

# SUPREME COURT OF QUEENSLAND

CITATION: *AGL Energy Ltd v Queensland Competition Authority & Anor; Origin Energy Retail Ltd v Queensland Competition Authority & Anor* [2009] QSC 90

PARTIES: **AGL ENERGY LTD ACN 115 061 375**  
(Applicant)  
**v**  
**QUEENSLAND COMPETITION AUTHORITY**  
(First Respondent)  
**MINISTER FOR MINES AND ENERGY**  
(Second Respondent)  
**ORIGIN ENERGY RETAIL LTD ACN 078 868 425**  
(Applicant)  
**v**  
**QUEENSLAND COMPETITION AUTHORITY**  
(First Respondent)  
**MINISTER FOR MINES AND ENERGY**  
(Second Respondent)

FILE NO/S: BS 7793 of 2008  
BS 8576 of 2008

DIVISION: Trial Division

PROCEEDING: Application

ORIGINATING COURT: Supreme Court at Brisbane

DELIVERED ON: 28 April 2009

DELIVERED AT: Brisbane

HEARING DATE: 9-11 March 2009

JUDGE: McMurdo J

ORDER: **Declare that the decision of the Queensland Competition Authority dated 30 May 2008 was not made in accordance with the *Electricity Act 1994* (Qld) because:**

- 1. in working out the benchmark retail cost both for the relevant tariff year and the preceding tariff year, the Authority did not form a view of the**

**likely total of the costs to be incurred during that year to purchase energy to supply the NEM load of the State for that year, as required by s 92(1) of the Act;**

- 2. in working out the total benchmark retail cost for the preceding year, the Authority used data which had not been used in working out that cost when the year to 30 June 2008 had been the relevant tariff year, and which the Authority was not otherwise entitled to use in this decision.**

**CATCHWORDS:** ADMINISTRATIVE LAW – JUDICIAL REVIEW – GROUNDS OF REVIEW – ERROR OF LAW – IRRELEVANT CONSIDERATIONS – IMPROPER PURPOSES – where Act requires Authority to calculate the cost “to supply all of the NEM load of the State” – where Act requires Authority to base estimate on the “long run marginal cost of energy” – whether this requires exclusion of directly connected customers or whether it permits reference to the entire Queensland load – whether the Authority is to adopt the previous year’s BRCI or whether it is to recalculate the BRCI each year

*Electricity Act 1994 (Qld) s 23(8), s 90(1), s 90(4), s 90(5), Sch 5, s 91B, s 91D, s 91E, s 91F, s 91G, s 92, s 93, s 94*

*Electricity and Other Legislation Amendment Act 2006 (Qld)*

*Electricity–National Scheme (Queensland) Act 1997 (Qld) s 6*

*Judicial Review Act 1991 (Qld)*

*Electricity Regulation 2006 (Qld) s 104, s 105, s 106, s 107, s 108, s 109, s 110, s 111*

*National Electricity Rules, ch 10*

*National Electricity (South Australia) Act 1996 (SA)*

*Hunter Resources Ltd v Melville (1987-88) 164 CLR 234*

*Webster v McIntosh (1980) 32 ALR 603*

**COUNSEL:** N C Hutley SC, with R C A Higgins, for AGL Energy  
P J Flanagan SC, with J M Horton, for Origin Energy Retail  
J McKenna SC, with M Hoch, for the Authority  
P J Freeburn SC, with A A Horneman-Wren, for the Minister

**SOLICITORS:** Gilbert + Tobin for AGL Energy  
Clayton Utz for Origin Energy Retail  
Mallesons Stephen Jaques for the Authority  
Crown Law for the Minister

- [1] Full competition in the retail supply of electricity was introduced in Queensland on 1 July 2007. Since then, electricity retailers have been able to offer their own prices to customers and most customers have been able to choose between retailers. But customers who are not offered a contract price, or who choose not to accept one, may purchase their electricity at what is called a notified price.<sup>1</sup> These customers are referred to as non-market customers.<sup>2</sup>
- [2] Notified prices are fixed by the Minister for Mines and Energy, or by the Minister's delegate, the Queensland Competition Authority ("the Authority"), under the *Electricity Act 1994 (Qld)* ("the Act"). The Minister or the Authority (in either case called "the pricing entity"<sup>3</sup>) must decide these prices, or the methodology for fixing them, each year.<sup>4</sup> In deciding the notified prices, the pricing entity must comply with the regime for annual indexation of prices which is prescribed by Div 3 of Ch 4 of the Act. It requires the pricing entity to apply a certain formula so that, broadly speaking, the prices will change from one year to the next commensurately with the change to the retailers' costs of supplying their customers.
- [3] This case concerns the application by the Authority of that formula in fixing notified prices for the year ending 30 June 2009 ("the 2009 year"). The applicants, AGL Energy Limited ("AGL") and Origin Energy Retail Limited ("Origin") are retailers. They say that the Authority's decision, which was dated 30 May 2008 ("the decision"), was not made in accordance with the Act. On their case, the Authority has misinterpreted the Act and regulations made under it in at least three respects. But before going to the legislation and the respective arguments, it is necessary to describe some features of the electricity industry.
- [4] In 1996, there was established a so-called national electricity market covering Queensland and most other States and the Australian Capital Territory. In each of these jurisdictions there is uniform legislation providing for this market, the Queensland statute being the *Electricity – National Scheme (Queensland) Act 1997 (Qld)*. It provides for the application in this State of the National Electricity Law which is set out in the schedule to the *National Electricity (South Australia) Act 1996 (SA)* as in force for the time being.<sup>5</sup>
- [5] This national scheme has relevantly two elements. The first is an interconnected power system between the jurisdictions known as the national grid. Under the Act, this term takes its meaning from the so-called National Electricity Rules<sup>6</sup> which are made under the National Electricity Law, and by those Rules the national grid is:  
     "the sum of all connected transmission systems and distribution systems within the participating jurisdictions".<sup>7</sup>
- [6] Transmission systems or "networks" are the plant and equipment which transport relatively large quantities of electricity at high voltages from major electricity generators. The term is defined in the National Electricity Rules by reference to certain levels of voltages. A distribution system or network is plant and equipment

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<sup>1</sup> *Electricity Act 1994 (Qld)* s 90(4).

<sup>2</sup> s 23(8).

<sup>3</sup> s 90(5).

<sup>4</sup> s 90(1).

<sup>5</sup> *Electricity – National Scheme (Queensland) Act 1997 (Qld)* s 6.

<sup>6</sup> By the definition in Schedule 5 of the Act.

<sup>7</sup> Chapter 10 of the National Electricity Rules.

by which electricity is transported but which is not a transmission network. These are lower voltage networks which are typically used to transport electricity from connection points with transmission networks to consumers such as households and most businesses.

- [7] Section 6 of the Act defines the term “transmission grid”, so that it effectively means the “transmission system” to which I have referred. It provides:

**“6. Transmission grid**

- (1) A *transmission grid* is a system, or part of a system, of electric lines, substations and associated equipment providing connection between generation facilities and supply networks or customers not supplied through supply networks.”

Section 8 of the Act defines the term “supply network”, so that it effectively means the “distribution system” to which I have referred. It provides:

**“8 Supply network**

A *supply network* is a system, or part of a system, of electric lines, substations and associated equipment, other than a transmission grid, for distributing electricity to customers, whether or not generating plant is connected to it.”

- [8] Section 6 recognises the existence of the so-called directly connected customers: those who are supplied directly from the transmission grid rather than through a supply (distribution) network. Accordingly, the load which is conveyed from a transmission grid to a supply network does not include that which is consumed by directly connected customers. The distinction between directly connected customers and customers serviced through a supply network is central to this case. The applicants contend that the electricity consumed by directly connected customers should have been entirely excluded from consideration in the Authority’s assessment of the costs of retailers.
- [9] The other presently relevant element is the spot market for electricity. This is conducted by the National Electricity Market Management Company (“NEMMCO”). The sellers in this market are typically electricity generators and the buyers are typically electricity retailers or, in some cases, large consumers. The market is compulsory in that generators across the participating jurisdictions are required to transact through it with NEMMCO as the counterparty. Electricity generators are required to submit offers detailing how much power they are willing to sell and at what price. NEMMCO matches this information with the requirements of buyers with the objective of ensuring that total supply equals total demand and at the lowest feasible cost to the buyer, and by this means spot prices in the market are derived. The market is divided into geographic regions which presently correspond with the respective participating jurisdictions. Wholesale spot prices are determined for each region.
- [10] Spot prices can be very volatile. According to Mr Price, a consultant economist with wide experience in the energy sector, the level of spot prices can rapidly increase (or decrease), such as from an average level of about \$40 per megawatt

hour to about \$10,000 per megawatt hour. Generally spot prices are higher during the day than at night, and on weekdays than at weekends, corresponding with different levels of demand. The level or quantity of demand, and thereby the level supply, is generally referred to as the load. The variation in that load over time is described as the load shape or demand profile. Some electricity consumers have what is called a flat load shape, meaning that their level of demand varies little across a day. Examples are some large industrial consumers of electricity such as aluminium smelters and major manufacturing plants. Some types of consumers have what is called a “peaky” shape or profile, meaning that the demand varies greatly across a day or otherwise over time. For example, households often have volatile load shapes, particularly through the use of air conditioning units.

