



Pioneer Valley Water Co-operative Limited.

A co-operative formed under the *Cooperatives Act 1997*.

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Queensland Competition Authority
GPO Box 2257
BRISBANE QLD 4001

By email to: electricity@qca.org.au

Dear Sirs

RE: Regulated Retail Electricity Prices 2013-14

This submission is in response to your Interim Consultation Paper of September 2012 which includes the Terms of Reference set down by the Minister for Energy and Water Supply for the determination of electricity pricing for 2013-14.

Our submission deals specifically with electricity costs for irrigation water supply and use incurred by irrigation water service providers as well as individual farmers. It is our strong view that tariffs must be developed that recognise the specific requirements for irrigation as part of meeting the Queensland Government's commitment to build agriculture as one of the four pillars of the economy.

This submission discusses three areas that relate directly to peak and off peak electricity pricing – Time of Use Tariffs, Network Costs and Demand Based Tariffs.

Background

PVWater operates an irrigation water supply scheme at Mackay supplying to 250 customers for production of sugar cane. Total volume of water supplied within the scheme is up to 47,400 megalitres per annum and is delivered through four major pumping stations. The scheme involves pumping of water from the Pioneer River into smaller watercourses for delivery to customers as well one area where a network of pipelines and balancing storages are used to deliver directly to farm gates.

The irrigation scheme was constructed in the late 1990's and was designed to utilise off peak power not only to minimise costs for PVWater but also for customers who traditionally operate their own on farm irrigation infrastructure during off peak periods. This is not only to minimise their power cost but also to

maximise water use efficiency by avoiding application of irrigation water during hot daylight periods with high evaporation rates. Further, nights generally have calmer wind conditions which again help to maximise water use efficiency through lower wind driven evaporation and spray drift.

The PVWater irrigation water supply scheme comprises a number of separate reticulation sections of which three include major pumping stations. Brief details of the pump arrangements for these three separate schemes are as follows.

Pumping Station	Details
Septimus River	3 x 170 kW main submersible pumps delivering from Cattle Creek through a rising main to the lower balancing storage (LBS)
Septimus Relift	2 x 135 kW relift submersible pumps delivering from the LBS through a rising main to the upper balancing storage
Palmyra	3 x 185 kW submersible pumps delivering from the Pioneer River into Bakers Creek
Silver/McGregor	3 x 185 kW submersible pumps delivering from Cattle Creek into Silver and McGregor Creeks

The attachment shows actual power consumption at these pump stations for the period 2005/06 to 2011/12 and the split between peak and off peak usage. Over this period annual electricity usage has averaged as follows.

Septimus River	129MWh – (13% peak, 87% off peak)
Septimus Relift	93MWh – (10% peak, 90% off peak)
Palmyra	125MWh – (40% peak, 60% off peak)
Silver/McGregor	80MWh – (39% peak, 61% off peak.)

Time of use tariffs

Since establishment of the irrigation scheme in 1998, Pioneer Valley Water pump stations have operated on a time of use electricity tariff that rewarded moving electricity consumption into off peak periods. As discussed above the design of the scheme with off peak use also allowed for savings in water use through irrigation at nights in cooler and calmer conditions. In recent times Tariff 22 has been applied for the pump stations and in 2011/12 provided a differential between peak and off peak tariff of some 18 c/kWh. Tariff 22 for 2012/13 has reduced this differential to 2 c/kWh.

This significant change to time of use tariffs, particularly for schemes such as Septimus, cannot be absorbed by irrigation water service providers or individual irrigators. We have negotiated a tariff change for the Septimus stations for 2012/13 as an interim measure and in the hope that some genuine consideration is afforded to the specific needs for agriculture and in particular irrigation in the current review of electricity pricing.

As an example of the impact of the 2012/13 Tariff 22, the unit cost to pump supply in the Septimus scheme would have risen by around \$13 per megalitre (50% increase) had the tariff change not been possible. This increase in cost to customers would have seen many question the economics of irrigating as pumping cost is included in the usage charge for the scheme and applies only for water actually metered. This would leave crops to be grown totally on rainfall which, in a land of climate extremes, could result in severe production declines.

We offer the following comments on electricity tariffs that do not encourage off peak use.

