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**AGL Energy Limited
Proposed Acquisition of Macquarie
Generation**

**Application to Australian Competition
Tribunal – FORM S**

24 March 2014

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Form S

Commonwealth of Australia

Competition and Consumer Act 2010 – section 95AU

APPLICATION FOR MERGER AUTHORISATION

To the Australian Competition Tribunal

Application is hereby made under section 95AU of the *Competition and Consumer Act 2010* for an authorisation under subsection 95AT(1) to acquire shares in the capital of a body corporate or to acquire assets of another person.

INTRODUCTION

In addition to the information disclosed in this form, AGL Energy Limited relies on evidence it submits in support of this application, including the following affidavits and reports that are specifically referred to in this application

- affidavit of Katherine Farrar, 21 March 2014;
- affidavit of Benjamin Burge, 21 March 2014;
- affidavit of Mark Brownfield, 21 March 2014;
- affidavit of Anthony Fowler, 23 March 2014;
- affidavit of Brett Redman, 23 March 2014;
- affidavit of Glenn Schumacher, 23 March 2014;
- affidavit of Liza Carver, 24 March 2014;
- report by Frontier Economics, 24 March 2014;
- affidavit of Dominic Drenen;
- affidavit of Henry Ergas;
- Report by Dr Rick Simes; and
- affidavit of Ross Bunyon.

1. THE APPLICANT (THE ACQUIRER)

(a) Name and registered office (where applicable) of the Applicant including the ACN (where applicable) and place of incorporation (where applicable)

- 1.1 The application is made by AGL Energy Limited (ACN 115 061 375) (**AGL**), in relation to an acquisition proposed to be made by AGL's wholly owned subsidiary, AGL Macquarie Pty Limited (ACN 167 859 494).
- 1.2 The address of the registered office of both entities is Level 22, 101 Miller St, North Sydney, New South Wales 2060.
- 1.3 AGL was incorporated in New South Wales. AGL Macquarie Pty Limited was incorporated in Victoria.

(b) Describe the business or businesses carried on by the Applicant including the products and services the Applicant supplies

Overview of AGL

- 1.4 AGL is an energy company listed on the Australian Securities Exchange (**ASX**). AGL:
- (a) develops and operates electricity generation and gas production assets;
 - (b) operates a gas and electricity retail business in each of NSW, Victoria, Queensland and South Australia; and
 - (c) has coal seam methane production and exploration interests in NSW and Queensland.¹
- 1.5 AGL's 2013 Annual Report is contained in Annexure AF-2 to the affidavit of Anthony Fowler.

Products and services supplied by AGL

- 1.6 AGL produces and supplies gas and electricity for sale in wholesale and retail markets. AGL manages the risk associated with fluctuations in the wholesale price of electricity by (among other things):
- (a) supplying and buying risk management instruments such as hedge contracts; and
 - (b) buying credits and other instruments required to manage (and manage risks associated with changes in) its liability for carbon emissions produced in the course of its business.²

AGL's business units

- 1.7 AGL's business is divided into three core operational businesses:³
- (a) **"Merchant Energy"**: which manages and develops AGL's diversified portfolio of electricity generation and wholesale gas arrangements in Victoria, NSW, South Australia and Queensland. Merchant Energy also manages relationships with AGL's large commercial and industrial customers.
 - (a) **"Upstream Gas"**: which manages and develops AGL's upstream gas assets located in Queensland and New South Wales.
 - (b) **"Retail Energy"**: which sells and markets natural gas, electricity and energy related products and services to more than 3.8 million residential and small business customer accounts across NSW, Victoria, South Australia and Queensland.
- 1.8 Further information on these businesses is contained in the AGL 2013 Annual Report, located at Annexure AF-2 to the affidavit of Anthony Fowler, at pages 12-21.
- 1.9 In FY13, AGL's electricity generators represented 12% of total registered electricity generation capacity in the National Electricity Market (**NEM**).⁴ Tables showing all of AGL's interests in electricity generation assets, and power purchase agreements (including

¹ Fowler, [3].

² Fowler, [4].

³ Redman, [8].

⁴ Report titled "General Industry Report", contained in Annexure DP-2 to the affidavit of Danny Price dated 24 March 2014 (**Frontier (Industry) Report**).

through joint ventures) are contained in Annexure B, Annexure D and Annexure E. AGL's other interests in gas production and associated assets are described at pages 19-21 of AGL's 2013 Annual Report, located at Annexure AF-2 to the affidavit of Anthony Fowler.

Ownership structure of AGL

1.10 The Issued Capital of AGL consists of 558,385,153 fully-paid ordinary shares.⁵

1.11 Three entities have greater than five percent shareholding, being:⁶

- (a) HSBC Custody Nominees (Australia) Limited at 14.94%;
- (b) J P Morgan Nominees Australia Limited at 14.41%; and
- (c) National Nominees Limited at 10.45%.

(c) Provide details of all related bodies corporate of the Applicant including the ACN

1.12 A table setting out the Applicant's related bodies corporate is located at Annexure C.⁷

(d) Address in Australia for service of documents on the Applicant

1.13 C/o Ashurst Australia
225 George Street Sydney NSW 2000 Australia
Attention: Liza Carver
Direct telephone: +61 2 9258 5897
Email: liza.carver@ashurst.com

(e) Name and address of any person for whose benefit or on whose behalf the shares or assets to be acquired will be held

1.14 AGL Energy Limited, Level 22, 101 Miller St, North Sydney, New South Wales 2060.

2. THE TARGET

(a) In the case of a body corporate whose shares or assets are to be acquired:

(i) Name of the body corporate including the ACN where applicable

2.1 Name: Macquarie Generation

2.2 ABN: 18 402 904 344 (Macquarie Generation does not have an ACN).

(ii) Place of incorporation of the body corporate

2.3 Macquarie Generation is a statutory state owned corporation established under the *Energy Services Corporations Act 1995* (NSW) and the *State Owned Corporations Act 1989* (NSW).⁸

⁵ Carver, [4].

⁶ Carver, [5].

⁷ Carver, [6].

⁸ *Energy Services Corporations Act 1995* (NSW), s 4.

(iii) Registered office of the body corporate

2.4 Corporate office: 34 Griffiths Road, Lambton, New South Wales, 2299⁹ (Macquarie Generation, as a state owned corporation, does not have a 'registered office').

(iv) Describe the business or businesses carried on by the body corporate including the products and services the Target supplies

Overview of Macquarie Generation

2.5 Macquarie Generation is a State Owned Corporation formed in 1996. Macquarie Generation's core business activity is the production, marketing and sale of electricity into the NEM. Macquarie Generation owns and operates the black coal fired Liddell and Bayswater Power Stations.¹⁰

2.6 Macquarie Generation operates under the *Energy Services Corporations Act 1995* (NSW), administered by the Minister for Resources and Energy, and the *State Owned Corporations Act 1989* (NSW). Macquarie Generation's principal functions are:¹¹

- (a) to establish, maintain and operate facilities for the generation of electricity and other forms of energy; and
- (b) to supply electricity and other forms of energy to other persons and bodies.

2.7 In the course of generating and supplying wholesale electricity, Macquarie Generation supplies energy and carbon derivative products for the purpose of managing the risk associated with changes in energy prices and managing Macquarie Generation's liability for carbon emissions produced in the course of its business.¹²

2.8 Macquarie Generation's key assets include:¹³

- (a) The 2,640 megawatt ("**MW**") black-coal fired baseload generation Bayswater power station ("**Bayswater**"), which comprises four 660 MW units commissioned between 1985 and 1986. Bayswater is located approximately 16 km south-east of Muswellbrook. Since FY2004, Bayswater has generated between 14,595 gigawatt hours ("**GWh**") and 17,776 GWh of electricity each year.
- (b) The 2,000 MW black-coal fired baseload and shoulder generation Liddell power station ("**Liddell**"). The Liddell power station comprises four 500 MW units, commissioned between 1971 and 1973. Liddell is situated adjacent to Lake Liddell, and next to Bayswater. [REDACTED]
- (c) The Hunter Valley Gas Turbines ("**Hunter Valley Gas Turbines**"), which have a capacity of 50 MW.
- (d) The development site for an ultra super-critical coal fired or closed cycle gas turbine Bayswater B power station ("**Bayswater B Development**").

⁹ Macquarie Generation, Annual Report 2013, page 103, contained in Annexure AF-22 of the affidavit of Anthony Fowler.

¹⁰ Macquarie Generation, 2012 Annual Report, Annexure AF-22 of the affidavit of Anthony Fowler.

¹¹ *Energy Services Corporations Act 1995* (NSW), s 6.

¹² Macquarie Generation, Annual Report 2013, contained in Annexure AF-22 of the affidavit of Anthony Fowler, and the Information Memorandum issued by the State of NSW in relation to the sale of the Macquarie Generation assets, contained in Annexure AF-20 of the affidavit of Anthony Fowler.

¹³ Fowler, Annexure AF-20 and AF-22 of the affidavit of Anthony Fowler.

(e) The development site for an open or closed cycle gas turbine Tomago power station ("**Tomago Development**").

2.9 In FY13, the Bayswater and Liddell power stations represented 10% of total electricity generation capacity registered in the NEM, and approximately 12% of total electricity output in the NEM.¹⁴

2.10



2.11 Macquarie Generation's 2013 Annual Report is contained in Annexure AF-22 to the affidavit of Anthony Fowler.

Ownership structure of Macquarie Generation

2.12 In accordance with the *State Owned Corporations Act 1989* (NSW), the two voting shareholders as at 30 June 2013, the Honourable M. Baird, MP, Treasurer and the Honourable A. Constance, MP, Minister for Finance and Services, held one share each, priced at \$1.00 per share, in Macquarie Generation.¹⁶

Ownership interests of Macquarie Generation

2.13 Macquarie Generation's ownership interests are described above.

(v) Number and type of shares or description of assets to be acquired

2.14 AGL proposes to acquire the following assets from the State of NSW and Macquarie Generation (**Proposed Acquisition**):¹⁷

- (a) the 2,640 megawatt (**MW**) coal-fired Bayswater power station located near Muswellbrook in NSW, and its related infrastructure;
- (b) the 2,000 MW coal-fired Liddell power station located near Muswellbrook in NSW, and its related infrastructure;
- (c) the 50MW open cycle Hunter Valley gas turbine located near the Liddell power station;
- (d) the Liddell solar farm;
- (e) the development site known as the "Bayswater B generation development site" which has Concept Approval under the former Part 3A of the *Environmental Planning and Assessment Act 1979* (NSW) for the development of a new (base load) power station with a maximum generating capacity of 2,000 MW powered by either pulverised coal or natural gas, located 4km west of Bayswater, Muswellbrook in NSW;
- (f) the development site known as the "Tomago generation development site" for which project approval has expired, located 15 km west of Newcastle;

¹⁴ Frontier (Industry) Report, Annexure A.

¹⁵ Fowler, Annexure AF-20, page 54.

¹⁶ Fowler, Annexure AF-22, page 60. See also *State Owned Corporations Act 1989* (NSW), s 20H.

¹⁷ Redman, [34].

- (g) various contracts entered into by Macquarie Generation including hedge contracts, coal supply and haulage contracts, diesel supply contracts, operations and maintenance agreements, carbon trading agreements and connection and metering services agreements;
- (h) various rights, obligations and interests in Macquarie Generation's registrations and authorisations required to operate the power stations;
- (i) Macquarie Generation's other assets, rights and liabilities including policies of insurance, intellectual property, real property, equipment, consumables and spares,

(together, **Macquarie Generation Assets**).

2.15 The contracts referred to above include the electricity sale and hedge contracts entered into by Macquarie Generation with Tomago Aluminium Company Limited Pty Ltd ABN 69 001 862 228 on behalf of the of the participants in the Tomago joint venture.¹⁸

(b) In the case of a body corporate whose shares are to be acquired, provide details of:

(i) the issued capital of the body corporate;

(ii) the holders of such issued capital.

