

## **Submission**

### **Independent Pricing and Regulatory Tribunal (IPART)**

### **Draft Report - Changes in regulated electricity prices from 1 July 2012**

120510

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## Introduction

NSW Irrigators' Council (NSWIC) represents more than 12,000 irrigation farmers across NSW. These irrigators access regulated, unregulated and groundwater systems. Our Members include valley water user associations, food and fibre groups, irrigation corporations and community groups from the rice, cotton, dairy and horticulture industries.

This submission represents the views of the Members of NSWIC to the *Draft Report - Changes in regulated retail prices from 1 July 2012*. However each member reserves the right to independent policy on issues that directly relate to their areas of operation, or expertise, or any other issues that they may deem relevant.

## Executive Summary

Energy – often electrical – is an important input into irrigated agriculture. Our Members have great concern over further electricity price increases as it will severely affect their daily operations. With continued focus on efficient water use systems with significant energy demands, NSWIC Members' interest in electricity prices continues to grow.

Together with the regulated retail electricity price increases of 10% and 17% in 2010/11 and 2011/12 respectively, the proposed average price increases of 16.4% from July 2012 will add severe financial constraints to the irrigation industry. While the actual price increases for each individual irrigator is yet unknown, it is evident that irrigators will be significantly impacted through changes in their production cost base. NSWIC submits that the proposed regulated retail electricity price increases will stipulate changes in market based electricity prices, and hence the impact of the proposed price changes for regulated electricity prices will affect all customers in the state.

Electricity is a vital input into the production process of many irrigated agriculture businesses and hence any changes to the costs of this input will have a direct effect on the revenue and profit margin achieved by irrigators - especially since most are price takers in domestic and international markets. The irrigation industry has become more energy intensive in recent years as a result of adopting water efficient infrastructure with higher energy demands. These capital investments on-farm and in distribution systems were necessary for many irrigation operations to remain financially and environmentally viable. The infrastructure upgrades have made many irrigators more water efficient at the cost of higher energy usage - regularly in form of electricity. Reliance on electricity therefore has become a major constraining factor for the irrigation industry and makes individual operations more vulnerable to large cost price fluctuations.

As the examples in part 4 of this submission outline, there are already visible impacts from previous electricity price increases on the irrigation industry. The impacts are mostly a result of higher per unit costs for network services and the varying demand patterns for electricity during different time periods. This submission highlights the fact that current price setting by individual retailers does not allow for an efficient use of capital investment on-farm and hence results in higher costs than necessary for the provision of electricity.

As part of this current pricing review, NSWIC strongly supports IPART's proposal for a review of the *National Electricity Rules* in order to remove any potential upwards bias in

network costs and potential inefficiencies in price setting of regulated electricity prices. Additionally, NSWIC recommends that IPART introduces a more flexible pricing pattern (i.e. glide path) that allows for a smoother recovery of all operating and capital costs for network providers - a step that will alleviate large price increases over a short period of time. Finally, NSWIC recommends that IPART provides more guidance for individual electricity retailers on appropriate industry tariff rates that allow for an efficient and cost effective use of infrastructure on-farm and enable a closer alignment with the electricity demands of the irrigation industry in NSW.

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# 1. Average Price Increases

An additional electricity price increase of 16.4% (on average) will severely limit the ability of irrigators to remain financially viable especially in light of previous price increases - 10% and 17% in 2010/11 and 2011/12 respectively. While the proposed price increases are only directly applicable to *Energy Australia*, *Integral Energy* and *Country Energy*, NSWIC agrees with IPART's assessment that unregulated electricity prices are likely to change accordingly. This will mean that all electricity consumers will be impacted by the electricity price increases proposed to take effect in July 2012.

After a thorough assessment of IPART's price review, it is evident that the price increases are primarily a result of higher network costs and the introduction of carbon emission schemes (both federal and state government). Both these components contribute approximately equally to the electricity price increase. Other aspects that also influence electricity prices (e.g. wholesale energy cost and retail costs/margins) appear to have only a negligible influence on the electricity price increase.

