 1 provides a summary of the tariffs adopted at each pump station.

In closing there are a number of drivers of electricity cost and the unit cost of pumping in particular. Most of these factors are outside SunWater's control and/or are difficult to predict with accuracy. SunWater's approach to addressing these issues is set out in Section 5.

The following section discusses how SunWater manages its energy costs in response to this cost environment.

¹ This decline in efficiency is normal, and there are a number of factors that are considered in making decisions to replace pumps and other pumping equipment.

4 Energy management

SunWater has implemented an energy management program to ensure that electricity costs are kept to a minimum. The key aspects to this program are:

- procurement;
- operations;
- condition monitoring; and
- infrastructure modifications.

These are discussed below.

4.1 Procurement

There are two aspects to SunWater's approach to procuring electricity:

- first, decisions about whether to move from Franchise Tariffs to the contestable market; and
- obtaining best value within the chosen regime.

These are discussed below.

4.1.1 Franchise Tariffs or contestable market?

Since the implementation of electricity market reforms in Queensland, electricity users such as SunWater have had the option to procure electricity from the contestable retail market. At the same time, SunWater has enjoyed the option to continue to access Franchise Tariffs.

Currently, SunWater procures all electricity in its bulk water and distribution systems from Ergon Energy under Franchise Tariffs.

SunWater reviews this approach periodically in response to new information about Franchise Tariffs and prices in the contestable market.

It is important to note that a change from Franchise Tariffs to the contestable market is irreversible. Hence any gains from such a move must be realisable and sustainable over the longer term in order to be attractive.

The prices available to SunWater under the contestable market are influenced by a number of factors, including the nature of electricity load. Most bulk water schemes and distribution systems have loads that vary from zero demand to full demand on a frequent basis. Most retailers prefer customers with a consistent demand and offer prices accordingly.

The structure of tariffs is also an important difference between the two. As noted above, Franchise Tariffs have a very small fixed charge and generally involve a uniform price regardless of maximum demands. In contrast, the tariffs that would apply following a change to the contestable market are mostly demand-based with a lower energy cost. This means that the cost of electricity will be influenced by the maximum demands on the network via a demand charge. This demand charge, once incurred, is applied in following months regardless of actual demand.

This is very important given the variability in pumping requirements both within and between seasons. SunWater's analysis indicates that Franchise Tariffs remain the most suitable for its distribution systems and bulk water schemes.

4.1.2 Tariff selection

The Queensland Government, through the Minister for Energy, publishes Franchise Tariffs annually. These tariffs vary with respect to peak/off peak rates, hours of use, energy used and peak demand. SunWater is restricted to its choice of Franchise Tariffs from Ergon Energy. For example it cannot access the 'irrigation tariffs' normally available to irrigators, for its major pump stations².

Electricity tariffs are selected based on the demand profile for each pump station taking into account peak and off peak electricity usage. SunWater reviews the electricity tariff for each pump station from time to time to ensure that the franchise tariff nominated for that station will deliver the minimum overall cost. The tariff reviews take into account history of use and forecast use with changes in tariffs implemented within the immediate reading quarter of that year.

The current franchise tariffs for each pump station are shown in Attachment 1 with the current Electricity Tariffs for 2010/11 shown in Attachment 2.

4.2 Off peak pumping

There are significant price differences between peak and off-peak rates. For example, Tariff 22 peak charge is 26.43c/kWh whilst off-peak is 9.31c/kWh. Hence pumping in off-peak times will lead to significant savings in electricity costs. However, off-peak pumping is limited by the amount of storage available within a distribution system. Those pump stations with balancing storages clearly have greater potential for savings from off peak pumping than those without.

The demand profile will also affect the opportunities for off-peak pumping. For example, if demand occurs infrequently but at full capacity, continuous pumping will be required leaving very little operational discretion. In these circumstances the average cost per ML delivered will be higher compared to a demand profile that is lower, but constant. Under these conditions, the average cost will be lower as a greater proportion of water will be pumped during off-peak periods.

SunWater implements pumping arrangements for each pump station to maximise the proportion of off-peak pumping. This can often be programmed into the SCADA system or pump station controls. These operational strategies have considered even small savings such as using the storage capacity of main channels as pseudo balancing storages, especially during off-peak tariff times.