2.16 Not applicable.

(c) Provide details of all related bodies corporate of the body corporate whose shares or assets are to be acquired by the Applicant

2.17 Not applicable.

(d) In the case of a person (other than a body corporate) whose assets are to be acquired:

(i) Name and address of the person

(ii) Describe the business or businesses carried on by the person including the products and services the person supplies

(iii) Describe the assets to be acquired

2.18 Not applicable.

3. THE ACQUISITION

(a) Outline the nature and details of the contract, arrangement, understanding or proposal for the acquisition and, if applicable, the public offer document, and provide a copy of any relevant contract, document or public offer document.

3.1 Pursuant to the *Electricity Generator Assets (Authorised Transactions) Act 2012* (NSW) ("**Enabling Legislation**"), the State of New South Wales has conducted a competitive sale process to identify a potential purchaser of certain key assets of Macquarie Generation.¹⁹

¹⁸ Redman, [34].

¹⁹ Redman, [45] – [70].

- 3.2 The key events which have occurred in the sales process for those assets are as follows:²⁰
- (a) on 30 July 2013, the Treasurer announced the commencement of the sale process and AGL received a request for expressions of interest.
 - (b) on 19 August 2013, AGL submitted an expression of interest;
 - (c) on 30 August 2013 AGL was invited to submit, and on 21 October 2013 AGL submitted, an indicative bid;
 - (d) on 4 November 2013, the NSW Government notified AGL that it had been accepted to participate in the binding bid phase, and on 5 February 2014 AGL submitted a binding bid to acquire the Macquarie Generation Assets for \$1.505 billion, conditional on AGL receiving clearance from the ACCC [REDACTED]
 - (e) the NSW Government accepted AGL's bid and AGL entered into a binding agreement with the State of NSW and Macquarie Generation for the sale and purchase of the Macquarie Generation assets on 12 February 2014 (**SPA**);
 - (f) on 12 February 2014, the Treasurer of NSW released a press release in relation to the sale process, which stated that:

Of the three bids received, AGL Energy was the only one that exceeded retention value. Should the ACCC not provide clearance to AGL Energy, the Government will not proceed with the sale of Macquarie Generation at this time
 - (g) on 4 March 2014, the ACCC announced that it would oppose the Proposed Acquisition;
 - (h) on 20 March 2014, the NSW Treasury wrote to AGL confirming that the SPA would remain on foot and that it would only transact with another entity on terms acceptable to it, including that the transaction value exceeds the State's retention value.
- 3.3 Following notice from the ACCC that it would object to the Macquarie Acquisition, either AGL or the NSW Government may terminate the Agreement (but have not done so as at 24 March 2014). The Proposed Acquisition will not proceed in its current form without clearance from the ACCC or authorisation from the Australian Competition Tribunal.²¹
- 3.4 AGL requests that the Tribunal grant authorisation of the Proposed Acquisition on the conditions set out in the proposed orders of the Tribunal contained in Annexure H (the **Conditions**).
- 3.5 The effect of the Tribunal granting authorisation of the Proposed Acquisition on the Conditions, is that AGL would be subject to the following obligations. (Terms in this summary relating to the NEM, and to ETFs and OTC contracts, are explained in further detail in Section 4 below).
- (a) AGL must offer, or enter into, a prescribed quantity of products priced with reference to the NSW regional reference price (**RRP**) (either an exchange-traded futures contract (**ETF**) or an over the counter (**OTC**) product that is on the same terms as the equivalent ETF product), for a period of six and a half years beginning

²⁰ Redman, [52] – [54], [57] – [58], [60] – [63], [70], [79] – [81].

²¹ Redman, [80], [81].

on the date six months after completion of the Proposed Acquisition (**Liquidity Obligation Term**).

- (i) The quantity of products AGL is to offer, or enter into, is at least 250MW of such products in each NEM trading interval during the first 26 whole weeks of the Liquidity Obligation Term, and at least 500MW of such products for each NEM trading interval for the balance of the Liquidity Obligation Term.
- (ii) The proposed orders are intended to facilitate the supply of products priced with reference to the NSW RRP to parties other than AGL, by:
 - (A) requiring AGL to offer, or enter into, the required quantity of products for the NEM trading interval by one or more of the following methods (other than products involving Macquarie Generation, or for which AGL is the purchaser):
 - (aa) offering or entering into products that are OTC products directly with NSW retailers (other than AGL, EnergyAustralia or Origin);
 - (bb) placing an offer to enter, or entering, into OTC products through a broker with a NSW retailer or person that holds an Australian Financial Services Licence (**AFSL**) (other than to AGL);
 - (cc) executing one or more price or quantity orders for ETF products placed on the futures exchange operated by ASX Energy Limited (**ASX**) (other than an order in relation to which AGL is the purchaser or acquirer); and
 - (dd) deeming that AGL has offered to enter into the required quantity of products (less the quantity that has already been entered into), where, in respect of a NEM trading interval, AGL has offered to enter into a minimum quantity (being 20MW) of products, which includes that NEM trading interval, over 120 trading days in the previous 12 months at a price that is no more than \$0.75 higher (measured in \$/MWh) than the most recent trading day's clearing price for the equivalent ETF product immediately before the day on which the offer was made, or the price of the last trade on the ASX for which AGL was not a party.

(Offer Condition)

- (b) In relation to NSW retailers:
 - (i) AGL must negotiate in good faith, on request of a NSW retailer other than AGL, Origin Energy or EnergyAustralia, to enter into a product provided that the Offer Condition has not already been satisfied.
 - (ii) If requested by a NSW retailer, AGL must offer a quantity of the requested product to that retailer. For each business day, the quantity of the products that is to be offered to NSW retailers, pursuant to this condition, is capped at an aggregate of 50MW for each trading interval of products entered into with all NSW retailers for that day. This obligation applies afresh on each business day. The price of the offer must be no more than \$0.75 higher (measured in \$/MWh) than the most recent trading day's clearing price for the equivalent ETF product immediately before the day on which the request was made or the price of the last trade on the ASX for which AGL was not a

party. This obligation does not apply if the Offer Condition has been satisfied for the NEM trading interval.

(b) Provide details of the commercial rationale for the acquisition and copies of all documents that were prepared specifically for the purpose of evaluating the proposed acquisition with respect to the market(s) affected and the nature of those effects

AGL's commercial rationale for acquiring Macquarie Generation is based upon the following matters:²²

- (a) **Internal rate of return:** The Macquarie Proposal gives AGL an opportunity to earn an internal rate of return which exceeds AGL's hurdle rate of [REDACTED]
- (b) **Supplying AGL's existing NSW load:** AGL's load in the NSW region is 9.1TWh per annum. Without any dispatchable generation in NSW, AGL currently spends approximately \$650-700 million per annum acquiring electricity from the market to supply its customers. AGL currently uses a mix of surplus generation in Victoria and market contracts to hedge its NSW position. However, AGL's surplus Victorian generation capacity will reduce from 2016 as new Victorian contracts commence. The Macquarie Proposal allows AGL to manage the risk from its NSW load with the Macquarie Generation Assets.
- (c) [REDACTED]
[REDACTED] Both power stations are located close to cost competitive coal mines in the Hunter Valley.
- (d) **Lowest short run marginal cost generators in NSW:** The Bayswater and Liddell power stations are the lowest short run marginal cost generators of scale in NSW meaning that they should always be dispatched by AEMO ahead of any other coal fired plant (other than the 150MW Redbank power station). The carbon intensities of Bayswater and Liddell are similar to the market average so any change in carbon pricing is unlikely to change their position for dispatch.
- (e) **Portfolio management:** The Macquarie Proposal will significantly improve AGL's ability to manage its load across all states of the NEM. The generation capacity of Bayswater and Liddell will help manage factors such as temperature (as it impacts electricity demand) and planned and unplanned outages in AGL's generation portfolio, which includes wind (intermittent), gas fired (peak or intermediate) and coal fired (base load).
- (f) **Lowering AGL's cost of funding:** Increasing the quantity of self-supplied generation will reduce the risk of earnings volatility. AGL expects that this will be reflected in its credit rating agency, Standard & Poors, lowering its hurdle rate for maintaining a BBB credit rating.
- (g) [REDACTED]

²² Redman, [71].

- (h) **Earnings balance for investment portfolio:** AGL's near term earnings will be improved by the Macquarie Proposal because the earnings of the Macquarie Generation Assets are weighted towards the beginning of the next 10 years. This will balance the cash flows from AGL's other recent investments, particularly in upstream gas and renewables, which will generate their earnings later in the next 10 years.

3.6 AGL's ASX announcement relating to the its bid for Macquarie Generation is contained in Annexure BAR 24 to the affidavit of Brett Redman. Documents considered by the Board of AGL in its evaluation of the Proposed Acquisition are contained in Annexures BAR 16, 17, 18, 19, 20 and 21 to the affidavit of Brett Redman. AGL's evaluation of the Proposed Acquisition did not otherwise involve documents "prepared specifically for the purpose of evaluating the proposed acquisition with respect to the market(s) affected and the nature of those effects."

(c) Indicate whether the acquisition involves proposed ancillary arrangements and describe the proposed arrangements

Not applicable.

4. BACKGROUND INFORMATION

(a) Describe the industry sector(s) to which the acquisition relates

4.1 The Proposed Acquisition takes place in the Australian electricity industry. This section describes:

- (a) the wholesale supply of electricity; and
- (b) the retail supply of electricity.

The supply of electricity in Australia

4.2 The Australian electricity supply industry involves the generation, transmission, distribution and retailing of electricity. Generation involves the production of electrical energy from other forms of energy such as coal, gas or water flow. Transmission is the long-distance bulk transport service for electricity between producers (generators) and high voltage customers. Distribution networks carry electricity from the edge of transmission networks to the premises of customers needing power at low and medium voltages. Retailing is the activity of managing relationships with end-use customers, including billing customers for their power consumption.²³

The wholesale supply of electricity

Overview

4.3 The wholesale supply of electricity generated in New South Wales, Queensland, Victoria, Tasmania and South Australia occurs through the NEM.²⁴

4.4 The NEM is a regulated, compulsory, energy only, gross pool wholesale market, in which supply and demand for electricity are matched and settled across five interconnected regions: NSW, Queensland, Victoria, Tasmania and South Australia, which are connected by six interconnectors.²⁵

²³ Frontier (Industry) Report, section 2.2.2.

²⁴ Frontier (Industry) Report, section 2.2.2, 2.3 and 2.4.1 – 2.4.2.

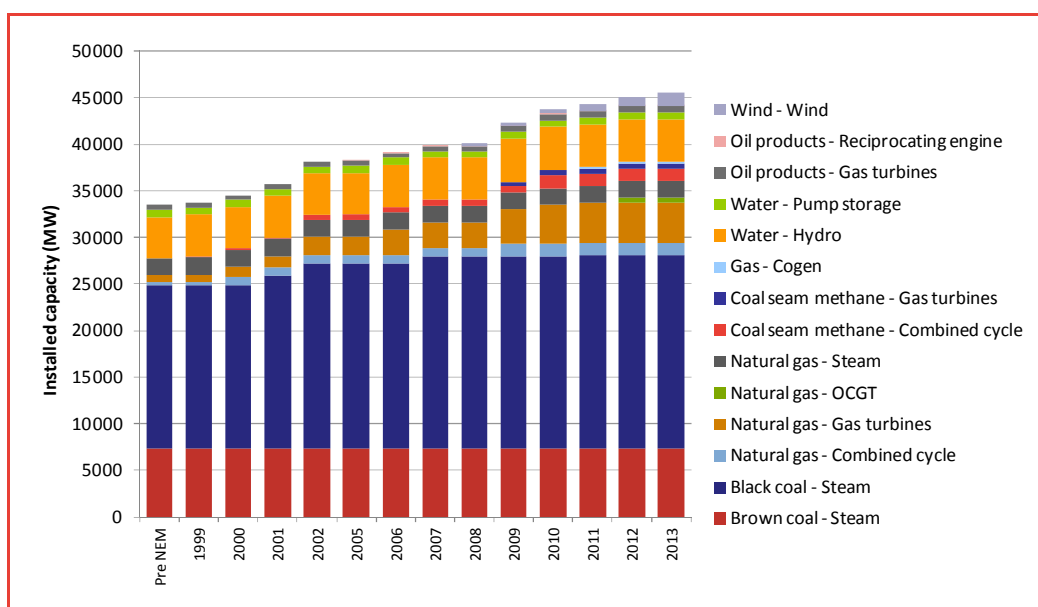
²⁵ Frontier (Industry) Report, section 2.2.2, 2.3 and 2.4.1 – 2.4.2.