### **The fixing of tariffs under the Act**

[11] Within Pt 2 Div 2 of Ch 4, s 90 provides that the pricing entity must, for each tariff year, decide the prices, or the methodology for fixing the prices, that an electricity retailer may charge its non-market customers. The prices or methodology must be in the form of a tariff schedule.<sup>8</sup> But prices, or the methodology for fixing prices, may be made from time to time and not just once a year.<sup>9</sup> The price or prices so fixed are called the notified prices.<sup>10</sup> A retailer must charge non-market customers the notified prices.<sup>11</sup>

[12] The annual indexation of tariffs is required by s 91B as follows:

#### **“91B Operation and application of div 3**

- (1) This division requires the annual indexation of tariffs in the current tariff schedule to the extent the tariffs, or components of the tariffs, will continue to apply in the next tariff year (the *relevant tariff year*).
- (2) However, indexation under this division only applies to prices for customer retail services decided or fixed under section 90(1).
- (3) Also, this division does not prevent the pricing entity from, under section 90, adding to, removing or changing a tariff when indexation is required under this division.
- (4) each tariff indexed under this division applies from the start of the relevant tariff year.”

The term “customer retail services” means the sale of electricity for consumption at certain prices.<sup>12</sup>

[13] Section 91D prescribes the relevant formula as follows:

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<sup>8</sup> s 90(2).

<sup>9</sup> s 90(2A)(a).

<sup>10</sup> s 90(4).

<sup>11</sup> s 91A(2).

<sup>12</sup> Defined in Schedule 5 of the Act.

**“91D Indexation formula**

- (1) Each tariff in the current tariff schedule must be indexed by applying the following formula –

$$T_y = T_{y-1} \times B_y / B_{y-1}$$

where –

$T_y$  is the tariff component for the relevant tariff year.

$T_{y-1}$  is the relevant tariff component for the preceding tariff year.

$B_y$  is the benchmark retail cost index for the relevant tariff year, as worked out under subdivision 3.

$B_{y-1}$  is the benchmark retail cost index for the preceding tariff year.

- (2) For subsection (1), the benchmark retail cost index for the preceding tariff year is worked out under subdivision 3 as if a reference in the subdivision to the relevant tariff year were a reference to the preceding tariff year.
- (3) In this section –

***tariff component***, for the relevant tariff year, means each separate charge or fee stated in the notified prices that applies for a particular tariff category.

*Examples of tariff components –*

Service fees, demand charges, energy charges, annual payments and minimum payments”

[14] Accordingly, the tariff is to be varied by the extent of the variation in the so-called benchmark retail cost index (the “BRCI”) from one year to the next. In the present case, the “relevant tariff year” was the 2009 year and the “preceding tariff year” was the year to 30 June 2008 (“the 2008 year”). The Authority’s decision was dated 30 May 2008. According to the submissions for the Authority and for the Minister, s 91D permitted and indeed required the Authority, in fixing the 2009 prices, to calculate the BRCI for the 2009 year, and at the same time the BRCI for the 2008 year.

[15] Of course, by its previous decision which fixed the prices for the 2008 year, the Authority had had to make a calculation of the BRCI for that 2008 year. But this time around, the Authority saw fit to recalculate the BRCI for 2008, using a different methodology and different data. That is the subject of complaint by the applicants. They contend that the Authority was not obliged to recalculate the 2008 BRCI, and indeed was not entitled to do so except in certain limited respects.

- [16] The calculation of each BRCI was to be in accordance with s 91E to s 94 of the Act. Section 91E provides:

**“91E Benchmark retail cost index**

The benchmark retail cost index for the relevant tariff year is the index, expressed in c/kWh, for the State, worked out by applying the following formula –

$$B = R/L$$

where –

*B* is the benchmark retail cost index for the year.

*R* is the total benchmark retail cost for the year.

*L* is all of the NEM load of the State for the year.”

The denominator, the “NEM load of the State for the year”, is defined<sup>13</sup> to mean “the State’s NEM load, as worked out under s 91F” as follows:

**“91F Working out NEM load**

- (1) The pricing entity must work out the State’s NEM load for the relevant tariff year.
- (2) The NEM load is the pricing entity’s view of the total of the loads for the State supplied at each transmission connection point to a supply network, as adjusted for any matter prescribed under a regulation.
- (3) The total must be expressed in kilowatt hours.
- (4) The pricing entity must consult with interested persons about the methodology it proposes to use to form the view.
- (5) In this section –

*transmission connection point* means a Queensland transmission network connection point as defined under the National Electricity Rules.”

- [17] In the National Electricity Rules, a transmission network connection point is defined as “a connection point on a transmission network”, and the term “connection point” is defined in terms which would include both the points of supply from a transmission grid to a supply network and from a transmission grid to a directly connected customer. Accordingly, in s 91F(2) “the total of the loads supplied at each transmission connection point” would include electricity supplied to directly

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<sup>13</sup> By s 91C.

connected customers. However, s 91F(2) limits the NEM load to loads for the State supplied at each transmission connection point *to a supply network*. The result, as all parties accept, is that under the Act, the NEM load is not the entire load for the State which is delivered by the grid, but is that part of it which is conveyed through the supply network.

[18] Accordingly, when calculating the denominator for the BRCI formula in s 91E, the Authority correctly excluded that part of the State's load which went to directly connected customers. It is the Authority's calculation of the numerator, which is the total benchmark retail cost, which the applicants challenge.

[19] The total benchmark retail cost is defined by s 91G as follows:

**“91G Total benchmark retail cost**

- (1) For section 91E, the total benchmark retail cost, expressed in cents per kilowatt hour, for the relevant tariff year is the estimated total cost of supplying customers in the State during that year, as worked out by the pricing entity.
- (2) The total cost must be the total of each of the following (each a *benchmark retail cost element*) as fixed by the entity –
  - (a) the cost of energy, as worked out under section 92;
  - (b) network costs, as worked out under section 93;
  - (c) retail costs, as worked out under section 94;
  - (d) any other relevant costs the pricing entity considers relevant.
- (3) In fixing a benchmark retail cost element other than network costs, the pricing entity must consult with interested persons in the way prescribed under a regulation.
- (4) The working out of any particular benchmark retail cost element is subject to any relevant fixed principle.
- (5) If the fixed principle is inconsistent with the operation of a section stated in subsection (2), the principle prevails to the extent of the inconsistency.”

[20] If read alone, s 91G would appear to refer to the entire Queensland load, rather than that part of it which supplies customers through a supply network. In particular, s 91G(1) refers to the estimated total cost of supplying “customers in the State”.

However, that is affected by s 92, which provides for how the pricing entity is to fix the cost of energy. Section 92 provides:

**“92 Cost of energy**

- (1) The cost of energy must reflect the pricing entity’s view of the likely total of the costs to be incurred during the relevant tariff year to purchase energy to supply all of the NEM load of the State for the relevant tariff year.
- (2) The view must be based on the pricing entity’s most recent estimate of the long run marginal cost of energy in the part of the State connected to the national grid, after taking into account –
  - (a) the Queensland gas scheme under chapter 5A; and
  - (b) the scheme under the *Renewable Energy (Electricity) Act 2000* (Cwlth).
- (3) The estimate must take into account the most efficient combination of generating plant to supply all of the NEM load of the State for the relevant tariff year.
- (4) Unless the cost of energy is subject to a fixed principle, the long run marginal cost estimate must be prepared at least every 3 years.
- (5) Subsection (4) does not prevent the pricing entity preparing the long run marginal cost estimate more frequently.
- (6) In estimating the long run marginal cost, the pricing entity must comply with any methodology prescribed under a regulation.”

**The questions**

[21] In essence there are three questions in these proceedings, and two of them concern s 92. First, the applicants contend that s 92(1) required the Authority to assess the likely cost to purchase the energy needed to supply not all of the Queensland load, but that part of it which was the NEM load of the State. Whilst it has not always clearly accepted that interpretation, the Authority argues that nevertheless, it did make that assessment. The applicants argue otherwise, and say that the Authority’s reasoning involves a misinterpretation of s 92(1).

[22] Secondly, there is a question of the proper interpretation of s 92(2). Again, the applicants’ complaint is that the Authority made an estimate under this provision by

reference to the entire Queensland load and not the NEM load of the State which, they argue, required exclusion of directly connected customers.

- [23] Thirdly, there is a complaint about the Authority's reassessment of the BRCI for the 2008 year.
- [24] At this point it is necessary to say something more about the market for which these provisions were enacted.
- [25] Large industrial customers are in some instances directly connected customers and in others are customers through a supply network. Some of them, such as Queensland Rail, are directly connected in some parts of the State but connected to a supply network in others. These large industrial customers do not pay the notified price but instead negotiate their own contracts. Regardless of whether they are directly connected customers, they can buy from a retailer or buy from NEMMCO at the spot price. This has been the case at least prior to the enactment of these indexation provisions in 2006.
- [26] About 27 to 30 per cent of customers within Queensland receive electricity as non-market customers. For the most part, these are residential customers. None of them is a directly connected customer. But because large industrial users are sometimes directly connected and sometimes not, a consideration of the retailer's costs of supplying all of those who are not directly connected would not be confined to the customers who will be affected by the outcome of the indexation: those who will pay the notified prices. Logically the Act might have required an assessment of the cost of supplying the load of residential customers, or that part of the State's load which was likely to go to customers who would pay the notified prices. In theory at least, this would have made for a closer correlation between a retailer's costs and its prices as fixed under this regime.
- [27] Alternatively, the Act might have provided that the prices were to be varied according to movements in the costs of supplying the entire Queensland load. That might have been thought appropriate, especially because many directly connected customers are supplied by retailers. Indeed that would have been the effect of the Act if the relevant Bill had been enacted in its original terms. By cl 91C of the Bill<sup>14</sup>, "NEM load" was defined to include the whole of the load served by the national grid in Queensland. The definition was in these terms:

"**NEM load**, of the State, means the total kWh of the loads supplied at each Queensland transmission network connection point as defined under the National Electricity Rules."