4.3 Condition monitoring and maintenance

As set out above, pumping costs are influenced by the performance of the pump station itself, as this performance will erode over time leading to greater amounts of electricity required to

² The Fork Farmers pumps at Theodore and the Upper Redgate relief pumps in the Barker Barambah scheme remain on an irrigation tariff due to legacy arrangements.

pump the same volume of water. It is therefore important to monitor pump performance and undertake appropriate maintenance. SunWater's approach includes:

- Pump efficiency testing – where SunWater undertakes regular testing of pumping plants to ensure the pump operates as closely as possible to the optimum efficiency point; and
- Maintenance – when pump operations are found to be other than optimal, or during routine overhauls, various pump improvements are investigated and applied. These include friction reducing coatings on impellers and pump housings.

4.4 Infrastructure modifications

There are a number of infrastructure measures that could be applied to reduce the per ML cost of pumping. These include:

- development of additional balancing storage capacity to increase off-peak pumping opportunities;
- enlargement/improvement of rising mains to reduce head loss; and
- replacement of old pumping units with more efficient modern equivalents.

These modifications would be justified where the present value of savings was greater than the present value of the expenditure. SunWater is continually evaluating a number of such opportunities and to date the savings have not justified the expenditure.

While SunWater will continue to identify and evaluate opportunities, its expenditure forecasts do not include any of these measures.

4.5 Other programs

The Australian Government's Energy Efficiency Opportunities (EEO) program encourages large energy-using businesses to improve their energy efficiency by improving the identification, evaluation and resulting implementation of cost effective energy savings opportunities. As a large energy-using business, SunWater has registered for the EEO program.

Participation requires undertaking EEO assessments and gathering information required for corporate reporting as outlined in the *Energy Efficiency Opportunities Regulations 2006* and the Energy Efficiency Opportunities Industry Guidelines.

The EEO program operates on five year cycle and SunWater has to ensure that at least 90% of its total energy use is assessed for each cycle. An assessment and reporting schedule has to be developed for each cycle. SunWater's EEO activities need to be reported publicly (annually) and to the Government every two and half years.

SunWater also complies with its obligation under the *National Greenhouse and Energy Reporting Act 2007* which requires:

- Reporting of greenhouse gas emissions, energy consumption and production by large corporations.
-



- Public disclosure of corporate level greenhouse gas emissions and energy information.
- Consistent and comparable data available for decision making, in particular, the development of the Carbon Pollution Reduction Scheme.

The reporting threshold is 100 Terajoules per annum. SunWater's annual energy consumption is approximately five times this threshold. SunWater, which is a constitutional corporation, meets the greenhouse gas emissions and energy consumption thresholds for reporting and lodges annual reports in compliance with National Greenhouse and Energy Reporting (NGER).

5 Forecasting electricity costs

SunWater has presented aggregate forecasts for electricity costs in each of its Network Service Plans. While this amount will always vary depending on the assumed use over the regulatory period, the key metric for electricity costs is the unit cost of pumping, (in \$/ML delivered to the customers offtake) given SunWater's proposed tariff regime and that electricity costs for pumping are the single variable cost in supply.

Accordingly, the proposed electricity costs of pumping (in \$/ML terms) would form the consumption charge. As indicated below this charge would only apply for separate tariff groups in two bulk water schemes (Barker-Barambah – Redgate Relift and Upper Condamine – North Branch).

The table below also sets out the \$/ML cost of pumping in each distribution system. Again, this proposed \$/ML cost would form the basis of the consumption charge for the tariff groups in each of those distribution systems.

As discussed in earlier sections, the unit cost of pumping depends upon the structure and level of electricity tariffs and the energy required to pump a ML of water. The unit cost will also depend upon:

- the interactions between the pattern and timing of water use and tariff structure (eg intensive demand periods leading to a greater need to pump during peak periods);
- storage levels as this will generate variability in pumping costs;
- actual distribution losses as a proportion of delivered water. This proportion can vary from year-to-year depending on water use. For example, years of very low water use can still result in a high (in percentage terms) loss, which would increase the unit pumping cost of delivered water; and
- the efficiency of each pump and the point in its life-cycle.

This means that unit costs cannot simply be derived from technical information from pump design as there are many other factors involved. Rather, historic cost and use data is a more useful reference point as it relates to actual conditions, which incorporate these various factors as they occurred.

The forecasts and unit costs have been calculated by dividing the historic data on total electricity costs by the volume of water delivered to customers, providing an average cost per ML delivered in 2009/10 dollars³.

The 2009/10 cost per ML for each distribution system was inflated by the actual percentage increase for Franchise Tariffs between 2009/10 to 2010/11 (13.29%).

