Pioneer Valley Water Co-operative Limited.
A co-operative formed under the *Cooperatives Act* 1997.
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Reference: C10/015/10

7 January 2013

Queensland Competition Authority
GPO Box 2257
BRISBANE QLD 4001

By email to: electricity@qca.org.au

Dear Sirs

Regulated Retail Electricity Prices 2013-14
Consultation Paper on Transitional Issues
Consultation Paper on Cost Components and Other Issues

This submission is in response to your Consultation Papers of October and December 2012 and follows from our submission of 16 October 2012 on your Interim Consultation Paper of September 2012.

We would again advise that our submissions deal 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 responds to both of the above Consultation Papers and to the presentation given at the workshop in Mackay of 29 November 2012.

At the workshop we were informed that there are a number of concurrent reviews underway in the electricity industry at both the State and Federal Government level. We also understand that Ergon and Energex have been asked to advise if they are reviewing their Network charges for 2013/14 and beyond. The outcomes of these reviews and the Ergon/Energex advice will be integral in the process for determination of future electricity pricing. We consider that they should be completed and fully assessed prior to QCA making their determinations.

Transitional Issues

Pioneer Valley Irrigation Scheme

Irrigation infrastructure has generally been designed to take advantage of off peak energy to deliver water both to minimise operational costs and to maximise water use efficiency. The infrastructure is of high capital cost and major components have life expectancy of 80 years plus. Any rationalisation or modification of infrastructure required as a result of significant increases to energy costs cannot be achieved in the short term if they are achievable at all.

As explained in previous submissions, our Septimus Irrigation Scheme was designed to minimise operational costs by pumping at off peak times. During November 2012 the two major pumping stations at Septimus operated almost exclusively during off peak times (98% River Pumps and 96% Relift Pumps). This clearly shows that any major increase to off peak electricity price will have a significant impact on operating costs for the Septimus Scheme. In point of fact the foreshadowed increases may lead to it becoming unviable under its current configuration.

Specific examples of what might be required to rationalise our irrigation schemes in light of much higher electricity costs include:

1. Installation of variable speed drives to all electric motors so that pumping rates can be varied to minimise energy consumption
2. In combination with 1, increase capacity of balancing storages so that all water is pumped at lower flow rates with lower energy consumption
3. Removal of stand-by pumps if installed capacity based tariff are adopted
4. Installation of on-site electricity generators (solar/internal combustion engines/hybrid powered)
5. Close down the irrigation area.

Detailed investigation of rationalisation of schemes would be required but will inevitably involve high capital costs which have to be met by the irrigators in the scheme. Irrigators are thus in a "no win" situation where they will either be required to fund scheme rationalisation to offset higher electricity costs or just pay the higher electricity costs. At the suggested cost reflective charges for electricity the less cost option to just pay the higher electricity costs will make example 5 above the obvious outcome.

On this basis we submit the following in response to specific questions asked in the Paper.

- Any increase in electricity cost above CPI per annum should be considered "a significant price impact"
- Transitioning to "significant price impact" tariffs should be over a minimum of 20 years
- Obsolete tariffs that reward off peak use of electricity should be retained for any transition period
- Funds to be made available for irrigators and irrigation scheme operators to investigate if infrastructure rationalisation is possible to offset significantly increased electricity prices.

Individual Irrigator Issues

We have taken the opportunity to include some comments on the potential impact of proposed cost reflective electricity charges on an individual irrigator within the Pioneer Valley Scheme. This irrigator grows sugar cane and uses three irrigation pumps, two of which operate high pressure hard hose irrigators and the other that supplies a low pressure lateral move system. The following are details of the installations and the recorded electricity usage for a normal year of operation.

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		Volume pumped ML	kWh Peak	kWh Off peak	kWh Total	kWh/ML
Pump 1	75kW lateral move	178	19223	33863	53086	298.24
Pump 2	55kW hard hose	217	35450	68900	104350	480.88
Pump 3	55kw hard hose	90	12500	31300	43800	486.67
Total		485	67173	134063	201236	

All pumps operated under Tariff 62 during 2011/12 and that tariff has been adopted as the base for determination of the impact of moving to a cost reflective tariff which would have been Tariff 22 for 2012/13 had transitional arrangements not been put in place.

Tariff 62 for 2011/12 was 29.61 c/kWh (peak) and 10.47 c/kWh (off peak) and for the electricity usage above would have amounted to an annual account of $33,926 for pumping of 485 megalitres. As with all businesses, sugar cane farmers budget and closely monitor all inputs costs for their farming operation. Electricity costs for irrigation water pumping is one of many input costs for cane farming.

Adopting an electricity budget amount of $33,926 but operating under Tariff 22 (2012/13) would have resulted in the following reduced electricity usage and volumes pumped.