4.5 The "suppliers" of wholesale electricity in the NEM are electricity generators, which can be categorised as:²⁶

- (a) **Base load generators** – being generators that are "designed to run almost constantly at near maximum capacity levels, usually at lower cost than intermediate or peaking generating systems". Base load generators typically have high sunk costs and relatively low variable costs. Coal fired power stations such as Bayswater, Liddell and the Loy Yang A power station (in Victoria) are examples of base load generators.
- (b) **Intermediate or peaking generators** – this refers to a generator which typically minimises generation when the pool price is below the generator's marginal cost of generation. AGL but not Macquarie Generation owns intermediate or peaking generators – AGL's Torrens Island Power Station is an example of this type of generator.
- (c) **Intermittent generators** – being generators "whose output is not readily predictable, including, without limitation, solar generators, wave turbine generators, wind turbine generators and hydro-generators without any material storage capability". A generator will also be described as "intermittent" where the energy released by that generator is determined by other requirements not listed above, for example, by requirements that available water be released for irrigation, rather than for generation purposes.

4.6 **Figure 1** shows cumulative installed capacity in the NEM by fuel and technology type for all years since the inception of the NEM. The NEM plant mix is dominated by black and brown coal baseload generation. In more recent years there has been an increase in gas generation, particularly in NSW and Queensland. There has also been an increase in wind generation as a result of the Renewable Energy Target (RET).²⁷

Figure 1 – Investment in the NEM²⁸



Source: Frontier Economics analysis

²⁶ Fowler, [26].

²⁷ Frontier (Industry) Report, section 4.2.

²⁸ Frontier (Industry) Report, section 3.2.

- 4.7 In 2012/13, the NEM supplied 199 TWh of energy to 9.3 million customers. This energy was supplied by 317 registered generators, with a total installed capacity of 48,321MW. Total turnover in the wholesale market in 2012/13 was \$11.4 billion.²⁹
- 4.8 The NEM bidding and dispatch process determines how much electricity is generated and by which generators, and the price generators receive for that electricity (see from paragraph 4.9 below). The physical supply of electricity occurs in the following way:³⁰
- (a) when a generator is dispatched in the NEM, they "send out" electricity from the power station;
 - (b) the electricity is transported over high voltage transmission lines, and then converted at a substation transformer to a low voltage suitable for distribution (the high-voltage transmission lines are owned and operated by regulated Transmission Network Service Providers);
 - (c) the electricity is then transported over distribution lines to electricity consumers, such as households and businesses. The substations referred to in sub-paragraph (b) above, and the wires that transport from distribution centres to end-use consumers, are owned by regulated Distribution Network Service Providers.

The NEM spot price: bidding, dispatch and the interconnects

- 4.9 The supply of electricity produced by generators (other than relatively small generators) in the NEM is highly regulated. Under the National Electricity Law all scheduled generators must offer (or "bid") all available capacity to the pool operated by the Australian Energy Market Operator (**AEMO**) on a five minute by five minute dispatch interval basis (the **Pool**).³¹
- 4.10 Subject to limited physical constraints relating to the operation of generating units, AEMO determines the amount of energy to be "sent out" by each generating unit. AEMO determines the dispatch order (i.e., how much (if any) electricity is "sent out" by a generator) on the basis of the price offerings of different units made by the generator for a particular five minute dispatch interval, with the least cost generation dispatched first. The last generation unit dispatched is the "marginal" unit and its offer price becomes the clearing price for the whole market. That is, all generators receive the marginal price and all load is paid for by retailers at the marginal price (the **Pool Price**). Under the National Electricity Rules the clearing price can vary between a minimum of AUD -\$1000 and a maximum of AUD\$13,100 per MWh.³²
- 4.11 Under the National Electricity Rules generators must bid their available capacity in ten price bands for each five minute dispatch interval. Generators may, subject to certain regulatory constraints, "rebid" their available capacity by effectively moving capacity between the ten price bands prior to the five minute interval in which dispatch occurs. Generators are not permitted to rebid or vary the specific prices applicable to the ten price bands.³³
- 4.12 Electricity retailers pay the Pool Price to AEMO for electricity consumed by their customers. Large commercial and industrial businesses that are registered participants in

²⁹ Frontier (Industry) Report, section 2.1.

³⁰ Frontier (Industry) Report, section 2.2.2.

³¹ Fowler [109]; see generally Frontier (Industry) Report sections 2.3 and 2.4.

³² See generally Frontier (Industry) Report sections 2.3 and 2.4.

³³ See generally Frontier (Industry) Report sections 2.3 and 2.4.

the NEM may also purchase directly from the Pool.³⁴ In order to supply retail customers with electricity, retailers enter into services contracts with the transmission and distribution businesses that operate the infrastructure required to reach the retailer's customers. Retailers are not otherwise involved in the physical supply of electricity in the NEM.

- 4.13 The NEM clearing price can vary according to prevailing demand and supply conditions. For example, demand is influenced by weather conditions, with the extremes of both hot and cold weather increasing demand. A range of factors influence supply, including individual generator's bidding decisions, the availability and price of inputs such as gas, coal, wind and sun and, in some cases, the existence of constraints in the transmission system.³⁵
- 4.14 In general, if the interconnectors between the five regions of the NEM are not constrained, generation units across the NEM compete for dispatch, and a single unit in the NEM will be the marginal generator - and therefore determine the wholesale price of electricity - for all regions. However, if the interconnectors are used at or near capacity, or the capacity of the interconnector is reduced for technical reasons, supply between regions may be constrained. In this situation, prices will diverge between regions, such that there is not a "single" NEM price, since the extent to which conduct of market participants in one region constrains the conduct of market participants in another region will be reduced by the level at which the interconnect has been constrained. Transmission losses and limits on the ability of particular generators to respond to AEMO's instructions can also affect the pattern of dispatch and create geographic price differences within and between NEM regions.³⁶
- 4.15 In 2012/13, prices were aligned across the mainland regions of the NEM for 77% of the time (ignoring the relatively small price impact that occurs because of transmission losses). This compared with 70% of the time in 2011/12.³⁷
- 4.16 The following table sets out the estimated nominal interconnector capacity limits of each of the NEM interconnectors for FY14.³⁸

Figure 2 - Nominal Interconnector Limits (MW)³⁹

Inter-connector	From region	To region	Summer peak	Summer off-peak	Winter peak	Winter off-peak
QNI	QLD	NSW	1078	1078	1078	1078
	NSW	QLD	400	550	400	550
VIC-NSW	NSW	Vic	1300	1300	1300	1300
	Vic	NSW	1500	1500	1500	1500

³⁴ Under the National Electricity Rules (**NER**), a "Customer" is a person who engages in the activity of purchasing electricity supplied through a transmission or distribution system to a connection point, and is registered by AEMO as a Customer under Chapter 2 of the NER (National Electricity Rules, Chapter 10 (Glossary)); National Electricity Rules, Rule 2.3.1(c). Rule 2.3.1(c) provides "A person must not engage in the activity of purchasing electricity directly from the market at any connection point, unless that person is registered by AEMO as a Market Participant and that connection point is classified as one of that person's market connection points".

³⁵ Fowler, [109].

³⁶ Frontier (Industry Background), section 4.2.3.

³⁷ Frontier (Industry) Report, section 2.4.4.

³⁸ Frontier (Industry) Report, section 5.4.2.

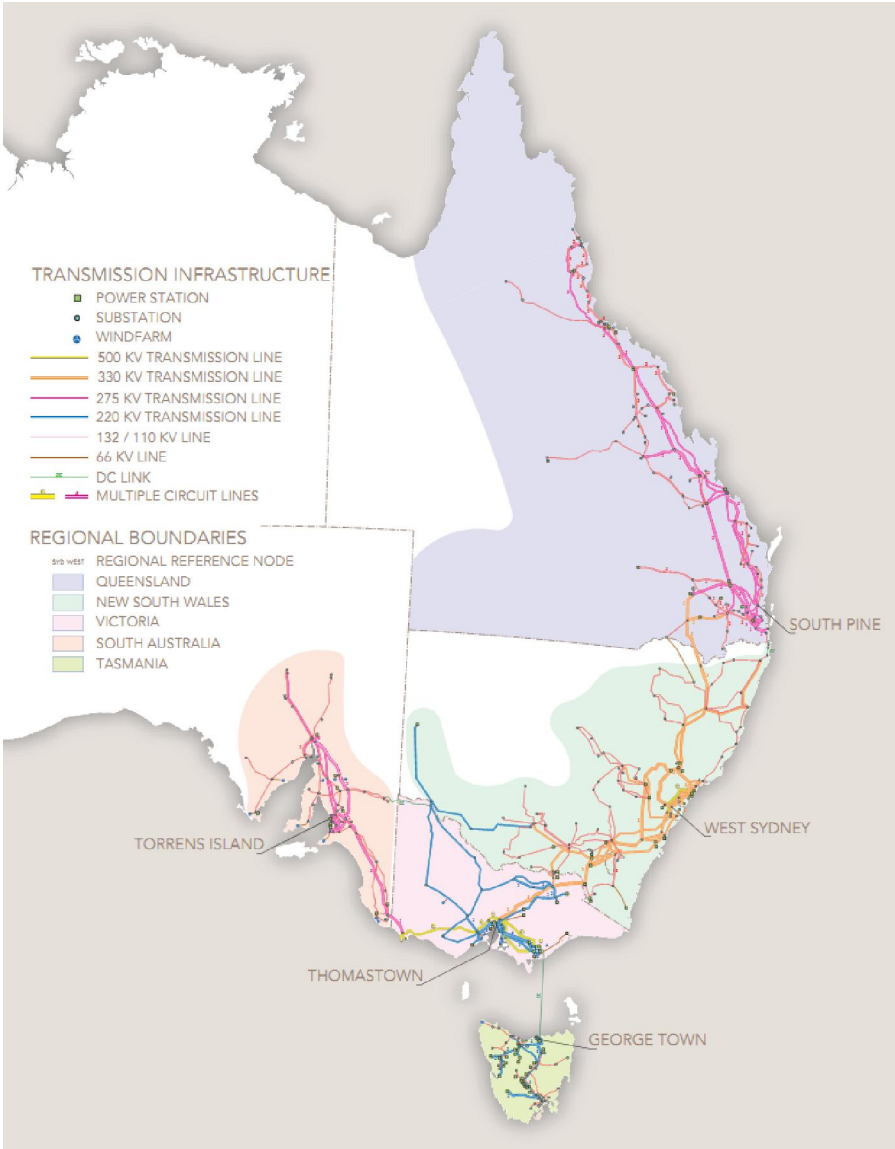
³⁹ Frontier (Industry) Report, section 5.2.4.

Inter-connector	From region	To region	Summer peak	Summer off-peak	Winter peak	Winter off-peak
Heywood	Vic	SA	460	460	460	460
	SA	Vic	460	460	460	460
Murraylink	Vic	SA	220	220	220	220
	SA	Vic	175	175	175	175
Terranora (former Directlink)	QLD	NSW	220	220	220	220
	NSW	QLD	122	122	122	122
Basslink	Vic	Tas	478	478	478	478
	Tas	Vic	594	594	594	594

- 4.17 When interconnectors between regions are constrained, Interregional Settlement Residues (or **IRSRs**) are generated in the settlements undertaken by AEMO. Residues arise because a generator will be paid the regional price in its region, even though it is generating electricity that flows into another region and is acquired at a higher price by a retailer in that other region. AEMO undertakes quarterly auctions of the IRSRs (referred to as Settlement Residue Auctions, or **SRAs**) so that participants can bid for an entitlement to future IRSRs.⁴⁰

⁴⁰ Frontier (Industry) Report, section 5.2.4.

