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Queensland Competition Authority
GPO Box 2257
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Dear Sirs

Submission: Consultation paper –
Regulated retail electricity prices 2013–14 Transitional issues

Background

Bundaberg Walkers Engineering Ltd is a small to medium enterprise located in Bundaberg. The business comprises a foundry along with medium / heavy fabrication and machining operations. An engineering works has operated continuously on the site since 1888.

Bundaberg Walker's core business is the supply of sugar milling equipment. It is now the sole Australian supplier of sugar milling equipment to the Australian sugar industry. A sizeable proportion of Bundaberg Walkers' sugar business is for foreign customers where the company competes internationally. It has been particularly difficult to compete in recent years because of the high Australian dollar combined with the high cost of Australian labour and Australian sourced material. Bundaberg Walkers also does a smaller amount of work for some non-sugar customers, principally the Australian minerals processing industry. The Bundaberg Walkers business employs about 120 people directly and subcontracts substantial work to other local businesses as well as sourcing material and components from local and national suppliers.

Bundaberg Walker's business is sensitive to electricity pricing. The cost of electricity is a significant component of company's costs.

Bundaberg Walkers has one 15 t and two 2 t electric induction furnaces. The electrical requirement of a furnace necessarily has a high ratio of peak to mean demand involving as it does, a high demand to melt the charge followed by no demand while the molten metal is poured into moulds. The nature of much of the Bundaberg Walkers business (large, single castings of sugarcane crushing roller shells and the like) is such that it is not possible to smooth the electrical demand by say continual operation of smaller furnaces. Large castings have to be done as a single pour of homogeneous molten metal, not a sequence of smaller pours. Consequently, Bundaberg Walkers is especially sensitive to any electricity pricing structure which penalises high peak demand.

The electricity for Bundaberg Walkers' furnaces is presently supplied under tariff 37 (non-domestic heating time of use). This tariff is important to the economic operation of the furnaces because it makes moderately priced supply available for the period 10:30 PM until 4:30 PM the next afternoon. That is, times outside of the evening peak demand. Importantly, tariff 37 does not have a demand charge which particularly penalises the inherently peaky nature of furnace operations.

The remainder of the electricity used on Bundaberg Walkers' site is supplied under tariff 22 (large). This tariff too has a time of use component designed to encourage use outside of peak demand periods. Tariff 22 (large) has lower priced electricity available on weekends and on week days, from 9:00 PM until 7:00 AM the next morning.

The Need for Transitional Tariffs

Section 1.3 of the Consultation paper states: *The delegation requires the Authority to consider the need for transitional arrangements for: ... (b) the existing obsolete tariffs, should the Authority consider that customers would face significant price impacts if they were required to move to the alternative, cost-reflective tariffs; ...*

Discussions with Ergon Energy have indicated that should tariffs 37 and 22 (large) not be available, Bundaberg Wakers would probably be supplied under tariff 48 and that a significant cost increase would result.

It is interesting to consider the breakdown of charges on tariff 48 based on year ending 30 June 2012 data for Bundaberg Walkers. The result is:

- 29.6% for the energy.
- 69.6% for the peak demand.
- 0.8% for the daily service charge.

Subjectively, it seems unreasonable that 70% of the cost is simply to meet the (peak) demand requirement and just 30% of the cost is for the actual energy consumed.

Bundaberg Walkers contends that a move from tariffs 37 and 22 (large) to tariff 48 as indicated by Ergon Energy would have a significant price impact no matter what transitional arrangement is in place. It could simply be a delay of the inevitable. If the Authority requires an indicative number, then a transition of eight years is proposed as one which might allow time for Bundaberg Walkers to reasonably adjust its business model to adapt to the price increase though at this stage it is difficult to see what changes could be made with altering the company's business model substantially.