This process resulted in a \$/ML electricity cost for water delivered in each distribution system, for 2010/11. From this base, the unit cost expressed in 2010/11 dollars was used as the base moving forward and was adjusted for expected inflation (2.5%) only. No adjustments for forecast increases in Franchise Tariffs was included in the forecast costs on

³ For bulk water supplemented streams ie Upper Redgate relift and Upper Condamine North Branch the average cost per ML delivered incorporates natural flows in the supplement stream.



the basis that SunWater's proposed arrangements for managing the risk of electricity price changes between years would be accepted by the QCA.

The tables below present forecast cost of electricity (\$/ML delivered) and the aggregate amount for the first year of the regulatory period.

Table 3. Summary of bulk water electricity cost forecasts (2011 dollars)

Bulk Water Scheme	Forecast \$/ML 2011/12	Forecast Cost (\$) 2011/12	Comment
Barker Barambah (Upper Redgate Supplemented Stream)	\$12.66	\$16,309	The \$/ML cost is based on the average \$/ML cost to 2010, indexed to 2011/12. Note that historic use over recent years is different to the volumes forecast in NSPs.
Bowen Broken (Off stream storage)	N/A	\$101,904	Forecast costs based on average annual electricity cost to 2010, indexed.
Dawson Valley (Off stream storage)	N/A	\$41,029	Forecast costs based on average electricity cost to 2010, indexed.
Eton (Off stream storage)	N/A	\$172,275	Forecast costs based on average electricity cost to 2010, indexed.
Upper Condamine (North Branch Supplemented Stream)	\$7.14	\$50,403	The \$/ML cost is based on the average \$/ML cost to 2010, indexed to 2011/12. Note that historic use over recent years is different to the volumes forecast in NSPs.

Table 4. Summary of distribution systems electricity cost forecasts (2011 dollars)

Distribution System	Forecast \$/ML 2011/12	Comment
Bundaberg Channel	\$29.12	Derived from historic electricity cost for all pump stations divided by historic metered deliveries.
Burdekin Haughton - Channel	\$13.27	Derived from historic electricity cost for all pump stations divided by historic metered deliveries.
Burdekin Haughton - Giru Groundwater Area	\$13.27	
Burdekin Haughton - Glady's Lagoon	\$13.27	
Emerald Channel	\$1.36	Derived from historic electricity cost for all pump stations divided by historic metered deliveries.
Eton Channel	\$8.53	Derived from historic electricity cost for all pump stations divided by historic metered deliveries.
Lower Mary Channel	\$30.55	Derived from historic electricity cost for all pump stations divided by historic metered deliveries.
Mareeba Dimbulah -Outside Relift	\$0.00	Not applicatble
Mareeba Dimbulah - Relift	\$50.25	Derived from historic electricity cost for all pump stations divided by historic metered deliveries within relift
St George	\$0.97	Derived from historic electricity cost for all pump stations divided by historic metered deliveries.
Theodore Channel	\$10.65	Derived from historic electricity cost for all pump stations divided by historic metered deliveries.

6 Conclusion

SunWater manages a large portfolio of pumping infrastructure that involves significant electricity costs. Most of SunWater's pumping installations relate to supplies to irrigation customers, although these comprise only 36% of SunWater's total electricity costs.

SunWater has a long-standing approach to managing energy consumption and electricity costs.

In forecasting electricity costs for the QCA's current review, SunWater has used historic information to determine a baseline unit cost, as this incorporates the various factors that drive actual costs.

SunWater periodically assesses the merits of moving from the Franchise Tariffs to the contestable electricity market in order to ensure the costs of electricity are minimised. SunWater expects that remaining on Franchise Tariffs is the lowest cost option during the regulatory period (assuming that it can continue to do so).

The unit and aggregate costs presented by SunWater have been made on the basis that suitable regulatory arrangements are put in place in relation to any real changes in electricity prices under the Franchise Tariffs, and an 'unders and overs' regime applying in bulk water schemes with offstream storages.