Figure 3 - Diagram showing the extent of Interconnection in the National Electricity Market⁴¹



⁴¹ Frontier (Industry) Report, section 2.1.

Pricing in the NEM: risk management

- 4.18 The NEM spot price can vary significantly in response to demand and supply conditions in the NEM. Participants in the NEM face, and seek to manage, several risks arising from the variability of the Pool Price. In summary:⁴²
- (a) The principal risk that a NEM generator faces is that the NEM pool price will be lower, in any particular period, than the price the generator forecasted or expected when it invested in its generation portfolio. NEM prices which are lower than forecasted or expected can prevent a generator from recovering the costs of, and/or achieving its expected return on, its investment in its generation assets. Another key risk faced by thermal generators is uncertainty in relation to fuel costs.
 - (b) The principal risk that a NEM retailer faces is that the NEM pool price will be higher, in any particular period, than the price the retailer forecasted or expected when it entered into contracts to supply its retail customers with electricity. NEM prices which are higher than forecasted or expected can prevent a retailer from recovering the costs of, and/or achieving its expected return on, its investment in connection with the supply of electricity to retail customers. Retailers' exposure to variations in the NEM pool price arises from the fact that they typically supply retail customers on fixed (or substantially fixed) tariffs, which are based on the periods in which electricity is consumed, but which do not vary to reflect changes in the NEM pool price.
- 4.19 Vertically integrated businesses which include both generation and retail operations may partly offset these risks by having both generation and retailing businesses in their portfolio.⁴³
- 4.20 However both vertically integrated and standalone NEM participants also engage in a range of trading and other activities to manage the variability associated with the NEM spot price and its impact on their businesses. As a large publicly listed company, AGL engages in such activities according to its internal risk management protocols, which seek to manage the financial risk, earnings volatility and investment grade rating risk created by its exposure to the Pool Price.⁴⁴ These protocols are described in the affidavits of Brett Redman and Anthony Fowler.
- 4.21 The key trading and other activities that AGL and other NEM participants engage in, as part of a diversified risk management strategy, are set out below.⁴⁵
- (a) Trading over the counter (**OTC**) contracts: OTC contracts are bilateral contracts which are referenced to (and settled against) the spot price at a regional node in the NEM (i.e., with reference to the spot price in a particular region). OTC contracts are generally based on the International Swaps and Derivatives Association (**ISDA**) standard form OTC agreements published by the Australian Financial Markets Association (**AFMA**), copies of which are contained in Annexures AF-13 and AF-14 to the Fowler affidavit. OTC contracts may be negotiated directly between the parties, in which case the contract may be standard form or tailored. Alternatively, parties may be matched through a broker, in which case the OTC contract is generally executed in standard form. Types of standard form OTC contracts include:

⁴² Fowler, [86], [87], [88].

⁴³ Frontier (Industry) Report, section 5.3; Fowler [96].

⁴⁴ Redman, [102] – [110], [126] – [127]; Fowler, [91], [92], [112] – [122].

⁴⁵ Fowler, [96] and [97].

- (i) **Swaps** – an agreement to exchange a future NEM spot price (the "floating" price) for an agreed fixed price, with settlement based on the difference between the future spot price and the agreed fixed price;
- (ii) **Caps** – contracts that place a ceiling on the buyer's exposure to the future spot price in any half hour period within the contract period for an agreed premium;
- (iii) **Options** – contracts that create a right (but not an obligation) to enter into a transaction to acquire (call) or sell (put) an electricity derivative contract (i.e., a swap or a cap) at an agreed price in future, for an agreed premium;
- (iv) **Asian calls (or Asian options)** – a form of option contract in which the payoff is linked to the average spot price over a defined period; and
- (v) **Collar contracts** – which are contracts that impose both a cap and a floor on the price to be paid to acquire electricity in future.

OTC contracts are "referenced" to a period determined at the date the contract is entered into. That period is generally a quarter, half year or year (either calendar or financial). Additionally, OTC contracts are classified as "peak" (which means that the contract applies to all dispatch intervals between 7am and 10pm on business days), "off-peak" (which means that the contract applies to all dispatch intervals which are not "peak" dispatch intervals), or "flat" (which means that the contract applies during all dispatch intervals). Parties can modify a standard form OTC contract, including by agreeing to include:⁴⁶

- (vi) **a load following arrangement:** this is an OTC contract under which the generator accepts its obligations under the contract with respect to the volume of electricity actually consumed by the retailer's customers during the relevant period, rather than with reference to a particular absolute volume. This means that the generator assumes the risk associated with changes in the retailer's customer load. These contracts are typically priced at a premium to contracts that do not have this feature, to reflect the additional risk assumed by the generator; and
- (vii) **reallocation arrangement,** this is an OTC contract under which one NEM participant agrees to acquire electricity on behalf of another party (e.g., a generator agrees to acquire electricity on behalf of a retailer). This removes the need for the second party to make payments to AEMO and satisfy AEMO's prudential requirements for transacting in the NEM.

- (b) **Exchange-traded contracts** (or exchange-traded futures, **ETFs**): are standardised electricity derivative contracts that are traded on an exchange platform. In Australia electricity derivatives are currently traded on the ASX, [REDACTED]

[REDACTED] The types of ETFs able to be traded on the ASX include swaps, caps and options. When parties trade ETFs, they bid to buy or sell the relevant product, and trades are executed, without the trading parties knowing or ever discovering the identity of the counterparty to their trade.⁴⁷

- (c) **Weather derivatives:** market participants also acquire weather derivative products as a form of insurance in relation to the variability of weather conditions and their impact on the NEM spot price. For example, market participants may

⁴⁶ Fowler, [97].

⁴⁷ Fowler, [97],

acquire insurance which provides coverage in relation to the occurrence of extreme temperatures (often sustained over a defined period) to manage short term impacts of those weather events on retail customer load (ie demand) and/or NEM spot prices.⁴⁸

- 4.22 NEM participants also trade a range of other products related to managing the risk associated with electricity generation and consumption. For generators, these include Renewable Energy Certificates created under the *Renewable Energy (Electricity) Act 2000* (Cth), and products relating to generators' liability for carbon emissions.⁴⁹
- 4.23 Traders of risk management products such as those described above include generators, retailers and financial intermediaries that do not own retail and/or generation businesses, but trade these products on a speculative basis, without any underlying physical exposure to the Pool Price. For example, the firms granted admission as a Trading Participant by the ASX in relation to ETFs for electricity include ANZ Banking Group, Castleton Commodities, Commonwealth Banking Group, Macquarie Bank, RWE and Westpac Banking Group.⁵⁰

The retail supply of electricity

- 4.24 Retailers are firms responsible for purchasing electricity in the wholesale market on behalf of their customers and billing their customers in respect of the power those customers consume. Retailers:⁵¹
- (a) purchase electricity in the NEM; and
 - (b) arrange and pay for the provision of network (transportation) services required to convey power to the premises of their customers, including residential customers (eg households), "small to medium enterprise customers" (eg small businesses) and commercial and industrial customers (eg larger scale businesses).
- 4.25 Like generators, electricity retailers are registered participants in the NEM. Retailers are also licensed by the jurisdiction(s) in which they operate.⁵²
- 4.26 In order to manage their risks associated with acquiring electricity at the NEM spot price to meet their customer load, retailers also purchase risk management instruments such as those described in paragraph 4.21 above from generators, financial intermediaries and through the ASX.⁵³
- 4.27 There are three major national electricity retailers in the NEM: AGL, Origin Energy and EnergyAustralia (**major retailers**). The major retailers operate in several States, are vertically integrated (i.e., that own electricity generation assets as well as a retail business), and operate a gas production and retail business in addition to an electricity business.⁵⁴
- 4.28 There are also a number of other retailers in the NEM, including other vertically integrated retailers, as well as standalone retailers (**other retailers**).⁵⁵

⁴⁸ Frontier (Industry) Report, section 5.2.1.

⁴⁹ Fowler, [98].

⁵⁰ Fowler, [99].

⁵¹ Frontier (Industry) Report, section 4.1.

⁵² Frontier (Industry) Report, section 4.1.

⁵³ Frontier (Industry) Report, section 5.1.

⁵⁴ Brownfield, [2.22], [2.36]; Annexure MB-2.

⁵⁵ Brownfield, [2.22], [2.23], [2.36]; Annexure MB-2.

4.29 Since the introduction of the NEM, several retail businesses have expanded beyond a single State into multiple regions, and the NEM has been developed to include NEM-wide rather than State or regional operational and regulatory arrangements for the retail supply of electricity.⁵⁶

4.30 The following table identifies active retailers in the NEM. (Note the data used to produce this table does not reflect the fact that ERM is also an electricity retailer in NSW.)⁵⁷

Figure 4 – Retailers in the NEM⁵⁸

RETAILER	OWNERSHIP	QLD	NSW	VIC	SA	TAS	ACT
ActewAGL Retail	ACT Government and AGL Energy		Yes				Host
AGL Energy	AGL Energy	Yes	Yes	Host	Host		
Alinta Energy	Alinta Energy			Yes	Yes		
Aurora Energy	Tasmanian Government					Host	
Australian Power & Gas	AGL Energy	Yes	Yes	Yes			
BlueNRG	BlueNRG			Yes			
Click Energy	Click Energy	Yes	Yes	Yes			
Diamond Energy	Diamond Energy	Yes		Yes	Yes		
Dodo Power & Gas	M2 Telecommunications Group	Yes	Yes	Yes			
EnergyAustralia	CLP Group	Yes	Host	Host	Yes		Yes
Ergon Energy	Queensland Government	Host					
Lumo Energy	Infratil	Yes	Yes	Yes	Yes		
Momentum Energy	Hydro Tasmania (Tasmanian Government)		Yes	Yes	Yes		
Neighbourhood Energy	Alinta Energy			Yes			
Origin Energy	Origin Energy	Host	Host	Host	Yes		Yes
People Energy				Yes			
Powerdirect	AGL Energy	Yes	Yes	Yes	Yes		
Powershop	Meridian Energy			Yes			
Qenergy	Qenergy	Yes	Yes	Yes	Yes		
Red Energy	Snowy Hydro ¹		Yes	Yes	Yes		Yes
Sanctuary Energy	Living Choice Australia / Sanctuary Life	Yes	Yes		Yes		
Simply Energy	International Power (now GDF Suez)	Yes		Yes	Yes		

⁵⁶ Brownfield, [2.30], [2.37] – [2.44].

⁵⁷ Brownfield, [2.30].

⁵⁸ Brownfield, [2.30].

Notes:

1. Snowy Hydro is owned by the NSW Government (58 per cent), the Victorian Government (29 per cent) and the Australian Government (13 per cent).
2. The host retailers listed for New South Wales, Tasmania and the ACT are those responsible for offering 'regulated offer' contracts to customers in defined regions of each state. The host retailers listed for Victoria, South Australia and Queensland are those responsible for offering 'standing offer' contracts to customers that establish a new connection in defined regions of each state.

4.31 Retail electricity is a homogenous physical product. Retailers differentiate and compete with each other based on price (including discounts and bonuses), and ancillary services associated with the retail supply of electricity:⁵⁹

(a) **Price:** a typical retail electricity bill is made up of wholesale energy costs, network costs (e.g., transmission and distribution), carbon costs (e.g., carbon pricing costs), green costs (e.g., costs concerning the renewable energy scheme, jurisdictional energy efficiency schemes and the Renewable Energy Target). The AER has estimated on an indicative basis that retail costs account for approximately 10% of a NSW residential customer's bill, and that the balance of the bill is comprised of the other costs described above, which are passed through to customers. In practice, price competition among retailers typically occurs on the basis of the discounts offered off a retail customer's bill.