## 1.1 Network costs

NSWIC understands that retailers pay charges to use the transmission and distribution networks (i.e. poles and wires) to transport electricity to their customers. Given that the efficiency and cost effectiveness of the transmission and distribution networks cannot be assessed by IPART, NSWIC is concerned that they may not be set appropriately to reflect the underlying cost structure. NSWIC does not support the setting of network charges outside IPART's determination and review framework as it will not allow for a prudent assessment of their accuracy and efficiency. NSWIC recommends that the governing Regulation<sup>1</sup> is amended such that IPART is given direct control to assess the cost effectiveness and efficiency of the network costs. Such changes will allow IPART to also conduct a thorough evaluation of the need for any new capital investment.

**A thorough review of the National Electricity Rules (NER) will be necessary to remove any existing inefficiencies that might have led to potentially unnecessarily high electricity prices.**

## 1.2 Carbon costs

NSWIC is aware that the introduction of both federal and state carbon emission policies will add significantly to regulated electricity price. The introduction of this policy will therefore have a direct impact on wholesale electricity costs and hence input costs for irrigators.

Whilst these costs are outside IPART's regulatory framework, NSWIC would like to highlight that these costs increases will have a direct impact on irrigated agriculture if no sufficient compensation schemes are urgently put in place to alleviate the cost burden.

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<sup>1</sup> *National Electricity Rules 2012 (NER)*

## 2. Price Elasticity of Demand

NSWIC would like to highlight that irrigators have a very low price elasticity of demand for energy, including electricity. Energy, together with water, is a key input into many irrigation activities and changes to the costs of these inputs will place a severe financial burden on individual irrigation businesses. Given the variability of water available in NSW, many irrigators have taken measures to move to more water efficient infrastructure. Whilst substantial water savings have been achieved in some instances, many of the operations have become more energy intensive in the process. Energy, in the form of electricity or otherwise, has therefore become a key component in the operational process. Hence, irrigator's demand elasticity has become more inelastic; an inability to switch to a substitute good even if prices rise. Such a dependency on electricity will make irrigators especially vulnerable to the proposed price changes.

NSWIC would like to further highlight that many irrigators have attempted to keep the required infrastructure for on farm electricity delivery at a minimum and have therefore moved to a system that consolidates meter. Such actions have caused additional problems and costs for irrigators as a result of the tariff framework. For example, consolidation of volumes through meters sees a more frequent breach of demand caps.

The change to more energy intensive equipment in agriculture and the modifications of on-farm electricity systems have also been recognised by the Australian Bureau of Statistic<sup>2</sup>. Given that this trend is unlikely to change in the near future, NSWIC stresses the importance of sensible electricity tariffs that allow irrigators to utilise their newly installed equipment sensibly.

## 3. Impact of electricity price increases

Whilst the actual electricity bill for a particular irrigator will depend on the energy usage and the demand pattern of the installed on-farm infrastructure equipment, the general electricity bill for a particular irrigator can generally be decomposed into three separate components; energy usage, market participation and network charges.

A typical bill from Country Energy for a groundwater pumper<sup>3</sup> would consist of the following components (according to the cost shares) ;

Usage	~34% (variable charges divided into peak, shoulder and off peak)
Market Participation	~ 6% (variable charges based on total usage)
Network Charges	~60% (variable and fixed component)

This highlights that network charges are a major contributing factor to the overall electricity bill. Network costs will vary between tariff rates charged by the network providers and according to the time of the connection. This is to say that that newly installed equipment might potentially fall under new tariff structures (with higher per unit costs for network services) than older existing equipment. Given that network charges are closely correlated with the demand for electricity on farm, these high unit costs will be a major driver for electricity usage in irrigation the future. To avoid higher network charges, irrigators have already changed their usage pattern with the consequence that not all systems can run at full capacity at all times providing a systemic inefficiency.

<sup>2</sup> ABS, Energy Account Australia 2009/10

<sup>3</sup> Other on farm irrigation equipment might have different cost shares

The dollar value of an individual electricity bill will vary for each irrigator based on the equipment, size and layout of the irrigation operation. As an example, dairy farmers who operate more energy intensive equipment will likely see a greater increase in their electricity costs than broad acre cropping operations. Overall, the rise in electricity prices will have an impact on operational costs for all irrigators in NSW.

## **4. Input cost example**

Electricity, together with water, is a key input into the business of irrigated agriculture. Changes to these costs will have large scale implications for the financial viability of irrigators. Since 2010, the cost increases for electricity alone have added significantly to the overall costs component of an individual operation. Many operations have become more water efficient through the installation of water saving infrastructure equipment and hence the importance of electricity prices has become more prominent.