Bundaberg Walkers has begun investigation of options in the event that tariffs 37 and 22 (large) would no longer available. The results of these investigations are outlined below. It is not clear that there are any reasonable measures by which Bundaberg Walkers could address the issue of a major price rise in its cost of electricity.

Contracted supply

At a recent workshop conducted in Bundaberg, the Authority indicated that most "large" consumers (consumption of 4 – 40 GWh per annum) had moved away from regulated tariffs to contracted supply.

Energy brokers have investigated the option of Bundaberg Walkers moving to contracted supply from regulated tariffs but their advice has been that Bundaberg Walkers would not be better off by moving from the current regulated tariffs to contracted supply of electricity.

Furnace type

The company has considered alternative furnaces but the existing induction furnaces are believed the appropriate type for the duty. The joint DEEDI / DERM, publication: *Melting efficiency – F2B, Energy eco-efficiency opportunities in Queensland Foundries- Furnace efficiency* indicates that induction furnaces are relatively energy efficient for the production of iron and steel. The publication goes on to say:

> *Most of Queensland's major foundries replaced their coal-fired cupola furnaces with electric induction furnaces during the nineties because the induction furnaces were cleaner burning and more energy efficient than most other combustion processes. Compared with the cupola furnaces, electric induction furnaces can offer greater flexibility for batching, better metal homogeneity from induction stirring, a quieter working environment and closer process control. Recent industry focus has been on improving furnace efficiency through greater process control, fault diagnoses, reducing power use and charges and increased automation of maintenance tasks. Induction furnaces also produce less CO, SO_2, NO_x, dioxin and slag onsite than many other furnace options.*

This is what occurred at Bundaberg Walkers where coke fired cupola furnaces were replaced with electric induction furnaces in the 1990s due to the perceived advantages of cleaner, safer, lower cost operation and improved product quality.

Some modest gains might be possible by re-examining current foundry practices but it is unlikely that savings of anything like 80% will be possible.

Management of peak demand

Due to existing time of use tariffs and network capacity restrictions, furnace operations are already managed so as to schedule and limit peak demand. It is suspected that the reliability of the existing, local network could be impaired if there was no time of use incentive to influence the company's pattern of use.

Solar

The Bundaberg Walkers site has significant roof area over its workshops. A preliminary investigation of the viability of photo-voltaic (PV) solar generation has been undertaken. Initial findings are that PV solar might be justifiable under the current tariff structures to displace electricity imported at peak rate during the day. However, PV solar systems are typically not useful where tariffs have a significant (peak) demand charge because the peak demand will still be experienced on an inclement day and so the demand charge for that billing period will be substantially unaltered.

Reduced electricity consumption

While the furnaces and their peak power demand dominate Bundaberg Walkers' electricity costs, there are worthwhile savings to be had through improved energy efficiency.

The company is pursuing high efficiency compressed air plant (with Australian Government assistance via the Clean Technology- Food and Foundries program) and energy efficient lighting. While these may be worthwhile as stand alone projects, they have only a minor effect on the total and peak consumption of the company.

What Is A Significant Price Impact?

Section 3.2 of the consultation paper states: *The authority seeks stakeholder' views on the following:*

(a) ... What would be considered a "significant" price impact?

Bundaberg Walkers offers the opinion that a significant price impact in a given year would be say 1.5 times the increase in the Consumer Price Index for the preceding year.

Time of Use Tariffs

The Ministerial delegation and letter to the Authority includes the following:

> *Queensland customers should be rewarded for shifting their consumption of electricity from peak periods to off-peak periods, which has material benefits for network and generation infrastructure. The QCA should determine whether its approach to determining the rates for time-of-use tariffs can strengthen or enhance the underlying network price signals and encourage customers to switch to time of use tariffs and reduce their energy consumption during peak times.*

Bundaberg Walkers' current operation is basically a two shift operation so some advantage is already taken of the lower electricity pricing available outside of peak times. Particular advantage is taken of the lower rate available for the furnaces under tariff 37.