(b) **Ancillary services:** retailers compete to attract customers by offering services that are additional to the physical supply of electricity. For example, AGL, Origin Energy and EnergyAustralia each offer online platforms to customer which provide information about their electricity consumption and tools relating to energy efficiency. AGL also offers customers the opportunity to earn "Fly-buys" points when they make payments on their account.

4.32 Electricity retailers also compete by using a number of different sales channels to market to customers, such as telemarketing sales, energy "brokers" and comparison websites.⁶⁰

4.33 Retail customers face low barriers to switching retail suppliers. Analysis prepared by VaasaEET World Energy Retail Market Rankings Report 2012 identified that between 8.5% and 14% of NSW retail customers switch retail electricity suppliers in the course of a year (based on 2011 data).⁶¹ AGL's estimate of switching of retail electricity customers in the NEM (ie not limited to NSW) is described in the following graph:⁶²

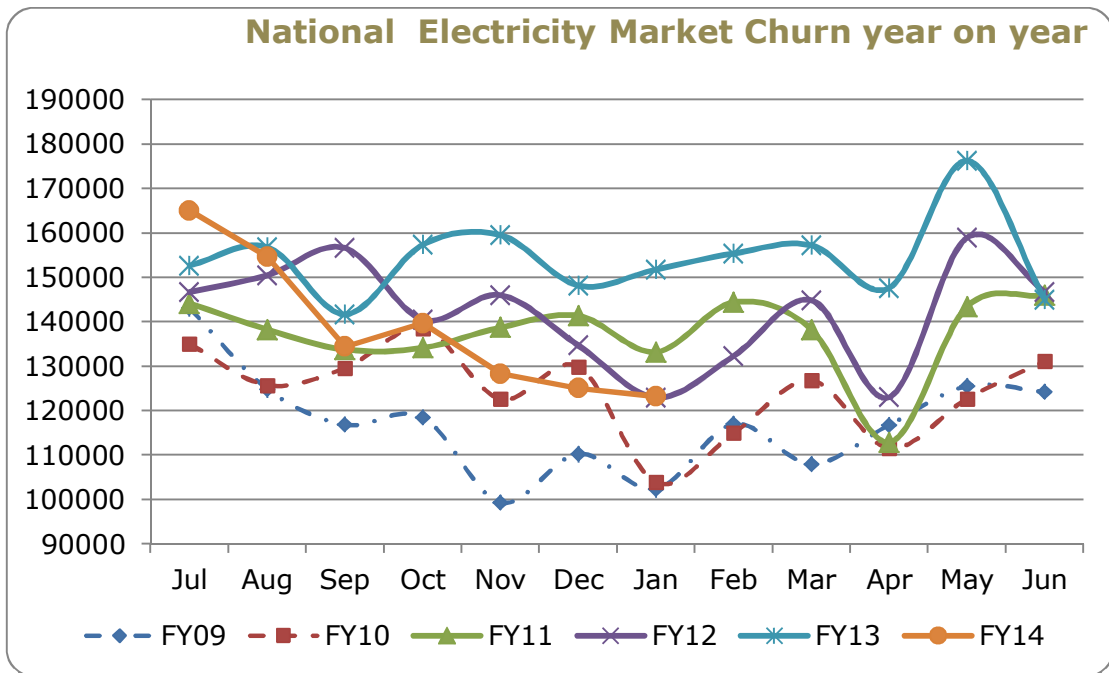
⁵⁹ Brownfield, [3.13] – [3.18].

⁶⁰ Brownfield, [3.19] – [3.21].

⁶¹ Brownfield, [3.23].

⁶² Brownfield, [3.26].

Figure 5 – customer "churn" in the NEM⁶³



4.34 The Proposed Acquisition will not result in any concentration in electricity retailing, since Macquarie Generation is not involved in the retail supply of electricity.

Current industry dynamics affecting the wholesale and retail supply of electricity

4.35 There are several current trends which affect dynamics in the wholesale and retail supply of electricity.

Increasing supply

4.36 Registered capacity in the NEM significantly increased during the period from 1999 to 2013, including in response to government initiatives to encourage investment in renewable energy. The NEM now has the highest level of generating reserves that it has had at any time since its commencement in 1998.⁶⁴

4.37 New investment in generating capacity has been dominated by the development of new wind generators, investors in which receive financial support under the policies associated with the Renewable Energy Target.

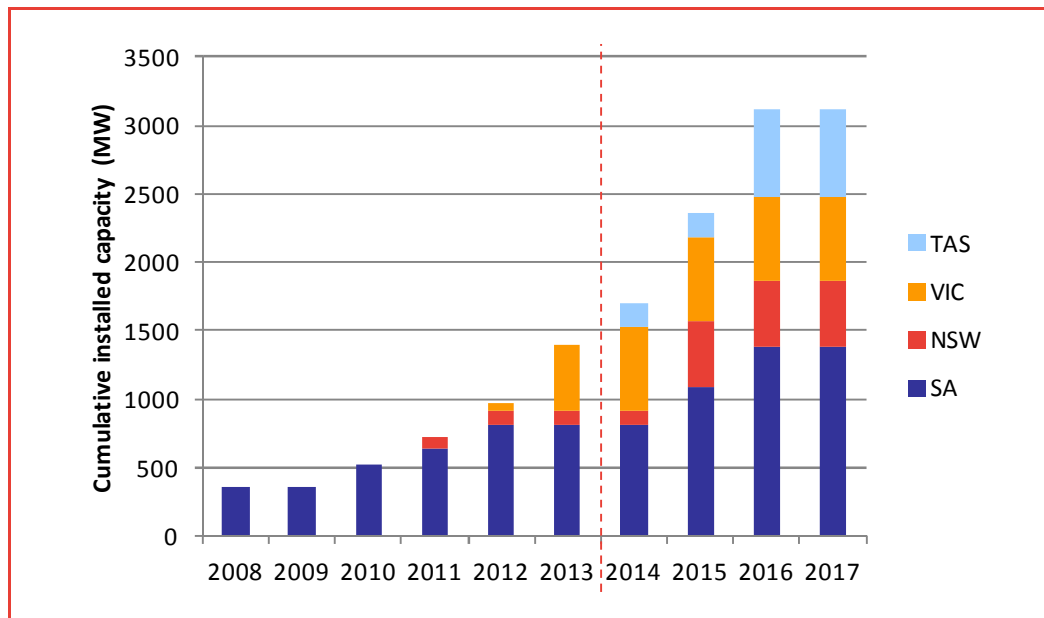
4.38 The following graph shows the actual and forecast increase in wind powered electricity generation from 2008 until 2017.⁶⁵

⁶³ Brownfield, [3.26].

⁶⁴ Frontier (Industry) Report, section 6.1.1 and 6.1.2.

⁶⁵ Frontier (Industry) Report, section 6.1.1 and 6.1.2.

Figure 6 - Scheduled and semi-scheduled wind capacity – actual and forecast⁶⁶



4.39 Several features of wind generation affect dynamics in the NEM:⁶⁷

- (a) wind powered electricity generation is intermittent. It only generates electricity when the weather is windy (it is not possible to "store" wind), and operates on a "must run" basis when the wind does blow (it is not possible to choose when or how much to run wind powered generators);
- (b) wind powered generators have variable costs of almost zero. This means that wind generators can be expected to bid into the NEM at low or negative prices, so that the entry of significant wind generation can be expected to have a moderating, downward impact on prices;
- (c) there is considerable uncertainty about the availability of wind (and hence wind powered generation) in any given period. This, combined with the low pricing incentives of wind generators, introduces uncertainty for other generators bidding their generation into the NEM; and
- (d) there appears to be a negative correlation between wind output and electricity demand, which means that the volumes of wind powered electricity bid into the NEM are lowest during periods of peak demand. This means that the residual demand for electricity from other generators (i.e., generators other than wind powered generators) is "peakier" and more volatile as a result of the existence of wind powered generation.

4.40 A further source of increased supply of generation in the NEM are solar facilities installed by households and businesses, in response to subsidies from State and Commonwealth governments. Solar capacity in the NEM has increased from about 100 MW in February 2010 to around 2,000 MW in February 2014. The effect of increased solar generation is to reduce demand for generation from the centralised generation system in the NEM.⁶⁸

⁶⁶ Frontier (Industry) Report, section 6.2.

⁶⁷ Frontier (Industry) Report, section 6.2.

⁶⁸ Frontier (Industry) Report, section 6.3.

Declining demand

- 4.41 Demand for the generation services of scheduled generators in the NEM has declined in recent years. The likely causes of this decline in demand include:⁶⁹
- (a) closure of large scale energy intensive industries – the closure of the Kurri Kurri aluminium smelter is an example;
 - (b) an increase in retail electricity prices, which in turn is likely to have been caused by increases in regulated electricity network prices and changes in environmental policies. Consumers have responded to the increased prices by reducing their consumption of electricity; and
 - (c) government schemes which provide subsidies to consumers to invest in solar generation equipment, which have also reduced the demand for electricity in the NEM.
- 4.42 Demand is not forecast to return to 2008 levels (the previous peak, as shown in figure 3 below) in the short to medium term.⁷⁰

Excess capacity

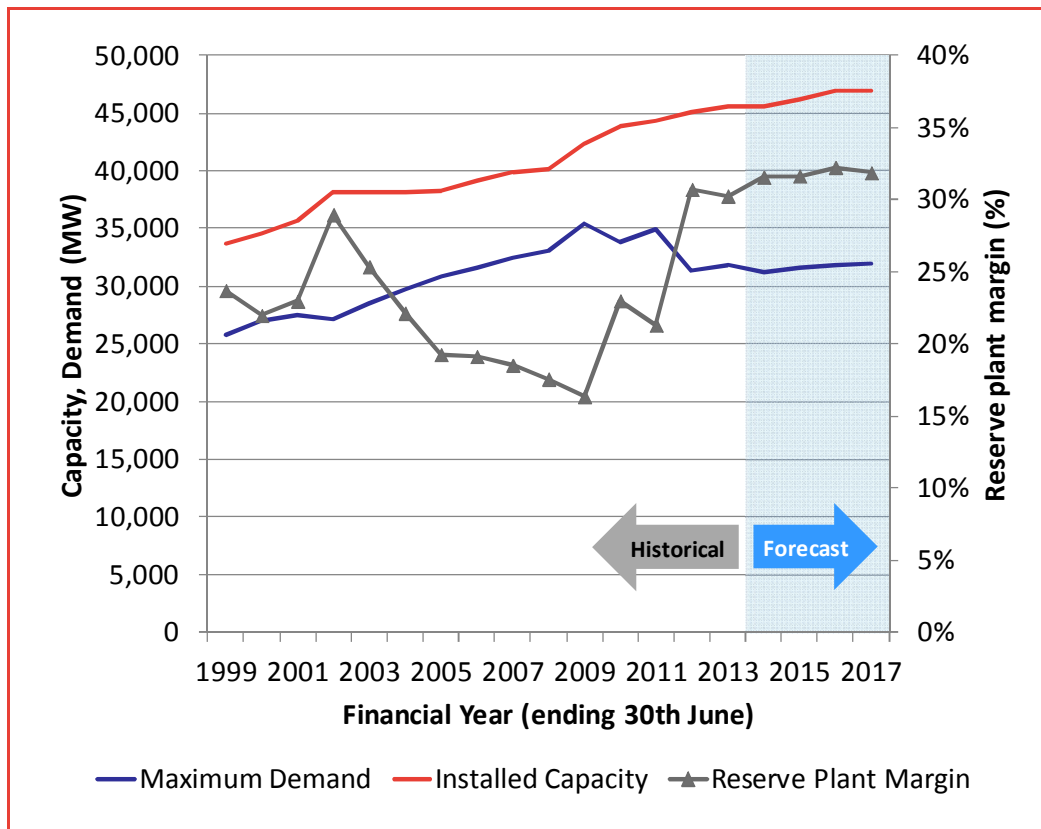
- 4.43 There is significant excess generation capacity in the NEM. Excess capacity is the difference between the supply of generating capacity (in MW) and the demand for the generation services of scheduled generators in the NEM (in MW). The following graph shows the change in the "reserve plant margin", which is the standard method by which spare and/or excess capacity is measured in a power system. It measures how much capacity is in excess of peak demand in a year, expressed as a percentage of peak demand. All else being equal, a higher RPM equates to a higher level of excess capacity.⁷¹

⁶⁹ Frontier (Industry) Report, section 6.1.1.