Attachment 1. Franchise tariffs adopted for each pump station

System	Segment	Pump stations	Current Tariff
Barker Barambah Bulk Water	Upper Redgate	Upper Redgate	65
Bowen Broken	Bulk water	Gattonvale Offstream Storage	22
Bundaberg Distribution	Gin Gin/Bingera	Monduran	22
		Tirroan	22
		Bucca	22
		Bullyard	22
		Mcllwraith	22
	Abbotsford	Abbotsford	22
	Gooburrum	Gooburrum	22
	Woongarra	Woongarra	22
		Walker Street	22
	Isis	Isis	22
		North Gregory	22
		Quart Pot Ck	22
		Dinner Hill	22
	Burdekin Haughton Distribution	All Distribution System	Clare A
Clare B			43
Millaroo A			43
Millaroo B			22
Millaroo Relift			22
Dalbeg A			43
Dalbeg B			22
Haughton 1, 2/3, 4/5 & Temp			22
Elliott ½ and 3/4			22
Barratta MC B8 Relift			22
Healeys Lagoon			22

System	Segment	Pump stations	Current Tariff
		Healeys Lagoon - Reed Beds	20
Dawson Valley	Bulk Water	Moura Offstream storage	22
Dawson Valley Distribution	All Distribution System	Theodore	22
		Fork Farmers	65
		Gibber Gunyah	22
Eton Bulk Water	Bulk Supply	Mirani No. 1	22
		Mirani No. 2	22
		Mirani No. 3	22
Eton Distribution	All Distribution System	Abingdon	22
		Mt Alice	22
		Victoria Plains	22
		Oakenden	22
		Brightley No.1	22
		Brightley No.2	22
Lower Mary Distribution	All Distribution System	Owanyilla	22
		Main Roads	22
		Walker Point	22
		Copenhagen Bend	22
Mareeba Dimbulah Distribution	Relift Segments	WB10 PSTN	22
		Paddys Green A	22
		Paddys Green B	22
		Price Creek A	22
		Price Creek B	22
Nogoa Mackenzie Distribution	All Distribution System	Selma	22
		S3A	22
		S1B	22
		S2A	22
		LN3 Drain	22
St George Distribution	All Distribution System	St George	22



MAKING WATER WORK

System	Segment	Pump stations	Current Tariff
	Additional Pumping	Buckinbah	22
Upper Condamine Bulk Water	North Branch only	Yarramalong	20

Attachment 2. Electricity tariffs (2010/11)

Extracts from Queensland Government Gazette No Proof 41 NQC1-9#
Retail Electricity Prices For Non-Market Customers
Tariff Schedule (Only Relevant Tariffs Shown)
(28 May 2010)

Tariff 20 – General Supply

This tariff shall not apply in conjunction with Tariff 21, 22, 62 or 63 at the same installation.

All Consumption	21.75 c/kWh
plus a Service Fee per metering point per month of	\$13.54

Tariff 22 – General Supply – Time-of-Use

This tariff shall not apply in conjunction with Tariff 20, 21, 62 or 63 at the same installation.

For electricity consumed between the hours of 7.00 am and 9.00 pm, Monday to Friday inclusive -

All Consumption	26.43 c/kWh
-----------------	--------------------

For electricity consumed at other times -

All Consumption -	9.31 c/kWh
-------------------	-------------------

plus a Service Fee per metering point per month of -	\$29.82
--	----------------

Tariff 43 – General Supply Demand – Time-of-Use

Demand Charge –

\$13.87 per kilowatt of chargeable demand per month.

Energy Charge –

For electricity consumed between the hours of 7.00 am and 11.00 pm Monday to Friday inclusive -

13.71 c/kWh

For electricity consumed at all other times -	5.48 c/kWh
---	-------------------

plus a Service Fee per metering point per month of -	\$45.64
--	----------------

The chargeable demand in any month shall be -

(a) the maximum demand recorded in that month; or

(b) 60 percent of the highest maximum demand recorded in any of the preceding eleven months; or

(c) 400 kilowatts, whichever is the highest figure. ‘Demand’ shall mean the average demand in kilowatts over a period of 30 minutes, as measured on the distribution entity’s meters. Customers taking supply under this tariff will not be supplied under any other tariff at the same premises.

Tariff 65 – Irrigation – Time-of-Use

For electricity consumed in a fixed 12 hour daily pricing period (as agreed between the retail entity and the customer from the range 7.00 am to 7.00 pm; 7.30 am to 7.30 pm; or 8.00 am to 8.00 pm) Monday to Sunday inclusive –

All Consumption - **22.16 c/kWh**

For electricity consumed at other times -

All Consumption - **12.20 c/kWh**

plus a Service Fee per metering point per month of - **\$14.26**

No alteration to the selected daily pricing period shall be permitted until a period of twelve months has elapsed from the previous selection.