It was unexpected that the basic charging structure being proposed:

network charge + energy cost + retail cost

does not have any time of use component at all.

The retention of time of use tariffs was a strong signal at the recent workshop run by the Authority in Bundaberg on 23 November 2012 and is supported by Bundaberg Walkers.

The continued presence of a time of use component to regulated tariffs may permit Bundaberg Walkers to ameliorate the impact of cost increases. Potentially, Bundaberg Walkers could schedule more its operations to take advantage of any low, night and weekend tariffs though there would be probable costs such as shift allowance and a risk of increased annoyance to the residential neighbours close to the works to be considered.

Non-Financial Reasons

Section 3.2 of the consultation paper also seeks stakeholders' views on:

(b) Are there any non-financial reasons why obsolete tariffs should be retained or other transitional arrangements put in place?

One reason for retaining the current obsolete tariffs is their significant time of use component. As outlined above, this encourages off-peak use of electricity, increasing the utility of the existing network infrastructure and reducing the need to upgrade the existing network.

Another reason for retaining current tariffs is the potential negative effect of increased electricity charges on the Bundaberg Walkers business and allied industries.

- Electricity costs are a significant component of Bundaberg Walkers' operating cost.
- The electric induction furnaces are considered to be the "correct" type of furnace for the duty. That is, there is not believed to be any significant energy saving by installing a fundamentally different type of furnace.
- By their nature, furnaces have a high peak power demand which tends to have a disproportionate impact on electricity costs under tariffs with a (peak) demand charge component.

Conclusion

Perhaps Bundaberg Walkers is in something of a special situation with respect to electricity tariffs. The furnaces used to melt the metal for casting have an inherently peaky electrical demand and annual consumption is right at the bottom edge of the large consumer classification so favourable contract electricity rates do no seem available. Initial investigations have not identified any especially promising avenues to manage the impact of the forecast price rise associated with new, network + energy + retail based tariff structures. This is particularly so if there are no tariffs with substantial time of use discounts available.

It is understood from previous public submissions to consultation papers published by the Authority that other Queensland foundries with electric furnaces are also very concerned about the viability of their businesses in the event of a major increase in the cost of electricity. I urge the Authority to take into careful consideration the potential for changes in the regulated retail electricity price and the transition to new tariffs to impact on specific industries and specific businesses and to alert the Minister to this possibility through the Authority's reports and recommendations. Bundaberg Walkers is available for one on one discussion should the Authority wish to pursue this.

Bundaberg Walkers has some potential to take advantage of time of use tariffs if they are retained. Incentives to operate the Bundaberg Walkers furnaces outside of peak demand periods would help increase the utility of existing network infrastructure and reduce the need to upgrade the existing network. Network charges seem substantially fixed and sunk so the loss of a consumer would mean a necessary increase in network charges for the consumers who remain. Bundaberg Walkers is receptive to the possibility making greater use of time of use tariffs though there would be other increased costs (shift allowance for example) so the merit would necessarily depend on the details of the tariff structure(s) available.

It is not possible for Bundaberg Walkers to be specific about the impact of a revision of regulated retail electricity prices in the absence of a particular proposal. Thorough investigation of the range of company responses has not been completed but there is potential for a substantial, negative effect on the company with flow-on effects to the Bundaberg district and the broader Australian sugar industry.

Bundaberg Walkers asks that the Authority be cognisant of the potential for changes to regulated retail electricity pricing to have unintended but severe consequences on specific industry sectors or companies. Bundaberg Walkers is particularly concerned that changes to the retail pricing tariffs could impact its foundry business substantially and so restrict its ability to service the Australian sugar industry, provide local employment in a regional Queensland area with high unemployment statistics, and earn desirable export income. The Authority is requested to acknowledge this and make suitable allowance for it when formulating new proposals for pricing retail electricity.

Yours faithfully

R J Hatt
Chief Executive Officer