⁷⁰ Frontier (Industry) Report, section 6.1.1.

⁷¹ Frontier (Industry) Report, section 6.1.2.

Figure 7 - Rising quantity of spare plant in the NEM⁷²



Source: AEMO data, Frontier Economics analysis (note, wind capacity is measured at 100% of its installed capacity)

- 4.44 The existence of a high reserve plant margin means that there are many alternative suppliers of electricity for all but extremely high levels of demand.⁷³
- 4.45 Further, several electricity generators have retired generation capacity in response to reduced demand for electricity. In many cases generators are maintaining the "mothballed" generation capacity on the basis that it will be able to be reintroduced in the event that pool prices increase. For example, the following generators have withdrawn capacity that is capable of being reintroduced: Stanwell Corporation (700 MW withdrawn from the Tarong power station); EnergyAustralia (500 MW withdrawn from Wallerawang Unit 8), and Alinta Energy (530MW withdrawn from the Northern power station, and 240 MW withdrawn from the Playford power station).⁷⁴ Given that mothballing of plant occurs specifically on the basis that the plant can be reintroduced, mothballing should be distinguished from closure.

Price trends

- 4.46 The effect of increasing and excess generation capacity and decreasing demand in the NEM is that NEM Pool Prices are currently lower than most reasonable estimates of the

⁷² Frontier (Industry background), section 7.1.

⁷³ Frontier (Industry) Report, sections 6.1.2 and 6.4.5.

⁷⁴ Fowler, [68].

long run marginal costs of generation, and so are insufficient to justify investment in new generation capacity.⁷⁵

(b) Describe the area(s) of overlap in the operations of the Applicant and Target and any related bodies corporate (the merger parties)

4.47 The area of overlap between AGL's and Macquarie Generation's operations is the generation and wholesale supply of electricity in the NEM, including dealing in the risk management instruments used to manage risks associated with their exposure to variations in the NEM spot price. AGL and Macquarie Generation do not overlap in the generation and wholesale supply of electricity specifically in NSW, since AGL does not own any scheduled generation assets in NSW.⁷⁶

4.48 AGL and Macquarie Generation do not overlap in the acquisition of coal. AGL does not acquire coal, as the coal used at its Loy Yang A power station is from a mine owned by AGL, and in any event the Loy Yang A power station uses brown coal, whereas the Bayswater and Liddell plants use black coal.⁷⁷

4.49 The parties do not overlap in the retail supply of electricity, since Macquarie Generation does not engage in electricity retailing.

4.50 The location of the major facilities are identified in the sources referred to in paragraph 1.9. The locations of Macquarie Generation's major facilities are identified in paragraphs 2.8 to 2.10 above.

(c) Provide details of any acquisitions made by the merger parties and any other acquisitions made in the industry sector(s) during the past five years

4.51 Macquarie Generation has not made any acquisitions during the past five years.⁷⁸

4.52 AGL has made the following acquisitions during the past five years:⁷⁹

(a) In March 2009, AGL acquired:

(i) 100% of the issued capital of Barn Hill Wind Farm Pty Ltd (the assets of which comprised the rights to the Barn Hill Wind Farm development project); and

(ii) the assets of the Crows Nest Wind Farm development project.

(b) In March 2009, AGL acquired 100% of the issued capital of Sydney Gas Limited by way of an off-market takeover. Sydney Gas Limited was a gas exploration company. Its activities included the development of coal seam gas resources in NSW (which were the subject of a joint venture with AGL).

(c) On 20 October 2010, AGL acquired 100% of the voting shares in Mosaic Oil NL pursuant to a scheme of arrangement. Mosaic Oil NL's main producing assets are located in the Surat-Bowen Basin in south east Queensland (and include the Silver Springs processing facility).

(d) In July 2011, AGL acquired the Victorian based solar photovoltaic business, EKO Energy, from Rezeko Pty Ltd. EKO Energy specialises in solar systems, from design

⁷⁵ Frontier (Industry) Report.

⁷⁶ Fowler, [28].

⁷⁷ Fowler, [29].

⁷⁸ Fowler, Annexure AF-9.

⁷⁹ Fowler, Annexure AF-9.

through to installation, for both residential and commercial properties in Victoria, South Australia, Queensland and NSW.

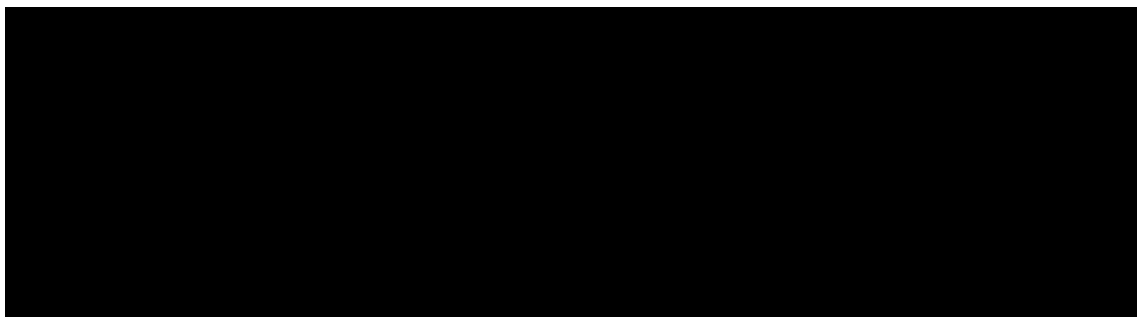
- (e) In March 2012, AGL acquired the development rights for the Silverton Wind Farm in New South Wales through the acquisition of 100% of the voting shares in Silverton Wind Farm Holdings Pty Ltd.
- (f) In June 2012, AGL acquired full ownership of the Loy Yang A power station in Victoria (prior to this transaction, AGL held a 32.54% interest in Great Energy Alliance Corporation Pty Limited, which at that time owned and operated the Loy Yang A power station and the Loy Yang coal mine).
- (g) In August 2013, AGL acquired Australian Power and Gas (a gas and electricity retailer).

4.53 The table in Annexure G below identifies acquisitions made in the electricity industry since 2008. A table identifying new entry and expansion in electricity generation in the NEM since 2008 is also contained in Annexure G below.

(d) Provide details of any existing vertical or horizontal relationships between the merger parties and related bodies corporate

4.54 AGL (through its subsidiaries AGL HP1 Pty Limited, AGL HP2 Pty Limited and AGL HP3 Pty Limited, trading as AGL Hydro Partnership) and Macquarie Generation have entered into an ISDA Master Agreement (2002 Form), and a number of fixed forward confirmations (i.e. hedge contract arrangements) for electricity under that agreement. 58 of these fixed forward confirmations are still on foot. They include peak and off-peak swap contracts referenced to NEM spot prices in Victoria, NSW and Queensland, in relation to trading periods up to 30 June 2016.⁸⁰

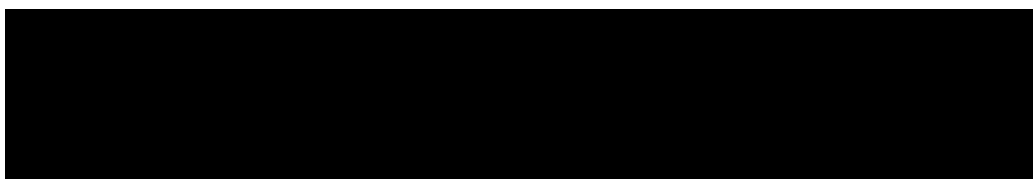
4.55



4.56 Following the Proposed Acquisition:⁸²

- (a) in relation to the arrangements identified in paragraph 4.54, AGL currently intends to either keep the arrangements on foot or terminate them, in which case the parties will release (or will procure the release of) each other from relevant rights and obligations, including in respect of any payment or delivery to be made upon termination; and

(b)



⁸⁰ Fowler, Annexure AF-21.

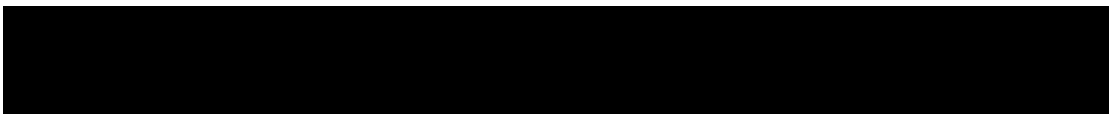
⁸¹ Fowler, [186] – [189].

⁸² Fowler, [189] and Annexure AF-21.

(e) Describe any other cooperative agreements to which any of the merger parties is a party

4.57 A complete list of the cooperative arrangements to which members of the AGL Group are a party is set out in Annexure D. Annexure D not only lists joint ventures, but partial shareholding interests that AGL has in other companies (e.g. CSM Energy Limited).⁸³

4.58



5. MARKET DEFINITION

(a) Describe the market(s) (product, functional, geographic and time) relevant to the assessment of the acquisition's effect on competition – this includes markets for the supply of goods or services and markets for the acquisition of goods or services (the relevant market(s))

5.1 The following markets are relevant to the assessment of the acquisition's effect on competition:

- (a) a market for the generation and wholesale supply of electricity in the NEM or, in the alternative, in New South Wales; and
- (b) a market for the retail supply of electricity to end customers in all of the NEM regions or, in the alternative, in New South Wales.

Market for the generation and wholesale supply of electricity

5.2 The product dimension of the market is the supply of electricity to retailers and other NEM customers, including the entry into electricity hedging, derivative and other risk management arrangements which generators and retailers use to manage the price of that supply.⁸⁴ There are no material supply or demand side substitution possibilities.

5.3 The functional dimension of the market is the wholesale supply of electricity.⁸⁵

5.4 The geographic dimension of the market is the NEM⁸⁶ or, in the alternative, NSW.⁸⁷

5.5 This is consistent with the finding of Justice French (as the Chief Justice then was) in *AGL v ACCC* that the supply of physical electricity and hedge contracts occurs in the same market.⁸⁸ Justice French did not identify separate markets for electricity supplied by particular types of generators, or separate markets for the supply of particular types of hedge contracts.

5.6 There are a number of factors that establish that the market for the wholesale supply of electricity, including the supply of hedge contracts and associated risk management instruments, is NEM-wide. In particular:

⁸³ Fowler, Annexure AF-5.

⁸⁴ *Australian Gas Light Company v ACCC* (2003) 137 FCR 317 (French J) at [381] – [382]; see also [124] – [126].

⁸⁵ *Australian Gas Light Company v ACCC* (2003) 137 FCR 317 (French J) at [387].

⁸⁶ *Australian Gas Light Company v ACCC* (2003) 137 FCR 317 (French J) at [387].

⁸⁷ Frontier (Competition), Report, section 4.2.4..

⁸⁸ *Australian Gas Light Company v ACCC* (2003) 137 FCR 317 (French J) at [382] – [387].