As noted already, under those Rules, such a connection point could be one conveying electricity to a supply network or to a directly connected customer. The Explanatory Note for the Bill included the following:

"Insertion of new ch 4, pt 2, div 3

Clause 25 inserts a new ch 4, Pt 2, Div 3 (Requirements for deciding notified prices for a tariff year) into the *Electricity Act 1994*. This implements the Government policy of having tariffs linked to changes to an electricity cost index.

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<sup>14</sup> Electricity and Other Legislation Amendment Bill 2006 (Qld).

... The new section 91G (Total benchmark retail cost) makes it clear that, for section 91F, the total benchmark retail cost, expressed in c/kWh, for the relevant tariff year, is the estimated total cost of supplying customers *in the State* during that year, as worked out by the pricing entity ...” [emphasis added]

In the Second Reading Speech, the Minister said:

“The uniform tariff will be varied in accordance with an ‘electricity cost index’. That is, each year, regulated tariffs will be adjusted based on changes in electricity supply costs.

This change will ensure that changes in uniform tariffs reflect cost rises and falls in the electricity sector and allow the benefits of any productivity improvements in the sector to be shared with electricity customers.”

Again this was consistent with the original terms of the Bill, which provided for variation of the notified tariffs according to changes in costs across the entire Queensland electricity load, rather than only according to changes to that part of it which is serviced through a supply network.

[28] However, the Bill was amended to insert a different definition of “the NEM load”, which was in the terms now found in s 91F(2) of the Act. The important change was to add after the words “each transmission connection point” the words “to a supply network”. According to the second Explanatory Note, this was one of several amendments intended to:

“provide for some fine tuning of the formula which should provide further clarity for the [Queensland Competition Authority] when it undertakes the calculation...

The purpose of this new section [91F] is to provide a clearer definition of ‘NEM load’ which is one of the components in the formula to work out the electricity cost index.”

That seems to have overlooked the effect of the amendment rather than providing an explanation for it. Nor was the effect of this amendment identified in the Second Reading Debate, when the Minister said:

“The Bill provides for the Queensland Competition Authority to calculate an electricity cost index which reflects the changes of the cost of electricity supply. The index will be used to adjust regulated tariffs on an annual basis. This will allow changes in the government regulated tariffs to reflect the cost rises and falls *in the electricity sector*, rather than relying upon the CPI...

In relation to the expected costs or dollar value of the application of the new electricity cost index, I think it would be fair to say that one needs to be very cautious about indicating any particular dollar value. As I said in my second reading speech, ... the index will reflect the rise and fall in costs unique and particular *to the electricity*

*industry* rather than the basket of goods and services that are captured in the formulation of the CPI.” [emphasis added]

- [29] In the electricity industry across Australia, it seems that the term NEM load is commonly understood as referring to the total demand for electricity across the participating NEM jurisdictions, including the demand of directly connected customers. Had the Act been passed according to the original Bill, the present debate about directly connected customers would not have arisen. Nevertheless, it is the Act in its present terms which must be applied, and as the submissions for the Authority and the Minister appear to accept, the terms “NEM load” or “NEM load of the State” take their meaning from s 91F(2), so as to exclude directly connected customers.

**The first issue: s 92(1)**

- [30] There are two distinct but related complaints about the Authority’s application of s 92. The first is that in its consideration of s 92(1), the Authority did not reach a view of the likely cost to be incurred to purchase energy to supply only those customers who take from a supply network, but instead reached a view as to the cost of supplying the entire Queensland load connected to the grid and then simply apportioned that cost according to the percentage of the Queensland load which was consumed from the supply network. By adopting one set of the calculations of its independent consultants, the Authority did approach the s 92(1) question in that way, and the issue is whether this involved a reviewable error.
- [31] The second complaint is that in the purported application of s 92(2), the Authority adopted its consultants’ estimate of the long run marginal cost of energy across the whole of the Queensland load connected to the national grid, rather than making an estimate on the hypothesis that what was to be produced was only that which would be consumed from the supply network.
- [32] The inclusion of directly connected customers makes for a difference under both s 92(1) and s 92(2) because, overall, directly connected customers are relatively cheaper to supply because of the quantities they consume and because of the relatively flat load shapes of their consumption.
- [33] A significant part of a retailer’s costs of purchasing electricity comes from the volatility of spot prices in the compulsory wholesale market. In order to minimise their exposure to the risks from that volatility, retailers and generators employ several means of hedging, such as those described as swap contracts, cap and floor contracts and collar contracts. By these means the risk from that volatility can be markedly reduced, and, in theory, eliminated. But for the retailer there is a trade-off between the extra cost from this hedging and the extent of the risk to be avoided, and retailers are unlikely to hedge to the extent that all of their risk is eliminated.
- [34] Accordingly, the consultants engaged by the Authority, CRA International Pty Ltd (“CRA”), approached the exercise under s 92(1) by modelling which assumed not only certain spot prices, but also a particular mix of hedging contracts resulting in a certain increment in the retailers’ total costs of acquiring their electricity. Because the volatility in spot prices is largely determined by the load shape, or in other words the relative “peakiness” of demand, the formulation of relevant assumptions about the nature, extent and cost of hedging required certain assumptions to be made about load shapes. At least for this reason, the assessed costs under s 92(1)

from such modelling will be affected by whether the load shape is derived by including directly connected customers with their relatively flat levels of demand. That was well illustrated, and indeed quantified, within CRA's report.

[35] In that report, CRA wrote:

**“3.3.4 Shape of the load being modelled**

Concerns were raised that the Draft Report was based on modelling energy purchase costs for the full Queensland load, rather than excluding the directly connected load ...

We have given much consideration to the question of whether the load to be modelled should be the full Queensland load or whether it should exclude the directly connected load. While the legislation does define “all of the NEM load” to exclude the directly connected customers in evaluating the denominator “L” of the BRCI equation, it is not necessarily the case that this same definition should be used in all parts of the energy cost calculation. An at-scale retailer that serves a cross-section of the Queensland load would be expected to be serving some directly connected customers as well as non-directly connected customers, unless those directly connected customers are specifically excluded.

The key difference between inclusion and exclusion of these customers is that the directly connected customers would have a much flatter usage pattern than the non-directly-connected customers. Increased peakiness of load year-on-year can be attributed to the non-directly connected rather than directly connected customers. Including the directly connected customers effectively spreads the increased year-on-year peakiness of the load across a wider load base, and thus affects year-on-year changes in energy purchase costs in the calculation of the BRCI.

One of the reasons why inclusion of directly connected customers is perhaps preferable is because of the significantly higher robustness of the data that is available pertaining to the Queensland load as a whole, including a substantial body of historic and forecast data, based on NEMMCO's historic records and SOO forecasts. In contrast, the non-directly connected load data has to date only been made available to the Authority from NEMMCO up to 31 December 2007.

Therefore, in the calculation of the BRCI for 2008-09:

- ***Including the directly connected customers***, we have actual data up to date (to 30 April 2008), and robust

load forecasting methods from 1 May 2008 to 30 June 2009 to produce the necessary load data for modelling purposes; whereas

- ***Excluding the directly connected customers***, we have actual data only up to 31 December 2007, and less robust methods of forecasting the remaining load data – which covers a longer period – from 1 January 2008 to 30 June 2009.

In this Addendum, we present two sets of results – with and without the directly connected customers.

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### **B.1.1 Half-hourly load data used for the purposes of constructing a hedging strategy**

In all cases (including the alternative calculations set out in section 6), half-hourly load data that is used for the purposes of constructing a hedging strategy is based only on data and information that was available before the beginning of the tariff year in question. Thus the half-hourly load data used for the purposes of constructing a hedging strategy for the tariff year 2007-08 is based only on data and information that was available up to 30 June 2007, while the half-hourly load data used for the purposes of constructing a hedging strategy for the tariff year 2008-09 is based on data and information that was available up to the cut-off date for the finalisation of the input data for this Addendum (this being 30 April 2008).

#### *Including directly connected customers*

Half-hourly load data including directly connected customers represents the whole of the Queensland load. This data is held in our STEMM model of the NEM, from where it has been extracted for use in this estimation of the cost of purchasing energy.

#### *Excluding directly connected customers*

We do not hold data for the Queensland load excluding directly connected customers, and only have that data that has been provided by NEMMCO to the Authority for this purpose, which is all the Queensland half-hourly load data excluding directly connected customers, from 1 January 2005 to 1 December 2007.