### **Examples**

#### **4.1. Northern NSW**

The recent electricity price increases have seen many irrigation operations in northern NSW face serious viability questions as the cost of operation has surpassed the return achieved through irrigation activities. Combined energy costs for large scale irrigation operation in Glen Prairie, Tarcoola North, Laurella and Beela have reached values of around \$240,000 to \$250,000 in 2010/11 and 2011/12 (July - March period). These large input costs are mainly a result of high network/demand charges, with unit costs ranging from \$3.49/unit for off Peak Demand and \$12.9/unit for Peak demand. These demand charges in particular contribute substantially to the total cost of irrigation given that irrigation operations are not using electricity continuously over a year. As the demand pattern change considerably during the day/month, the high demand charges makes irrigation in certain areas prohibitively expensive and might potentially lead to changes in usage pattern to avoid high electricity costs. This example clearly shows that the demand charges add significantly to the overall costs of irrigation operations and the various tariff systems do not align with the demands for electricity of irrigators. Furthermore, variability in energy prices will add unnecessary risk and pressure on the irrigation sector.

#### **4.2. Southern NSW**

Murrumbidgee Irrigation<sup>4</sup> has progressively modified old concrete and earthen channels with pressure pipelines servicing horticultural farms – the Integrated Horticulture System program (IHS). In the absence of the IHS program, the conversion of farms to drip irrigation may have still taken place but without capturing the improved system operations and water efficiency that comes with decommissioning channels.

Whilst substantial water savings have been achieved through the modification, the IHS program faces questions of financial viability due to high energy costs. The reason relates to the high contestable tariff rates. Eight of the nine stations are currently on contestable tariff rates due to their energy usage (greater than 160 MWh / per annum)

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<sup>4</sup> Contact Elisabeth Stott at (elizabeth.stott@m irrigation.com.au) for further information.

whilst the remaining one is on a franchise tariff rate. This effectively means that operations are being penalised for being more water efficient even if there is no greater demand for electricity. To avoid higher electricity costs, one of the system has been converted and more meters installed to reflect individual usage and move back to a franchise tariff rate. The energy costs have decreased as a result of this, even though there is *more* infrastructure needed and their energy usage has stayed the same.

Murrumbidgee Irrigation has found the following issues;

1. In the absence of collective IHS schemes and the aggregation of energy demand (and a shift to the contestable tariff structure), customers would have invested in their own on farm infrastructure works and remained in the franchise tariff regime - with lower network charges. Whilst this would have increased the energy use component of the bill, it would have avoided the kVA “peak load charge” which is having the biggest impact on pricing;
2. The total energy costs for customers on the contestable sites are significantly higher than on franchise sites and similarly higher than individual farm pump stations. Peak rates are as high as \$2500/ML water for contestable sites versus peak rates of \$56/ML of water for franchise sites;

The results have been that higher electricity prices have offset many of the achieved water saving initiatives raising questions of viability. The changes to less infrastructure investment has had the undesirable effect of moving many of the operations to a contestable tariff rate, thereby compounding the effect of higher energy prices. This has made some farming operations unviable with the effect that several irrigators have exited the industry.

As this example has highlighted, the infrastructure used to supply electricity on-farm cannot be used efficiently because of the way tariff rates are set and demand charges are calculated.

## **Conclusion**

As the examples above have shown, the ever rising electricity costs are severely affecting irrigation operations - either through increases in input costs or changes in usage patterns. To alleviate the pressure of rising electricity prices, NSWIC submits that an urgent review of the *National Electricity Rules* is necessary, so that IPART is able to assess the efficiency and cost effectiveness of infrastructure investment of network operators. If large infrastructure investments are required, then the costs should be spread out over a longer time period (i.e. glide path) such that large price increases over short time periods can be avoided.

Finally, NSWIC recommends that IPART provides more guidance for electricity retailers in setting tailored individual tariff rates. Given the electricity requirements of individual irrigators, a tariff structure that has a small fixed and large variable charge component is likely to be more desirable so that irrigators are able to use their on-farm infrastructure equipment most efficiently (including minimum electricity delivery infrastructure).