- (a) The wholesale supply of electricity occurs in the NEM, which operates on a national basis and is regulated on a national basis under the National Electricity Law and Rules.⁸⁹
- (b) The spot price in each of the NEM regions is constrained by the level and price of "exports" and "imports" of electricity between NEM regions, and generally when the interconnects between regions are not constrained, there is a single NEM spot price in all regions. The existence of transient price separations between NEM regions does not detract from the conclusion that there is a single, NEM-wide market for wholesale electricity supply.⁹⁰
- (c) The spot price in the NEM plays a significant role in determining the price agreed under a hedge contract or associated risk management instrument, and a generator's and retailer's hedge contract position influences their behaviour in bidding (generators) and acquiring (retailers) electricity in the NEM, such that derivatives contracts are an integral part of the pricing and payment arrangements between generators and retailers regarding the underlying physical product.⁹¹
- (d) Generators make decisions on how to bid their output in the NEM having regard to the totality of the behaviour of other generators of varying types, not having regard solely to the behaviour of particular types of generators or generators situated within a particular jurisdiction of the NEM.⁹²
- (e) Many market participants operate generation and/or retail businesses in several NEM regions. For example, AGL has retail customers and/or generation assets in all NEM regions other than Tasmania, and manages its portfolio on a national basis.⁹³
- (f) The wholesale supply of electricity in the NSW region of the NEM, where the Bayswater and Liddell power stations are located, is significantly affected by the supply and price of electricity in other regions of the NEM:
 - (i) The NSW region of the NEM is a net importer of electricity, which means that it imports more electricity from generators located in Queensland and Victoria (using the interconnects described above) than it exports from NSW to those regions. The following graph illustrates NSW's net imports of electricity from FY09 to 2014 (year to date).

⁸⁹ Frontier (Industry) Report, section 2.3.

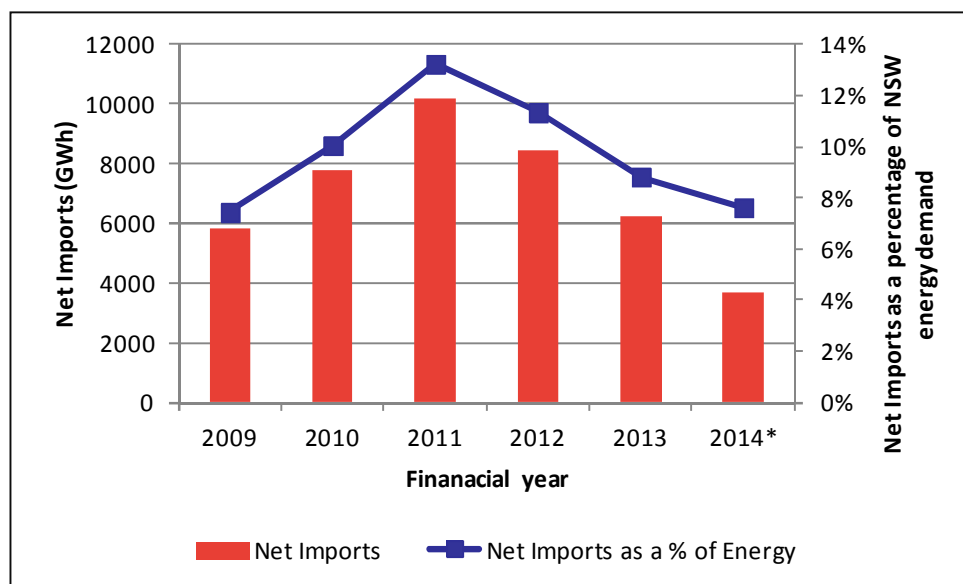
⁹⁰ *Australian Gas Light Company v ACCC* (2003) 137 FCR 317 (French J) at [387].

⁹¹ *Australian Gas Light Company v ACCC* (2003) 137 FCR 317 (French J) at [382].

⁹² Fower, [40].

⁹³ Fowler, Annexure AF-2.

Figure 8 – NSW imports of electricity from other NEM regions⁹⁴



- (ii) Constraints on the capacity of the interconnects between NSW and other NSW regions are relatively rare, and instances where more than one of the three interconnects between NSW and other States are constrained at the same time have fallen since 2010. The occurrence of high levels of price separation between NSW and other regions is rare.⁹⁵

5.7 If the geographic dimension of the wholesale electricity market is not the NEM, then the geographic dimension is NSW, but includes the electricity imported into NSW from other NEM regions.

5.8 There are no anticipated developments regarding the wholesale supply of electricity that render a time dimension relevant to definition of the wholesale electricity market.

Market for the retail supply of electricity

5.9 The product dimension of the market is the supply of electricity to customers who are end users of electricity. Those customers include residential customers, small and medium enterprise customers and commercial and industrial customers.⁹⁶ There are no material supply or demand side substitution possibilities.

5.10 The functional dimension of the market is the retail supply of electricity.⁹⁷

5.11 The geographic dimension of the market is the NEM or, in the alternative, NSW.⁹⁸

5.12 The key factors that establish that the market for the retail supply of electricity is NEM-wide are that:⁹⁹

⁹⁴ Frontier (Industry) Report, section 6.4.4.

⁹⁵ Frontier (Competition) Report, section 4.2.3.

⁹⁶ In *AGL v ACCC* (2003) 137 FCR 317, AGL and the ACCC proceeded by agreement on the basis that there was a separate market for "small" customers (those consuming up to 160 MWh of electricity per annum) and "large" customers (those consuming more than 160 MWh of electricity per annum): at [380].

⁹⁷ Frontier (Competition) Report, section 4.2.2.

⁹⁸ Frontier (Competition) Report, section 4.2.4.

⁹⁹ Frontier (Industry) Report, section 2.3; Brownfield.

- (a) retailers acquire wholesale electricity in the NEM, at the NEM spot price, with the result that the supply and price of the critical input into electricity retailing is constrained by NEM-wide, not only State-based, market dynamics;
- (b) many retailers operate in several NEM regions (see the table in paragraph 4.30 above) and operate their business on a national basis; and
- (c) regulation of electricity retailers increasingly occurs on a national rather than a State basis. For example, retailers' participation in the NEM is regulated under the National Electricity Law, and States have adopted or are in the process of adopting national regulations addressing retailers' dealings with their customers, under the National Energy Retail Law.

5.13 There are no anticipated developments regarding the retail supply of electricity that render a time dimension relevant to definition of the retail electricity market.

6. SUPPLIERS

(a) Describe the inputs into the production of goods or services by each of the merger parties in the relevant market(s) and indicate the value of those inputs as a proportion of total production. Where alternative inputs are available, provide a list of substitutes

6.1 As outlined in paragraph 1.7 above, AGL has three operating divisions, two of which are Merchant Energy and Retail. For the purposes of financial reporting, management accountability and business decision making these two divisions operate as separate cost and profit centres. In a commercial sense, the "outputs" of the Merchant Energy Division are the "inputs" to the Retail Division. To reflect this and to provide managers in the two divisions with appropriate incentives and accountabilities there is an "internal energy transfer price" upon which financial reporting and financial performance are reported and measured. In general terms, the "internal energy transfer price" (which in general terms is set having regard to prevailing wholesale market prices) upon which financial reporting and financial performance is reported and measured.¹⁰⁰

6.2 There are four groups within Merchant Energy:¹⁰¹

- (a) **Merchant Operations:** which is responsible for the physical operation and maintenance of AGL's portfolio of wind, water, gas and coal fired generation plants (including, in the case of Loy Yang A Power Station, a coal mine).
- (b) **Energy Portfolio Management (EPM):** which is responsible for managing the risks associated with procuring gas, electricity and environmental market certificates, for administering AGL's hedge contract portfolio, and for bidding AGL's electricity generation into the NEM.
- (c) **The Business Customers group:** which manages AGL's approximately 20,000 Business Customer energy accounts, but not individual smaller industrial and commercial customers or consumer market customers.
- (d) **Power Development:** which develops wind and solar generation assets. Form S does not require, and accordingly this document does not contain, financial information in relation to the Power Development division.

¹⁰⁰ Redman, [17].

¹⁰¹ Redman, [18].

Merchant Operations and EPM

6.3 The following tables in Figure 9 and Figure 10 set out, for the financial year ending 30 June 2013, the aggregated cost data drawn from the General Ledger of Merchant Operation and EPM. The costs are net of the costs of debt and equity associated with capital invested by AGL. Those costs are managed on a whole of business basis.¹⁰²

Figure 9 - Merchant Operations¹⁰³

	Year ended 30.06.13 \$ million	Proportion of total costs %
Labour	(151)	33.8
Contractor services	(114)	25.5
Other operating costs	(52)	11.6
Operating costs	(317)	70.9
Depreciation and amortisation	(130)	29.1
Operating cost including D&A	(447)	

6.4 Figure 9 records the costs associated with AGL's owned and operated generation assets. In addition, AGL has long term power purchase agreements (**PPAs**) with owners of wind farms in particular, gas fired power stations Oakey and Yabulu in Queensland, and other small co-generation sites. The contractual costs associated with the PPA's are accounted for within the EPM unit. This table excludes external revenue costs.¹⁰⁴

Figure 10 - EPM ¹⁰⁵

	Year ended 30.06.13 \$ million	Proportion of total costs %
Net of assistance – carbon compliance		
Fuel – gas variable external		
Market charges		
Generation capacity costs		
Other costs		
Total operating costs		101*

*Proportion of total costs does not equal 100% due to rounding

6.5 Further detail on these costs is set out in the affidavit of Brett Redman at paragraph 21.

¹⁰² Redman, [19].

¹⁰³ Redman, [19].

¹⁰⁴ Redman, [Table 2, page 8].

¹⁰⁵ Redman, [20].

Electricity generation

6.6 Coal is the critical input into base load electricity generation stations such as Macquarie Generation's Bayswater and Liddell power stations, and AGL's Loy Yang A power station.¹⁰⁶

- (a) Macquarie Generation consumes in the order of [REDACTED] of black coal. There are no effective substitutes. The Bayswater and Liddell power stations use black coal from coal mines located in the Hunter Valley (close to those power stations).

[REDACTED]

Coal is transported to Macquarie Generation's power stations by rail and overland conveyers.

- (b) AGL's Loy Yang A power station is located adjacent to the Loy Yang coal mine (also owned by AGL). Accordingly, the Loy Yang A power station has an integrated fuel source, and AGL does not acquire coal for this power station. There are no effective substitutes.

6.7 Other key inputs to the generation of wholesale electricity include diesel (for use as fuel), water (to cool the power station) and contracts with service providers for operation and maintenance services.¹⁰⁷

6.8 AGL is at an early stage of its integration planning in relation to its acquisition of the Macquarie Generation assets, but does not currently have any intention to vary the supply arrangements described above.

Electricity retailing

6.9 AGL's key "inputs" into electricity retailing are:¹⁰⁸

- (a) wholesale electricity acquired in the NEM;
- (b) services agreements with relevant electricity network and metering providers, for the transmission and distribution of electricity to, and measuring of electricity consumed by, retail customers;
- (c) the infrastructure and services required to maintain sales channels, such as call centres and associated staff, and contracts with third parties to provide sales services;
- (d) inputs associated with marketing, such as contracts with advertising, market research and media monitoring providers; and
- (e) operational infrastructure, such as contracts with printing, mailhouse and debt recovery service providers.

(b) Provide the names and contact details of a representative selection of suppliers of inputs to each of the merger parties in the relevant market(s)

6.10 Annexure E below contains the names and contact details of a representative selection of Macquarie Generation's and AGL's suppliers and an outline of the relevant supply

¹⁰⁶ Fowler, Annexure AF-20, page 60, 106-110.

¹⁰⁷ Fowler, Annexure AF-20.

¹⁰⁸ Brownfield, [2.17].

arrangements. In relation to Macquarie Generation, AGL has responded to this question on the basis of information disclosed during the due diligence process for the Macquarie Generation sale. AGL does not currently intend to vary these arrangements.

(c) Describe any purchasing arrangements in place with each of the suppliers identified above and outline whether it is expected or anticipated that these arrangements will continue or be varied in any way post-acquisition

6.11 See paragraph 6.10 above.

7. COMPETITORS

(a) Provide details of alternative suppliers of products now, or shortly to be, competitive with, or otherwise substitutable for, goods or services produced by each of the merger parties in the relevant market(s)

Wholesale supply of electricity

7.1 All electricity generators that are registered participants in the NEM are alternative suppliers of wholesale electricity.¹⁰⁹ The AEMO Registration and Exemption List (4 March 2014), which lists all such electricity generators, is contained in Annexure AF-4 to the Fowler affidavit.