Because the half-hourly load data for the tariff year 2007-08 is based only on data and information that was available up

to 30 June 2007, we have estimated the half-hourly load data for 2007-08 based only on using observed changes in the peak and in the total energy for this group of customers between the year ending 30 June 2006 and the year ending 30 June 2007, and applying those changes going forward to create new values for the peak and for the total energy for this group of customers for the tariff year 2007-08. The half-hourly load data (excluding directly connected customers) for the tariff year 2006-07 is then used as a load shape to which these peak and energy projections for 2007-08 are fitted – a “least squares” method is applied which achieves the forecast peak and energy for 2007-08, while mapping approximately to the observed load shape from 2006-07.

For the tariff year 2008-09, we were unable to use the same method based on using observed changes in peak and energy for this group of customers between the year ending 30 June 2007 and the year ending 30 June 2008, because we did not have the full data for this group of customers for the full year ending 30 June 2008 – rather we only had the first six months worth of data for this year – i.e. up to 31 December 2007. Therefore we compared the change in energy between the six months ending 31 December 2006 and the six months ending 31 December 2007, and used that to create a total energy forecast for this group of customers for the full tariff year ending 30 June 2009, as a change from the previous full tariff year (in this case the previous tariff year comprising actual data from July to December 2007, and estimated data from January to June 2008). We estimated the peak energy use of this group of customers in 2008-09 based on the growth estimated in the peak energy in the full NEM load in Queensland (including directly connected customers) from 2007-08 to 2008-09, and assuming that peak growth could be attributed fully to the non-directly connected customers. Based on these energy total and peak values we then created half-hourly load data values for this group of customers for 2008-09, again on the “least squares” method as discussed above.

### **B.1.2 Half-hourly load data used for the purposes of settlement**

In the calculations presented in section 3.3, the half-hourly load data used for the purposes of settlement is the same as the half-hourly load data used for the purposes of constructing a hedging strategy, as discussed immediately above.

However, in the calculations set out in section 6, alternative results are presented for 2007-08, based on settlement using data up to a later date, as discussed there.

...

### **B.2.2 Calculating swap and cap contracts to be modelled**

Based on the above half-hourly load data, we modelled swap and cap contract purchases as follows for each quarter of each tariff year, and for each scenario of including or excluding directly connected customers:

- Flat swaps are purchased up to the 80<sup>th</sup> percentile of off-peak load;
- Peak swaps are purchased up to the 90<sup>th</sup> percentile of peak load; and
- \$300 caps are bought beyond the cover of swaps to cover up to 105% of the maximum peak load.”

[36] CRA set out a summary of its calculations on the alternative bases of including and excluding directly connected customers, which demonstrate that there is a significantly greater cost, and a greater increase in cost, if directly connected customers are excluded.

[37] In an earlier draft, CRA had calculated only on the basis of including directly connected customers. Its alternative calculations apparently resulted from submissions it subsequently received from the present applicants and others. A few days prior to CRA’s presenting its final report,<sup>15</sup> a CRA employee sent an email to the Authority, referring to the alternative sets of calculations:

“We are asked to take a position re with or without directly connected [customers] in energy purchase costs. The same could apply to the LRMC two sets of calcs. It would certainly make it easier for me to present one set of data. On energy purchase costs, I would tend to excluding directly connected [customers], on the basis that that seems to be what the Act implies. Should I go ahead and make that recommendation?

...

[W]e have reconsidered based on submissions, and if we need to come down on one only, I reckon on excluding direct[ly] connected [customers] for energy purchase costs. But as we say in the report at the moment we have not ruled out either.”

[38] The Authority disagreed with that recommendation. In its decision, the Authority noted that CRA had made these two sets of calculations and referred to what CRA had written in its report that the inclusion of directly connected customers was

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<sup>15</sup> Dated 26 May 2008.

preferable because of the “significantly more robust data available for the Queensland load as a whole”. The Authority wrote:<sup>16</sup>

*“Relevant load*

Some questions were raised in submissions regarding the load and load shape used in estimating energy costs. For example, AGL [...] questioned the measure of load that had been used in calculating the LRMC and purchase cost of energy and suggested there was no basis for using total Queensland system load and that there should be a nexus between the method of calculating the LRMC and purchase cost of energy and the load supplied under regulated tariffs. Australian Power and Gas [...] also noted that using a whole-of-state load profile would result in a flatter load than that associated with small customers only.

Chapter 5 of this Decision considers the relevant load to be used as the denominator in calculating the change in the BRCI. Section 91E of the Electricity Act requires that the BRCI be determined by dividing the total benchmark retail cost by the Queensland NEM load in order to determine the unit cost of supplying electricity, expressed in c/kWh.

For that purpose, the Queensland NEM load is to be calculated from the loads supplied at each transmission connection point to the distribution networks of Ergon Energy and Energex. Isolated distribution networks and customers directly connected to the transmission network are therefore excluded from the Queensland load.

In calculating the LRMC of energy, Section 92(3) of the Electricity Act requires the Authority to “take into account the most efficient combination of generating plant to supply all of the NEM load of the State for the relevant tariff year”.

Section 92(1) of the Electricity Act requires the Authority to calculate the cost of purchasing energy based on the “likely total of the costs to be incurred during the relevant tariff year to purchase energy to supply all of the NEM load of the State”.

The requirements in relation to the relevant load to be used in calculating LRMC and purchase cost are two fold. In the case of the LRMC, the Authority is required to consider the combination of generating plant to meet the Queensland NEM load and, in the case of purchase costs, the Authority is required to consider the likely costs to meet the Queensland NEM load.

In considering the LRMC, CRA has calculated the LRMC of energy to meet the entire Queensland load forecast by NEMMCO in its Statement of Opportunities report. This load includes the NEM load

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<sup>16</sup> Pages 20 and 21 of its decision of May 2008.

of the State, as defined above, plus loads directly connected to the transmission network. CRA took this approach because the generation system that the LRMC estimate is seeking to capture would be built to service the entire Queensland load, not just loads supplied through the distribution networks.

Similarly, in considering the purchase cost of energy, CRA suggested that the requirements of the legislation did not mean that energy costs should be estimated to meet only the defined NEM load. The likely cost of meeting the NEM load of the State will be determined in the market to supply electricity generally in the State. There are not two separate markets operating to supply the two load segments identified in the legislation nor are there energy prices determined independently for either segment. Like generation capacity, the reality is that energy is supplied to meet all uses concurrently and not in isolation.

As a result, CRA has calculated two sets of energy purchase costs – one to meet the NEM load of the State in isolation and another to meet the NEM load of the State plus loads directly connected to the transmission network. CRA noted that the latter approach is perhaps preferable because of the significantly more robust data available for the Queensland load as a whole.

The Authority considers that, while the defined NEM load of the State will be a subset of the total load of the State, the prices and costs for meeting that subset will be determined in the wider context and not in isolation. To disregard this reality would be to ignore the economies of scale actually present in the market and would be counter to the objective of this whole exercise, which is to consider changes in the actual costs of efficiently supplying energy to customers. The Authority considers that this approach is consistent with the requirements of the legislation. The Authority has calculated the LRMC and purchase costs associated with meeting the NEM load and has allocated the total costs across the NEM load (as discussed in Chapter 5). However, the costs and prices associated with meeting the NEM load are those determined in the context of the actual market supplying the total load of the State rather than those that might prevail in a non-existent smaller market.”

[39] That extract sets out the critical reasoning of the Authority on the issue under s 92(1), as well on the related question under s 92(2). As to s 92(1), the Authority decided that the calculations which included directly connected customers should be adopted essentially for two reasons. One was that the data which was used in these calculations was more “robust.” It is unnecessary to discuss the respects in which CRA had explained that this was so. There can be no complaint, at least within the present proceedings, about the Authority’s conclusion that the data was more robust. But that consideration did not allow the Authority to depart from the requirements of s 92(1), if that was the result of including directly connected customers. And the Authority did not say that it was impossible to reach a view of

the likely cost to purchase energy to supply all but directly connected customers; indeed CRA had demonstrated by its alternative calculations that it was possible.

[40] The Authority's point about robustness of data is weakened by evidence which was given by a witness whom it called, Mr Breslin. He is the principal of an economic consulting firm and has considerable experience in the energy sector. In particular from 1990 to 1995 he was the Director General for the Queensland Department of Minerals and Energy, and in that capacity was closely involved in the establishment of the national electricity market. In his second report, he said that the concerns raised by CRA in relation to the robustness of the data were legitimate but that "an experienced analyst could develop and articulate a methodology for projecting the NEM load in a way that was transparent and reproducible", and that concerns about the robustness of the data were not so "great or insurmountable as to justify using data for the aggregate State load to calculate the energy purchase costs".

[41] The other reason provided by the Authority was that:

"the likely cost of meeting the NEM load of the State will be determined in the market to supply electricity generally in the State [and that t]here are not two separate markets operating to supply the two load segments identified in the legislation nor are there energy prices determined independently for either segment."

The Authority was correct in observing that there are not two separate markets operating to supply, respectively, the directly connected customers and other customers. In particular, there are not separate wholesale markets and separate regimes for spot pricing according to whether the end user will be a directly connected customer.