- i. Less incentive for water use efficiency by irrigating at night to take advantage of cool and calm weather conditions

- ii. More incentive to irrigate during daylight hours with personal safety attending to pumps and irrigation equipment is at lower risk
- iii. Potential for significant shift of electricity consumption for irrigation to peak periods
- iv. Decrease in agricultural production due to lower irrigation application efficiency during daylight hours (This would include decisions not to irrigate at all due to totally unfavourable weather conditions)
- v. Regional flow on effects from reduced production on farm due to decreased irrigation water use.

Network (N) costs

Network cost makes up over 50% of the total electricity charge for irrigation water pumping under Tariff 22 for 2012/13. With irrigation water pumping predominately at off peak times (as discussed above) it would be expected that network costs would reflect the intent of time of use pricing to encourage a shift to off peak periods. This is not the case with the off peak network component of Tariff 22 only 1.9c/kWh lower than peak.

Networks are constructed to meet electricity demands at peak periods which we understand in Queensland is for only some 40 hours per annum. Consumers who take supply at peak periods must meet a higher proportion of the costs for the network needed to meet their peak demands.

A shift of irrigation water pumping into peak periods will exacerbate the situation with even larger networks required to meet peak demands and the upward spiral of electricity cost and charges continue unabated.

We understand that network costs are set by the Australian Energy Regulator (AER) and are passed through by QCA in pricing determinations. With our position that network charge should reflect time of use, we have provided our full support to peak irrigation bodies in their submission to the Senate Select Committee on Electricity Prices for the AER to be given a greater regulatory capacity in setting N costs.

Demand Based Tariffs

The proposal to implement demand based tariffs for businesses from 2013/14 is a major concern for irrigation water service providers such as PVWater. This is particularly as PVWater provides a supplementary irrigation supply where irrigation water meets, on average, the deficit between crop water demand and effective rainfall. This results in extreme variation in water supplied and hence energy consumption with water use in the scheme since its inception in 1997 ranging between 1% and 93% of available supply due entirely to the amount and timing of rainfall events.

In a supplementary irrigation scheme, demand based charging for electricity including a minimum chargeable demand as proposed under the new tariffs could see charges during low use years not significantly different to those for higher use years. Further the proposal to increase the daily service fee to some \$17 per day under Tariff 41 represent an increase in this fixed cost of 3000% over the daily service fee for 2012/13 (\$0.55 per day Tariff 65).

As shown on page 2 of this submission, the installed capacity at pump stations and the average usage over recent years could see proposed Tariffs 41 or 44 apply for 2013/14. Modelling based on actual pumping over recent years shows that cost increases (and water charges to customers) would increase by between 100% and 350% under Tariff 41 and by between 55% and 250% under Tariff 44 for the major PVWater pump stations.

This level of cost increase in the irrigation scheme is absolutely unaffordable and would see the schemes close down. This clearly reinforces the need for irrigation specific electricity tariffs to be developed if irrigated agriculture is to be part of the Queensland Government's commitment to build agriculture as one of the four pillars of the economy and the specific target of doubling food production by 2040.

We would be willing to provide any further details required to clarify our submission and again stress the need to establish tariffs applicable to the specific requirements for supply of water for irrigation.

Yours sincerely

JR Palmer
MANAGER

Pioneer Valley Water

Electricity Consumption 2005/06 to 2011/12

	Total kWh	% Peak	% Off peak	Comment
Septimus River				
2005/06	154941	13	87	
2006/07	139955	13	87	
2007/08	124881	22	78	
2008/09	134865	12	88	
2009/10	243154	11	89	
2010/11	16793	3	97	
2011/12	88433	8	92	
Septimus Relift				
2005/06	88525	7	93	
2006/07	65071	10	90	
2007/08	73723	17	83	
2008/09	95017	10	90	
2009/10	170330	10	89	
2010/11				Power meter problem
2011/12	67562	7	92	
Palmyra				
2005/06	156322	42	58	
2006/07	59994	42	58	
2007/08	125262	39	61	
2008/09	144606	38	62	
2009/10	233270	39	61	
2010/11	20806	44	56	
2011/12	138817	41	59	
Silver/McGregor				
2005/06				Power meter problem
2006/07	6692	47	53	
2007/08	83477	35	65	
2008/09	102897	38	62	
2009/10	214538	38	62	
2010/11	7451	53	47	
2011/12	69066	44	56	