	Total kWh	Volume pumped ML	Volume reduction from Tariff 62 (ML)
Pump 1	49082	165	13
Pump 2	94339	196	21
Pump 3	37399	77	13
Total	180819	438	47

This shows a reduction in irrigation water usage of some 10%. It is widely accepted that one megalitre of irrigation water application produces 10 tonnes of sugar cane so the reduced production with less volume pumped would have been 470 tonnes. At $40 per tonne this is reduced value of production from the farm of $18,800 from 10% reduction in irrigation.

Mackay Sugar Limited crushes sugar cane grown in the Mackay Region and, for the crop grown in 2011/12 handled some 5.6 million tonnes. It is estimated that 75% of this total crop is grown under irrigation in the region and a 10% reduction in irrigation pumping due to the increased electricity costs would have reduced the total crop by some 420,000 tonnes equating to a loss in production value from the Region of some $25 million including lost revenue by Mackay Sugar Limited.

This reinforces the need for due consideration to be given to the potential significant impacts on irrigated agriculture from proposed major electricity cost increases particularly for irrigators. They are confronted with increases not only for their on farm pumping but also from their irrigation scheme operator who faces similar or higher electricity cost increases and must pass these on through water charges.

Retention of obsolete tariffs

A non-financial reason why obsolete tariffs that reward off peak electricity use should be retained is the very important matter of water use efficiency. We provided detail of this in our earlier submission. We find it quite absurd that one hand Government is providing funds to irrigators under a Rural Water Use Efficiency Program to upgrade on farm infrastructure while proposing significant increases to energy costs to operate the upgraded system. A switch from flood irrigation to a pressurised system could significantly improve water use efficiency but the higher electricity costs for the pressurised system would be a major deterrent.

Network Charges and Time of Use Pricing

With N costs being around 50% of the final cost for electricity it is imperative that close scrutiny be applied to ensure that real cost efficiency is achieved by network operators. We understand that both Ergon and Energex are undertaking reviews of their network charges and these must be completed and fully assessed as part of the current QCA determination.

As discussed in our earlier submission most irrigation infrastructure has been designed with the major electricity load at off peak times. Unless significant incentives remain for off peak irrigation water pumping load may well move to peak periods exacerbating increasing network costs. This also impacts on water use efficiency as mentioned above.

Large Business Tariffs

In regard to tariffs for large business customers we submit that special attention needs to be given for the irrigation industry both for large individual irrigators and for irrigation scheme operators. With the configuration of large irrigation schemes application of demand and capacity charges for electricity will result in very significant cost increases.

Irrigation schemes as with electricity networks are designed to meet peak demands from customers. The peaks can be associated with crop water requirements or more often to customers accessing off peak electricity for their on farm use. Installed pump capacity is thus directly related to peak water demand and can be significantly larger than required if demand was taken evenly throughout a full 24 hours.

The impact of moving from a time of use tariff to proposed cost reflective demand based tariffs for Pioneer Valley Water irrigation schemes would be astronomical as shown in the table below. Tariff 22 for 2011/12 is shown as the base as this was the applicable tariff for all stations prior to transitional tariffs for 2012/13.

Pumping cost per megalitre

(Bracketed numbers are % increases from T22 for 2011/12)

Pump station	**Capacity**	**Tariff 22 (2011/12)**	**Tariff 41**	**Tariff 44**
Septimus	3 x 170kW 2 x 135kW	$23.28	$80.25 (245%)	$106.39 (357%)
Palmyra	3 x 185kW	$18.50	$28.60 (55%)	$37.03 (100%)
Silver/McGregor	3 x 185kW	$21.24	$35.06 (65%)	$45.66 (115%)

Tariffs 41 and 44 are to apply to large business customers using in excess of 100MWh per annum. For 2011/12 Ergon classed all our stations as large but reclassified Septimus and Silver/McGregor to small in April 2012. The reclassification was based on consumption in the previous 12 months which had been a relatively high rainfall period and during which there had been little demand for irrigation water in the schemes.

As the schemes are only supplementary irrigation supply (deficit of crop water demand over effective rainfall) volumes pumped are very dependent on seasonal conditions. As such annual electricity consumption could fluctuate under and over the 100MWh per annum deemed as the threshold for large business. This variation is shown below for our stations.

Annual electricity consumption 2005/06 to 2011/12

Station	Average consumption	Range
Septimus	125 MWh (River) 93 MWh (Relift)	17 to 243 MWh 67 to 170 MWh
Palmyra	125 MWh	21 to 233 MWh
Silver/McGregor	81 MWh	7 to 214 MWh

The potential for wide variation in annual consumption and the significant impact of demand/capacity based charges necessitate that QCA consider the specific requirements for the irrigation industry in setting of tariff structures.

The quantum of charges increases under proposed cost reflective tariffs would make irrigation water totally unaffordable in our schemes and would lead to severe reduction in water use on farm with consequent production downturn. This would be inconsistent with the Queensland Government's commitment to build agriculture as one of the four pillars of the State's economy.

Yours sincerely

J R Palmer
MANAGER