[42] However, what had to be assessed under s 92(1) was the likely total of the costs to be incurred to purchase energy. These costs include the significant costs of hedging contracts. As discussed, those costs varied significantly according to whether directly connected customers were included in their assessment. Therefore the fact that there were not separate markets operating to supply the "two load segments identified in the legislation" with "energy *prices* determined independently for either segment" did not mean that a retailer's *costs* overall were the same in one segment as in the other. As CRA's alternative calculations demonstrated, they would significantly differ.

[43] The Authority thereby blurred the distinction between spot prices and the costs involved in the purchase of electricity. Spot prices will be higher in times of peak demand, and this is one reason why the cost of supplying customers who consume at peak times will be higher than the cost of supplying those with a flat demand profile. Further, there is the cost of hedging, by purchasing the so-called "contract cover" to meet a forecast load. The higher the "peakiness" of that forecast load, then the higher will be the cost of the hedging.

[44] In each of its alternative calculations, CRA used the aggregate State load shape to arrive at spot prices. I accept that this was appropriate for reasons explained by Mr Breslin. In his first report he wrote:

"31. For the simulation modelling to derive spot prices, the only appropriate load shape to be used is, in my opinion, the aggregate load shape for the State (including directly connected

customers). Direct customers are an important part of the market. The profile of their load is flat and dominated by the smelter at Gladstone. The effect of a large flat load is to cause more base load plant to be running and supplying the market. This additional load has two effects on the market:

- Firstly, it causes more low cost base load generating plant to be operating which lowers the average pool price.
- Secondly, it results in more low cost reserve being available to the market and generally reduces costs for all wholesale consumers.

32. Deriving spot prices on the basis of a market that excludes the effects of directly connected customers would provide, in my opinion, an incorrect estimate. The load from directly connected customers changes the wholesale price outcome and should be included in the calculation.”

AGL tendered a report of Mr Price which expressly agreed with that evidence.

- [45] But the costs of hedging are another matter, as Mr Breslin explained in his first report:

“34. For the financial modelling which uses the spot prices *and contract cover* [ie hedging] to estimate the cost of purchasing energy, it is, in my opinion, appropriate to use the NEM load (excluding directly connected customers). It is my understanding that, in respect of this modelling, CRA undertook alternative calculations; one using data for the NEM load (excluding directly connected customers) and the other using data for the aggregate State load (including directly connected customers).

35. For this part of the estimation of energy purchase costs, my preference would have been to adopt the calculation based on the data for the NEM load (excluding directly connected customers).” [emphasis added]

- [46] The Authority argues that its assessment was valid, because it was required to reach a view of the likely cost which would be in fact incurred, rather than to consider “a hypothetical market where only the NEM load is being supplied”. This submission somewhat misstates the position. The approach under s 92(1) for which the applicants contend, which is exemplified by CRA’s alternative calculation, involves reaching a view as to what will be the actual costs to retailers in a real market in which they will participate. In that market, some customers are more expensive to supply because of their load shapes. What has to be assessed is how much it is likely to cost to acquire such of the load which is to be actually supplied to a class of consumer, constituted by those who are not directly connected. That requires some hypotheses to be made. In particular, it requires assumptions about the size and shape of the relevant load, and of the extent to which retailers would seek to manage the risk of price volatility in those circumstances and the mix of measures by which they would do so. But the modelling based on the entire State load

requires assumptions of the same kind. In that way, the exercise under either alternative is hypothetical.

- [47] Although in practice, a retailer's costs may not be distinctly incurred for a specific transaction or transactions of retail supply, nevertheless costs can be sensibly apportioned to transactions, or to groups of transactions such as those comprising the NEM load. As the witness Mr Allan<sup>17</sup> explained, electricity retailers often do just that, in assessing the likely costs of supplying a certain customer, or group of customers, based on the interaction of particular load shapes and market prices, in order to quote prices to such customers. The alternative calculations by CRA, which excluded directly connected customers, are such an assessment.
- [48] Overall the language of the decision gives the impression that the Authority adopted the alternative which it did, not only because of the perceived robustness of the data under that alternative, but also because of what it perceived to be a justification in policy for indexing notified prices according to the retailers' overall costs of supply, rather than their costs of supplying the NEM load of the State. As I have said, the first of those reasons did not justify a departure from the statute. The second of them could be argued as a matter of policy, but it does not accord with the requirements of s 92(1). It would accord with a statute enacted in terms of the original Bill, but not with this Act which confines the NEM load of the State to customers serviced by a supply network.
- [49] It was argued that the Authority's decision in this respect did not involve an error of law, or a failure to take into account some necessary consideration, but that the applicants were complaining about the merits of the Authority's view under s 92(1). That submission cannot be accepted. The Authority has asked the wrong question because it has formed a "view", purportedly under s 92(1), as to the cost per megawatt hour to purchase for the entire Queensland load, rather than for the relevant part of it. That is not disproved by the Authority's describing its assessment within the decision as one in terms of the subsection. The Authority was aware that the two were not the same, as CRA had demonstrated by its alternative calculations, which proved what was likely to be the actual position in the 2009 year: that the unit cost to retailers to acquire energy to service customers taking from the supply networks will be different from the unit cost to acquire energy for the entire Queensland load.
- [50] Counsel for the Minister made an argument to the effect that the cost savings from the economies of scale referred to in the passage from the Authority's decision set out above at [38] were "negative costs", and that they were rightly brought into account as "other relevant costs" under s 91G(2)(d). There are two reasons for not accepting that submission. The first is that, in fact, this was not the Authority's reasoning. Secondly, this notion of "negative costs" is not within s 91G(2)(d) on any reasonable interpretation of what might be "other relevant costs".
- [51] Accordingly, the applicants' case on the first question is established.

**The second issue: s 92(2)**

- [52] The estimate required by s 92(2) is not a distinct component to be added with others to reach the total benchmark retail cost. Rather the estimate is to be the *basis* for the

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<sup>17</sup> A consultant who advises retailers and generators on load forecasting and retail pricing.

pricing entity's view of the cost of acquiring energy under s 92(1). As the applicants argue, and the respondents appear to accept, the requirement that the s 92(1) view "must be based on" the s 92(2) estimate means that it must be reached by reference to that matter. The way in which the s 92(2) estimate was used by CRA in its modelling to arrive at the s 92(1) figure is not challenged. The complaint is in the way in which the s 92(2) estimate was made.

- [53] The cost referred to in s 92(1) is a cost to purchase energy. The cost in s 92(2) is a cost to produce energy. The long run marginal cost (of energy), it is agreed, should be understood for the Act as economists use the term. So as Mr Price explained, a marginal cost measures the change in total cost as a result of an incremental change in output and the long run marginal cost is the amount of that change in the long run, which is that period of time during which the inputs of all factors of production are variable. Thus the long run marginal cost of energy ("the LRMC") is the change in the total cost of meeting a specified load as a result of an incremental change in that load, given that the stock of generation plant and all other inputs are variable. This accords with CRA's understanding, reflected in their draft report, where they wrote that:

"the LRMC is commonly defined as the additional cost of servicing additional demand in the long run. The long run represents the useful service life of new capacity that is required to meet expected incremental demand."

- [54] But what is the relevance of the cost of producing electricity to the cost of purchasing it? The answer would appear to be that the former can provide an indication of the wholesale price of electricity, because in the long run and on the assumption of a perfectly competitive market, generators would be expected to offer to produce and supply electricity at a price equal to their marginal cost of production.

- [55] Mr Breslin said that existing and potential investors are interested in the LRMC as a long-term indicator of the upper level or market cap on wholesale electricity prices. He said that the

"objective of estimating the LRMC is to gain an assessment of the underlying trend of generation costs... It provides an indication of how the costs of electricity generation are forecast to change over time. It is based on *costs* not prices. In the consideration of the costs of energy, the LRMC and energy purchase costs represent different facets of those costs. Taken together, they give a more complete picture of the costs of energy (that is, current and trending) than if they were considered in isolation."

- [56] Mr Price wrote in his second report that:

"The LRMC of energy can be used for a number of purposes. I would agree that, in order to use the LRMC of energy as an indication of spot prices in the long run, the aggregate State load (including directly connected customers) should be used. Any other load shape would not provide a meaningful forecast of spot prices in the long run, simply because spot prices for each region are determined with reference to the aggregate State load and all of the

generation available to meet that load. However, the LRMC of energy can be used for other purposes.

The LRMC of energy is essentially the resource costs of meeting a particular load. The appropriate load to use in modelling LRMC depends on the question you are trying to answer. Certainly, one useful question might be: what is the resource cost of meeting the aggregate State load of Queensland (including directly connected customers)? To answer this question, the LRMC should be estimated by reference to the aggregate State load of Queensland (including directly connected customers). However, an equally valid question is: what is the resource cost of meeting the load for a particular customer or group of customers? To answer this question, the LRMC should be estimated by reference to the load shape of the particular customer or group of customers.”

Yet in cross-examination, Mr Price disagreed with the suggestion that the long run marginal cost gave an indication of the upper level of wholesale prices. He described it as:

“a measure of an ideal world where you’ve got the opportunity to completely rebuild the generation system in the most optimal manner and it doesn’t have a lot of regard to real world constraints, including political constraints ... There’s always the level of market power in any market and it certainly exists in the national electricity market.”

- [57] For the purposes of reaching a view of the likely cost to be incurred in purchasing energy, Mr Price said that the LRMC should be estimated by reference to the particular load shape of the NEM load for Queensland, i.e. upon the assumption that the only load to be supplied is that which is conveyed through the supply network. In his view:

“to calculate the cost of purchasing energy with reference to the NEM load for Queensland but the LRMC of energy with reference to the aggregate State load provides estimates that are inconsistent with one another.”

- [58] On the other hand, Mr Breslin’s opinion is that the load shape which should be used is the aggregate load shape for Queensland and indeed that this is the only “sensible” way of estimating the LRMC for the purposes of s 92(1). In his view:

“the LRMC is the cost of new plant to meet the next increment in demand. This is determined by looking at the market as it exists. If the LRMC is estimated by reference to a hypothetical market (excluding the directly connected customers) the estimate will not reflect the cost of a new entrant coming into the market as it exists in Queensland. In my opinion, an estimation of the LRMC that was referable to the NEM load (excluding directly connected customers) and not to the market as it exists, would be a meaningless exercise. ... The NEM was specifically designed to include all loads and all generators in one pool so that the market as a whole would have access to the most competitive prices and the lowest cost reserve. Reserve is an important concept in electricity markets as electricity demand and supply must be matched at each instant and, if supply is

lost the reserve generation must be brought up to speed quickly. Some of the lowest cost reserve comes from plant that is already operating but at less than full capacity. A number of partially operating plants can move quickly to increase their output and to cover the cost of a unit of supply. ... [T]he most efficient combination of generating equipment to supply all of the NEM load of the State would supply that load in the context of the existing NEM, including the reserve capacity that comes from generating plant which services directly connected customers.”

- [59] Mr Allan said that the LRMC should be estimated by excluding directly connected customers, but apparently because of his interpretation of s 92 and certain regulations which are discussed below.
- [60] The present question, of course, is one of statutory interpretation. The fact that a witness with considerable experience in the electricity industry reads the statute in a particular way does not resolve that question. Nor is that question to be answered by preferring the evidence on this point of one of Mr Price and Mr Breslin over the other. Each was an impressive witness with extensive experience. The fact that they hold these different views shows that with the benefit of an understanding of the industry which the evidence here would provide, neither interpretation is plainly correct.
- [61] Returning then to s 92(2), the relevant estimate is to be that of the “long run marginal cost of energy *in the part of the State connected to the national grid*”. The first and most obvious point is that s 92(2) does not employ the expression “the NEM load of the State”. Next, on at least one view (that explained by Mr Breslin), there would be a logical basis for requiring an estimate of the LRMC by reference to the aggregate State load, rather than upon the hypothesis, as the applicants argue, that the generators would be acting in response only to a hypothetical market in which the only consumers would be those taking from the supply network.
- [62] Accordingly, the applicants must go beyond s 92(2) to identify the prescription that the LRMC is to be estimated upon that hypothesis.
- [63] The applicants point to s 92(3), which provides that the estimate of the LRMC “must take into account the most efficient combination of generating plant to supply all of the NEM load of the State for the relevant tariff year”. They would have this provision read as if the relevant words were “to supply all of *but only* the NEM load of the State...” In my view this is not the effect of s 92(3). In particular, the reference to the “NEM load of the State” in s 92(3) is not so clear as to displace the effect of the use of a different term (“the part of the State connected to the national grid”) within s 92(2). That is not the apparent purpose of s 92(3). Rather, the purpose of s 92(3) is to require the estimate of the LRMC to assume the most efficient combination of generating plant. As Mr Breslin explained, the most efficient combination to supply the NEM load of the State is in fact the “lowest cost combination of generating plant to supply not only that load in isolation but all of that load as part of the National Electricity Market”.
- [64] Section 92(6) provides that in estimating the LRMC, the pricing entity must comply with any methodology prescribed under a regulation. But any such regulation could not be inconsistent with the Act, and as the submissions for the applicants appear to

accept, any such regulation in this context could not be used to interpret s 92. In *Webster v McIntosh*,<sup>18</sup> Brennan J, with whom Deane and Kelly JJ agreed, said that:

“the intention of Parliament in enacting an Act is not to be ascertained by reference to the terms in which a delegated power to legislate has been exercised.”

Similarly, in *Hunter Resources Ltd v Melville*,<sup>19</sup> Mason CJ and Gaudron J said:

“it is not permissible to interpret a statute by reference to the regulations [purportedly made under the Act].”

[65] However, I will refer here to the regulations which are relied upon by the applicants for this argument. They are relevant to the third question, considered below, which is whether the Authority was obliged or able to recalculate the BRCI for the 2008 year. Sections 104 to 107 of the *Electricity Regulation 2006* (Qld) (“the Regulation”) provide:

**“104 Prescribed methodology for estimating long run marginal cost of energy – Act, s 92(6)**

For section 92(6) of the Act, the prescribed methodology for estimating the long run marginal cost of energy for the relevant tariff year is a theoretical framework that complies with this division.

**105 Required principles for framework**

The theoretical framework must comply with the following principles –

- (a) it is generally recognised and understood in economic theory;

*Example –*

working out the new entrant price of various electricity generation technologies with the actual electricity generating plant mix optimised to efficiently supply the NEM load of the State for the relevant tariff year

- (b) the application of the theoretical framework should result in a cost per unit of electricity, expressed in \$/MWh, that constitutes the cost of energy;
- (c) the long run marginal cost of energy should be calculated to meet the demand profile (called the NEM load shape) formed over each half hour electricity trading period of the State for the previous calendar year;

<sup>18</sup> (1980) 32 ALR 603, 606.

<sup>19</sup> (1987-88) 164 CLR 234, 244.

- (d) there must not be double-counting of the cost of the schemes mentioned in section 92(2) of the Act.

*Example of paragraph (d) –*

In working out the optimal generation plant mix to supply the NEM load of the State for the relevant tariff year, the framework could be unconstrained with the mix being decided without regard to the schemes, but the resulting energy price uplifted to take account of them. If the mix contains 10% gas generation, but 13% is required under the Queensland gas scheme, the price should only be uplifted to account for the 3% shortfall to comply with that scheme.

#### **106. Matter the framework must take into account**

The theoretical framework must take into account ancillary services needed to meet the NEM load of the State for the relevant tariff year.

#### **107 Consistency of framework with previous tariff years**

- (1) The theoretical framework must be the same, or substantially the same, from tariff year to tariff year unless –
- (a) the pricing entity considers that there is a clear reason to change it; and
  - (b) the pricing entity has, under section 99, published draft decision material about the reason for the change.
- (2) If the pricing entity changes the theoretical framework, the pricing entity must work out what the benchmark retail cost index for the previous tariff year would have been based on the changed framework.”

[66] The applicants seek to make much of the fact that these regulations refer several times to the NEM load or the NEM load of the State.

[67] Where they appear in the examples within s 105 of the Regulation, what I have said about s 92(3) of the Act could equally apply. The same would go for the terms used in s 106 of the Regulation.

[68] Section 105(c) of the Regulation appears to suggest that the relevant demand profile is that for customers serviced through the supply network because of its reference to “the NEM load shape”. This particular expression, “NEM load shape”, appears only within s 105 of the Regulation, apparently as an intended means of referring in other regulations to “the demand profile”. The term does not appear elsewhere in the Regulation. It was submitted for the Authority that if it were relevant to the interpretation of the Act, s 105(c) of the Regulation could not assist because it is not in terms which limit the estimate of the LRMC to an assumption that the demand

profile must be that of customers taking through the supply network. In other words the provision does not affect what would otherwise be the relevant demand profile, which according to s 92(2) would be that for all of the State which is connected to the national grid. In my view that submission would have some force if this regulation were relevant to the interpretation of the Act. But instead, the requirement within this regulation must be understood in the context of the Act, so that “the demand profile” should be understood as referring to the aggregate State load, consistently with s 92(2) of the Act.

[69] The applicants argue that the whole indexation regime is concerned with measuring the costs, and increases in the costs from year to year, of supplying the NEM load of the State as defined, so that it would be illogical for the Act to require, as part of that exercise, an estimate of the LRMC of supplying some wider market. However, effect should be given to the words which are used if they have a logical explanation which is consistent with the objects of the Act. And apart from the deliberate use of the different words within s 92(2), there is the fact that the pricing entity’s view under s 92(2) must be *based on* its most recent estimate of the LRMC. Because the s 92(1) figure must be based on the LRMC, it need not be a precise function of the LRMC. Moreover, because the LRMC could be relevant as an indication of spot prices (as Mr Price argued in his second report), and because, as he wrote, “spot prices for each region are determined with reference to the aggregate State load and all of the generation available to meet that load”, there is no necessary lack of logic in using the LRMC of the whole of the State connected to the national grid in assessing costs under s 92(1) where spot prices are an important ingredient. Put another way, the estimate of the LRMC as undertaken by CRA could indicate long run movements in spot prices and, as discussed already,<sup>20</sup> it is the regional spot price in the market which is relevant to s 92(1), rather than some price that might prevail in the artificial context of a market where there were no directly connected customers.

[70] Accordingly, the estimate required by s 92(2) is the pricing entity’s most recent estimate of the long run marginal cost of energy for the aggregate State load which is connected to the national grid. Section 92 does not require the estimate to be reached upon the hypothesis that it would be *only* the NEM load of the State which would have to be supplied. This ground for challenging the estimate of CRA which was adopted by the Authority therefore fails.

### **The third issue: recalculating the index**

[71] The indexation in question was the second occasion on which the Authority undertook this task. The first was for the 2008 year. On that occasion, the Authority had to work out the BRCI for the 2008 year.

[72] But this time around, what was the Authority to do about the BRCI for the 2008 year? Was it simply to adopt the figure which it had worked out in the previous round? Or was it to recalculate the 2008 BRCI?

[73] It is convenient again to set out the formula which is contained with s 91D:

$$\mathbf{T}_y = \mathbf{T}_{y-1} \times \mathbf{B}_y / \mathbf{B}_{y-1}$$

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<sup>20</sup> Above at [44].

where –

$T_y$  is the tariff component for the relevant tariff year.

$T_{y-1}$  is the relevant tariff component for the preceding tariff year.

$B$  is the benchmark retail cost index for the relevant tariff year, as worked out under subdivision 3.

$B_{y-1}$  is the benchmark retail cost index for the preceding tariff year.

At least absent s 91D(2), but read with subdivision 3, that formula might be applied by using as  $B_{y-1}$  the figure which had been calculated as  $B_y$  in the previous round of indexation. Subdivision 3 is in terms which refer to a working out of the BRCI only “for the relevant tariff year”. And in s 91D(1),  $B_y$  is defined as the BRCI “as worked out under subdivision 3”, whereas  $B_{y-1}$  is defined not as a figure to be worked out, but apparently as a figure already derived.

[74] However, s 91D(2) must be considered. Again, it provides as follows:

“(2) For subsection (1), the benchmark retail cost index for the preceding tariff year is worked out under subdivision 3 as if a reference in the subdivision to the relevant tariff year were a reference to the preceding tariff year.”

The respondents argue that s 91D(2) makes it clear that, year by year, the pricing entity is not only to calculate  $B_y$  but also to recalculate the BRCI for the preceding year.

[75] The applicants argue that s 91D(2) has a different and limited operation. They say that its operation is necessarily confined to what I have described as the first round of indexation. That was for the 2008 year. Because there had been no similar exercise for the year to June 2007, there had been no calculation of a BRCI for the 2007 year. Therefore in applying the formula for the 2008 year, some figure had to be found for  $B_{y-1}$ . The applicants say that s 91D(2) was inserted to provide the answer in that particular context but otherwise it is to be disregarded.

[76] The applicants’ argument, that it is to operate it only once, rather than year by year, lacks any strong indication in the language of s 91D(2). The applicants say that there is such an indication from use of the definite article “*the* preceding tariff year” in s 91D(2). But in this, the subsection simply repeats the equivalent expression where it is used in s 91D(1), and there clearly in the context of an indexation year by year.

[77] The applicants argue that their interpretation is consistent with the predictive nature of the exercise under subdivision 3 and that it would be inconsistent with that for the pricing entity to revisit its assessment of the BRCI for the previous year on the basis of what had actually occurred. Of course, on their own argument, there would be that difficulty in the operation of s 91D(2), albeit only once. And the working out (again) of the BRCI for the preceding tariff year would not be entirely retrospective. Section 96 requires the pricing entity to ensure that notified prices

indexed under subdivision 3 are gazetted at least one month before the relevant tariff year starts (although a failure to do so does not invalidate or otherwise affect the indexation). Accordingly, under this regime, the indexation is to occur when the “relevant tariff year” is yet to begin and the “preceding tariff year” is yet to end.

- [78] I have considerable evidence as to what is described as indexation practice. The evidence is helpful but it must be kept in mind that this is a question of statutory interpretation. Nevertheless, from that evidence there are at least two points which are presently relevant because of what they might indicate about the effect in practice of each interpretation upon the promotion of the objects of this indexation scheme.
- [79] The first is that some indices, such as the Consumer Price Index, are “rebased” from time to time. The frequency of rebasing may vary from case to case and although that creates a discontinuity, it is not considered to deprive an index of its utility when that occurs. So as a former Australian Statistician, Mr Trewin, explained in his evidence, the CPI is an example where from time to time there is a rebasing from a change to the weighting of expenditure or to items within the CPI basket.
- [80] Secondly, an indexation according to the respondents’ argument, by a reworking of what is now  $B_{y-1}$  to use actual rather than forecast data, would not necessarily lead to a more accurate correlation between changes in retailers’ costs and changes in notified prices. This can be explained by the example of a particular change made by the Authority in its reworking of the 2008 BRCI. This time around, it discovered that it had understated in its previous calculation of the 2008 BRCI a certain item of cost by \$4.9m, meaning that the ratio of the 2008 BRCI to the 2007 BRCI was lower than it should have been and that tariffs were increased for the 2008 year by less than they should have been. This time around, the Authority thought that it should correct the error by including \$4.9m in its reworked 2008 BRCI. But rather than remedying the problem, this tended to distort the result. This is because the formula, at least if applied according to the applicants’ interpretation, should have what is described as the “self-correcting property” of many indices. As Mr Allan explained, this exists because the numerator of one year’s index becomes the denominator in the following year’s index. Therefore, had no change been made to the 2008 BRCI for that \$4.9m, the result this time around would have been that the \$4.9m cost had the impact on 2009 tariffs just as it would have had if it had been included in the previous round of calculations. But by the Authority’s reworking the 2008 BRCI to include it the result was distorted. The reason is that the ratio of the 2009 BRCI to the reworked 2008 BRCI is still being applied to the 2008 tariffs, which were affected by the omission of the \$4.9m. So rather than correcting the matter for the 2009 tariffs, the recalculation compounded the error. And, of course, the reworking of the 2008 BRCI was irrelevant for the tariffs for the 2008 year, which remained unaffected by the present round of indexation. Accordingly, the notion that a reworking of the preceding year’s BRCI with the advantage of more accurate information is not as attractive as may first appear.
- [81] As explained by another witness, Dr Fallon, the reworking of the previous year’s BRCI may provide the best estimate of the change in costs *for a single year*, but it is another matter when considering the impact of the indexation process over two years or more. Again, this is because the ratio of the respective BRCIs is still applied to tariffs which had been derived from the application of different data for the same year in the previous round of indexation.

- [82] Of course, there could be other circumstances which would lead to some “discontinuity” in this process of indexation. An example is that which is provided for by the regulations, which was where it is thought necessary or appropriate to change what is described as the theoretical framework for assessing certain costs. Nevertheless, this self-correcting feature of the index that would result from the applicants’ interpretation makes that interpretation more consistent with the object of the indexation regime, which is to have the notified prices vary over several years commensurately with variations in the relevant costs.
- [83] Under the respondents’ interpretation, the task of the pricing entity, year by year, would be considerably increased. For example, there is s 91F(4), which requires the pricing entity to consult with interested persons about the methodology it proposes to use to form “the view” of the NEM load. In effect, having consulted in the previous round about the methodology to predict that matter, it would be obliged to consult again as to the methodology to reach a view which was largely an assessment of what had occurred, rather than what is to occur. The same applies to the consultation required by s 91G(3).
- [84] Apparently recognising the practical inconvenience and questionable utility of recalculating the previous year’s BRCI in all respects according to subdivision 3, counsel for the Authority submitted that the pricing entity would be obliged to do so only if its “view hasn’t changed from the previous year”. That is difficult to reconcile with what the Authority did, in reworking the 2008 BRCI by using data which was quite different to that used originally. Inevitably, the use of the new data would result in the Authority reaching a different “view”.
- [85] AGL argues that its interpretation is “reinforced” by the view taken by the then Minister where, in delegating to the Authority the task for the 2008 year, it was said that:

“In order for the Minister to carry out the functions required under sections 90(5) and 91D of the *Electricity Act 1994*, the [Authority] must calculate the index for the relevant tariff year and the preceding tariff year – *unless the index has already been provided for the previous tariff year and there have been no changes to the methodology used to calculate the index.*” [emphasis added]

However, the view which the then Minister held as to the interpretation of s 91D is not presently relevant, except that it indicates that the interpretation argued by the applicants is one which could make for a practical and appropriate operation of the scheme.

- [86] The applicants’ argument has some support in the Explanatory Note to the relevant Bill.<sup>21</sup> Referring to what became s 91D of the Act,<sup>22</sup> the Note was as follows:

“The new section 91E (Formula for working out each tariff in tariff schedule for relevant tariff year) requires each tariff in the tariff schedule to be calculated by multiplying the relevant tariff component from the previous year by the benchmark retail cost index for the relevant tariff year divided by the benchmark retail cost index from the preceding tariff year. The benchmark retail cost index for

<sup>21</sup> Electricity and Other Legislation Amendment Bill 2006.

<sup>22</sup> Then proposed to be numbered s 91E.

the preceding tariff year, expressed in c/kWh, is calculated by dividing the total benchmark retail cost for the preceding tariff year by the NEM load for the State for the preceding tariff year.”

The Note’s description of what is  $B_{y-1}$ , as the benchmark retail cost index *from* the preceding tariff year, favours the applicants’ argument. Confronted with this point, counsel for the Authority submitted that the word “from” must be the result of a typographic error, a submission which is not immediately persuasive. And in the next sentence from that extract, where there is a description of how the BRCI for the preceding tariff year is calculated, it is not said that such a calculation is to occur in respect of the same tariff year over two successive rounds of indexation. Rather, there is simply an explanation that the component which is  $B_{y-1}$  will be a figure which has been calculated in the way there described.

- [87] On any view s 91D is no model of clarity and consequently, each of these interpretations is arguable. Ultimately, neither argument should be completely accepted. The applicants say that the pricing entity is bound to use as  $B_{y-1}$  the figure which it had used as  $B_y$  in the previous indexation. The respondents say that  $B_{y-1}$  “is to be calculated afresh in the current indexation”.<sup>23</sup> In my conclusion, what is required is that the pricing entity apply a formula which has an element,  $B_{y-1}$ , which at some time has been worked out according to subdivision 3. Under this interpretation, the entity *may* recalculate the BRCI for the preceding tariff year, but is not bound to do so. The section requires that there be a benchmark retail cost index for the preceding tariff year. But I am not persuaded that this must be a figure which has been worked out at the same time as the BRCI for the relevant tariff year. Nor must it be a figure worked out in the previous round of indexation.
- [88] There are several reasons why the respondents’ interpretation should not be adopted. First, there is the considerable administrative burden which would be imposed upon the pricing entity, each and every year, to recalculate a figure when there may be no good reason for the exercise. But secondly and importantly, the effect of assessing the BRCI again could be to distort the indexation process as I have discussed and the result would be inconsistent with the statutory purpose.
- [89] On the other hand, in some circumstances, there could be a good reason, consistently with the purposes of the scheme, to revisit the figure which had been calculated for the preceding tariff year. An example may be provided by the circumstance which is the subject of s 107 of the Regulation, which provides that the pricing entity is to use the same “theoretical framework” from year to year unless it considers that there is a clear reason to change it and that if it does make that change, it must work out “what the benchmark retail cost index for the previous tariff year would have been based on the changed framework”. In that instance, where there is a perceived need for a change in methodology, the objects of the scheme might be furthered by revisiting the previous calculation. The effect of the applicants’ argument is that the regulations could not authorise the use of a recalculated BRCI because the Act requires the original figure to be reused as  $B_{y-1}$ . The applicants’ interpretation should not be accepted unless it is clearly compelled by the words of the section. That is not the case: the section does not in terms preclude the employment of a recalculated BRCI.

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Submissions for the Authority, [492].

[90] Accordingly, it was open to the Authority, at least to some extent, to revisit its calculation of the BRCI for the 2008 year. The major complaint of the applicants is not that it did so at all, but that it did so to an extent not permitted by the relevant regulations, to which I now turn.

[91] Relevant here are sections 104 to 107 of the Regulation set out above at [65]. They deal with the methodology for estimating the LRMC. Also relevant are sections 108 to 111, which prescribe the methodology for forming a view as to another cost component, which is the retail costs to be worked out under s 94 of the Act, as follows:

**“108 Prescribed methodology for forming view of likely cost of providing customer retail services – Act, s 94(2)**

For section 94(2) of the Act, the prescribed methodology for forming the pricing entity’s view (the *retail cost view*) of the likely cost of providing customer retail services is the matters stated in this division.

...

**111 Provision about changes to retail cost framework**

- (1) This section applies if the pricing entity proposes to change the framework it uses to form the retail cost view in relation to the relevant tariff year.
- (2) The pricing entity must work out what the benchmark retail cost index for the previous tariff year would have been based on the changed framework.”

[92] In the decision, the Authority changed the theoretical framework for assessing both the LRMC and retail costs. There is no challenge to the use of the different methodology. What is challenged is the use of different *data* this time around.

[93] In this recalculation of the 2008 BRCI, the Authority used fresh data in the course of recalculations which were affected by its changes to the methodology. In several other instances, the Authority recalculated by the use of new data with respect to components which were not the subject of changes in methodology. In each category, the applicants say that the use of different data was contrary to the regulations. As to the former category, they contend that the pricing entity was obliged by s 107(2) or s 111(2) to work out what the BRCI for the 2008 year “would have been based on the changed framework”, which they say required the Authority to adhere to the data previously used but to subject it to the new methodology. As to the second category, they argue that there was simply no power in the Authority to revisit the calculation of the 2008 BRCI (except in the situations governed by s 107 and s 111). Within this second category is the adjustment of network charges by \$4.9m which I have discussed.<sup>24</sup>

[94] As to that first category, the applicants’ argument is persuasive. The effect of s 107(2) and s 111(2) is to *require* the pricing entity in those circumstances to

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<sup>24</sup> At [80].

recalculate the BRCI for the previous tariff year. But these regulations are not in terms which simply require some recalculation of the BRCI. More particularly, they require the calculation of what the BRCI *would have been* based on the new methodology. This confines the pricing entity in its recalculation, in that it is not permitted to use the opportunity of a changed methodology to use data not employed last time around. If the “old” data could be reused under the new methodology, in my view that is what these provisions required. That is indicated not only by the language but also by the desirability, in general, of not recalculating  $B_y$  as it becomes  $B_{y-1}$ , because of the potential to distort the outcome as I have discussed. But where there is a change in methodology, there could be a need for new data in that the old data might not be all that the new methodology requires.

- [95] The Authority says that these regulations are ambiguous but that the preferable construction is that they have no effect upon the data which should be used in the recalculation. Their only purpose, it is said, is to require a recalculation of the previous year’s BRCI with the new methodology. Further, the Authority points to the absence of any other regulation which restricts the use of new data in the recalculation of the previous year’s BRCI. It argues that it would be curious if the pricing entity were free to use new data except where there was a change in methodology.
- [96] That last point raises the validity of the Authority’s use of new data in the recalculation where that had no connection with a change in methodology. As I have concluded, the Act does not preclude a recalculation of the previous year’s  $B_y$  for the purposes of deriving this year’s  $B_{y-1}$ . But by necessary implication, that exercise would have to be for a purpose which is consistent with the objects of the legislation. In particular it would have to be directed to arriving at new notified prices, so that they involved an increase from the prices originally fixed under s 90 which was commensurate with increases in the relevant costs over that same period of years. But within those limitations, the pricing entity has a broad discretion. I am not persuaded that, outside the ambit of s 107 and s 111, it could never be valid for the pricing entity to use different data in its recalculation when the old data could have been employed. What I have said as to the desirability of a self-correcting index means that it would not usually accord with the purpose of this regime to use new data simply because it is “actual” data rather than what had been forecast at the time of the original calculation. But there may be particular situations in which some new data could be legitimately used.
- [97] I return then to the respondents’ submission about s 107 and s 111. It is not the case then that the pricing entity’s power to recalculate the previous year’s BRCI is unconfined. Accordingly, to accept the applicants’ argument as to those provisions would not lead to the curious result which they suggest. In my conclusion the terms of s 107 and s 111 are clear enough, and they should be understood in the manner I have described above at [94]. At least to this extent then, the applicants have established that the recalculation of the 2008 BRCI was not according to the regulations.

### **Conclusions**

- [98] The decision was not made in accordance with the Act because:

- (1) in working out the benchmark retail cost both for the relevant tariff year and the preceding tariff year, the Authority did not form a view of the likely total of the costs to be incurred during that year to purchase energy to supply the NEM load of the State for that year, as required by s 92(1) of the Act;
- (2) in working out the total benchmark retail cost for the preceding year, the Authority used data which had not been used in working out that cost when the year to 30 June 2008 had been the relevant tariff year, and which the Authority was not otherwise entitled to use in this decision.

[99] That second conclusion is expressed in general terms, because I am not persuaded that all of the new data was invalidly used. Some data was invalidly used in instances where the Authority did not act as required by s 107 and s 111 of the Regulation.

### **Relief**

[100] By its Originating Application, AGL sought orders under both Part 3 and Part 5 of the *Judicial Review Act 1991* (Qld). The Authority pleaded in response to the Part 3 claim that the decision was not a “decision to which this Act applies” as defined in s 4 of that Act. Without conceding the point at the hearing AGL limited its claim to Part 5 and to declaratory relief. That was also Origin’s position.

[101] Neither applicant seeks any order which would affect the notified prices for the year to 30 June 2009. Nor would my conclusions that the decision was not made according to the Act affect those prices. This is because of s 91AA which provides:

#### **“91AA Provision for compliance with decisions about notified prices**

- (1) This section applies if –
  - (a) the pricing entity decides or purports to decide notified prices (the *decided prices*); and
  - (b) the decided prices are, for whatever reason, quashed, set aside or declared or ordered to be of no effect in a proceeding.
- (2) Despite any matter mentioned in subsection (1)(b), for section 90A and any other provision of this Act, the decided prices –
  - (a) are taken to have, since the making of the decision or purported decision, always been notified prices; and
  - (b) continue in force as if they were notified prices until the pricing entity decides new notified prices.”

- [102] The applicants' concern is for the year from 1 July 2009 and subsequent years. At the conclusion of the hearing, all parties seemed to agree that if I upheld all or some of the applicants' arguments, I should make declarations and stand the matter over so that any further relief warranted by these reasons for judgment could be sought.
- [103] Clearly the Authority will have to recalculate the benchmark retail cost index for the year to 30 June 2009. The declarations made by this judgment, read with the reasons, ought to guide the Authority in that recalculation. There will be declarations in terms of my conclusions set out above at [98]. I will hear the parties as to further orders and as to costs.