7.2 AGL's and Macquarie Generation's key competitors in the supply of wholesale electricity are:¹¹⁰

- (a) Origin Energy, which AGL estimates owns approximately 12.6% of all registered capacity, and supplied approximately 9.4% of generation output, in the NEM in FY13;
- (b) EnergyAustralia, which AGL estimates owns approximately 11.8% of all registered capacity, and supplied approximately 13.2% of generation output, in the NEM in FY13;
- (c) Snowy Hydro, which AGL estimates owns approximately 10% of all registered capacity, and supplied approximately 2.7% of generation output, in the NEM in FY13. Snowy Hydro's Victorian assets have a total registered generation capacity of 2,112MW, and its NSW generation assets have a total registered generation capacity of 2,261.1MW;
- (d) Macquarie Generation owns approximately 10.2% of all registered capacity, and supplied approximately 12.0% of generation output, in the NEM in FY13;
- (e) CS Energy, which AGL estimates owns approximately 8.6% of all registered capacity, and supplied approximately 9.5% of generation output, in the NEM in FY13;
- (f) Stanwell, which AGL estimates owns approximately 8.2% of all registered capacity, and supplied approximately 9.5% of generation output, in the NEM in FY13;
- (g) GDFSuez (formerly International Power), which AGL estimates owns approximately 7.4% of all registered capacity, and supplied approximately 11.8% of generation output, in the NEM in FY13;
- (h) Hydro Tasmania, which AGL estimates owns approximately 4.6% of all registered capacity, and supplied approximately 5.3% of generation output, in the NEM in FY13;

¹⁰⁹ Fowler, [40].

¹¹⁰ Fowler, [42]; Frontier (Industry) Report, Annexure A, and Annexure AF-4 to the Fowler affidavit.

- (i) Delta Electricity, which AGL estimates owns approximately 4.3% of all registered capacity, and supplied approximately 3.9% of generation output, in the NEM in FY13. Delta Electricity owns three power stations, all located in NSW:
 - (i) the Colongra power station – an open cycle gas turbine power station with four 181MW units (total registered generation capacity of 724MW);
 - (ii) the Vales Point "B" power station – a black coal fired power station with two 660MW units (total registered generation capacity of 1,320MW);
 - (iii) the Munmorah power station – a black coal fired power station with two 300MW units registered with AEMO for dispatch (total registered generation capacity of 600MW). However, on 3 July 2012 Delta Electricity announced the decommissioning of the Munmorah power station;¹¹¹
- (j) Intergen (owner of the Millmerran Power Station), which AGL estimates owns approximately 2.8% of all registered capacity, and supplied approximately 4.7% of generation output, in the NEM in FY13; and
- (k) Alinta, which AGL estimates owns approximately 2.2% of all registered capacity, and supplied approximately 2.0% of generation output, in the NEM in FY13.

7.3 There are numerous other suppliers of the types of hedge contracts and associated instruments that AGL and Macquarie Generation use for risk management in the NEM, including:¹¹²

- (a) the owners of other registered generators in the NEM, including the owners of base load and other types of generation (see paragraph 7.2 above);
- (b) financial intermediaries who are registered participants in the NEM¹¹³ and are therefore alternative suppliers of OTC contracts, including the following entities: Arcadia Energy Trading Pty Ltd, Arrow Energy Trading Pty Ltd, Attunga Capital Pty Ltd, Australia and New Zealand Bank Group Limited, Australia Continental Energy Pty Ltd, Barclays Bank PLC, Castleton Commodities Merchant Asia Co Pte Ltd, Commonwealth Bank of Australia, Liquid Capital Australia Pty Ltd, Macquarie Bank Limited, Meridian Finco Pty Limited, Morgan Stanley Australia Limited, Morgan Stanley Capital Group Inc, Tibra Trading Pty Limited and Westpac Banking Corporation;
- (c) NEM participants and financial intermediaries who trade ETFs for electricity on the Australian Stock Exchange [REDACTED] Admitted Trading Participants for the ASX platform which are not electricity generators or retailers include the Australia and New Zealand Bank Group Limited, Castleton Commodities Merchant Asia Co Pte Ltd, Commonwealth Bank of Australia, Macquarie Bank Limited, RWE and Westpac Banking Corporation.

Retail supply of electricity

7.4 The following businesses compete with AGL in relation to the retail supply of electricity (the regions in which they supply customers are identified in the table in paragraph 4.30 above):¹¹⁴

¹¹¹ Delta Electricity, media statement, "Munmorah Power Station to close after 45 years of operation" (3 July 2012).

¹¹² Fowler, [60] and [191] – [197].

¹¹³ As outlined in AEMO's, "Registration and Exemption List" (3 March 2014); Fowler, Annexure AF-4.

¹¹⁴ Brownfield, [2.22].

- (a) Origin Energy, which AGL estimates supplied electricity to approximately 31% of all customers in the NEM as at June 2013;
- (b) EnergyAustralia, which AGL estimates supplied electricity to approximately 21% of all customers in the NEM as at June 2013;
- (c) Ergon, which AGL estimates supplied electricity to approximately 8% of all customers in the NEM as at June 2013;
- (d) Lumo Energy/Infratil, which AGL estimates supplied electricity to approximately 4% of all customers in the NEM as at June 2013;
- (e) Red Energy, which AGL estimates supplied electricity to approximately 3% of all customers in the NEM as at June 2013;
- (f) Aurora, which AGL estimates supplied electricity to approximately 3% of all customers in the NEM as at June 2013;
- (g) Simply Energy, which AGL estimates supplied electricity to approximately 2% of all customers in the NEM as at June 2013; and
- (h) Alinta Energy, which AGL estimates supplied electricity to approximately 1% of all customers in the NEM as at June 2013

7.5 Other competitors of AGL in the retail supply of electricity in the NEM include retailers such as ERM Power, Momentum, Click Energy, QEnergy, Powershop, Dodo Power & Gas, BlueNRG, Diamond Energy, People Energy and Sanctuary Energy, which AGL estimates each supplied less than 1% of all customers in the NEM as at June 2013. AGL also has a 50% interest in the ActewAGL Retail Partnership as described in Annexure D which operates in the Australian Capital Territory. AGL estimates that the ActewAGL Retail Partnership supplied electricity to approximately 2% of all customers in the NEM as at June 2013.¹¹⁵

7.6 ERM Power's customer base is predominantly large commercial and industrial customers. AGL does not have access to percentage share figures for volume of electricity supplied by its competitors. ERM Power is licensed to sell electricity in all Australian states, the Australian Capital Territory and Northern Territory. ERM Power also has interests in power generation assets (100% of the 332MW Oakey Power Station in Queensland and 50% of the 330MW Neerabup Power Station in Western Australia).¹¹⁶

(b) If the suppliers identified above do not produce goods or services which are substantially the same as those goods or services produced by the merger parties in the relevant market(s), explain why it is considered that these goods or services are viable alternatives

7.7 Not applicable.

8. CUSTOMERS

(a) Provide the names and contact details of a representative selection of the customers of each of the Applicant and the Target in the relevant market(s)

8.1 Macquarie Generation and AGL bid wholesale electricity in to the NEM (not directly to customers) and also enter into hedge contracts with counterparties as described above.

¹¹⁵ Brownfield, [2.22], [2.23].

¹¹⁶ Brownfield, Annexure MB-5.

8.2 The parties with whom Macquarie Generation and AGL trade OTC contracts are more correctly described as (and AGL considers them to be) trading counterparties rather than "customers". For example, AGL both buys and sells OTC contracts with the counterparties listed in items 2 to 5 below, and at any one point in time the cumulative position under its contracts with that counterparty may be that AGL is a net buyer or a net seller of contracts to or from that counterparty. Accordingly, it is not meaningful to describe the volume or value of particular contracts "sold" to those counterparties, since they form part of a broader overall position of contracts traded with that counterparty. [REDACTED]

8.3 In that context, the following table identifies a representative selection of the "customers" of Macquarie Generation and AGL. (As noted in paragraph 4.54 above, AGL is also a "customer" of Macquarie Generation, to the extent that it is party to an OTC contract with Macquarie Generation).¹¹⁷

Figure 11 – Customers of Macquarie Generation and AGL

Customer name and contact details		Description of contract
Customers of Macquarie Generation		
1.	Tomago Aluminium Company Pty Ltd ("TAC") as agent for the participants of the Tomago Aluminium Project joint venture (the "Tomago JV Participants") [REDACTED] [REDACTED] [REDACTED]	[REDACTED] [REDACTED] [REDACTED]
Customers of Macquarie Generation and AGL		
2.	[REDACTED] [REDACTED] [REDACTED] [REDACTED]	[REDACTED] [REDACTED] <u>Contracts traded with AGL:</u> forward contracts for electricity – swaps (NSW, Qld, SA, Vic) and swaption (Qld)
3.	[REDACTED] [REDACTED] [REDACTED] [REDACTED]	[REDACTED] [REDACTED] <u>Contracts traded with AGL:</u> swaps (NSW, Qld, Victoria)

¹¹⁷ Fowler, Annexure AF-6.

Customer name and contact details		Description of contract
4.	[REDACTED]	[REDACTED] [REDACTED] Contracts traded with AGL: swaps (NSW, Qld, SA, Victoria)
5.	[REDACTED]	[REDACTED] [REDACTED] Contracts traded with AGL: swaps (NSW, Qld, SA, Victoria)
6.	[REDACTED]	[REDACTED] [REDACTED] Contracts traded with AGL: swap (Vic)
[REDACTED]		
7.	[REDACTED]	[REDACTED] [REDACTED] [REDACTED]
8.	[REDACTED]	[REDACTED] [REDACTED] [REDACTED]
9.	[REDACTED]	[REDACTED] [REDACTED] [REDACTED] [REDACTED]
10.	[REDACTED]	[REDACTED] [REDACTED] [REDACTED] [REDACTED]

(b) Describe the distribution channels available to the merger parties in supplying goods and services to customers and identify the relevant distribution channels in respect of each of the customers identified above

8.4 The "distribution" of wholesale and retail electricity to customers occurs as described in paragraph 4.8 above, and entry into OTC contracts and ETFs occurs as described in paragraph 4.21(a) above. The channels through which AGL markets to retail electricity customers are described in the affidavit of Mark Brownfield.¹¹⁸ However there are otherwise no "distribution "channels involved in the supply of wholesale or retail electricity to customers.

(c) Describe the existing supply arrangements that the merger parties have in place with the customers identified above and whether it is expected or anticipated that these arrangements will continue or be varied in any way post-acquisition

8.5 Macquarie Generation has three contracts for the sale and hedging of electricity to Tomago Aluminium Company Pty Ltd (**TAC**) as agent for the participants of the Tomago Aluminium Project joint venture (which are Pacific Aluminium, Gove Aluminium and Hydro Aluminium):

(a) [REDACTED]

(b) [REDACTED]

(c) [REDACTED]¹¹⁹

8.6 The contracts described in rows 2, 3, 4 and 5 of the table above are OTC contracts based on the 1992 Form of ISDA Master Agreement (a copy of which is contained in Annexure AF-13 to the affidavit of Anthony Fowler).

8.7 The contract described in row 6 of the table above is an OTC contract based on the 2002 Form of ISDA Master Agreement (a copy of which is contained in Annexure Af-14 to the affidavit of Anthony Fowler).

8.8 The contracts described in rows 7 to 10 are contracts for the supply of retail electricity to commercial and industrial customers. The contracts described in rows 7 to 10 are based on AGL's standard Electricity Sales Agreement terms and conditions, subject to any special conditions agreed to between the parties. AGL supplies electricity to residential customers under standard form contracts. Copies of these terms, and of AGL's General Terms for Market Retail Contracts and Terms for Standard Retail Contracts, which apply to residential and SME electricity customers in NSW, are contained at Annexure I. AGL is not in a position to disclose contact details for its residential customers on this form due to its obligations to maintain customers' privacy, but could do so if directed by the Tribunal.

8.9 AGL has no current intention to vary the arrangements in the table following the Acquisition (however some of these arrangements may expire prior to completion of the Proposed Acquisition).

¹¹⁸ Brownfield, [2.10].

¹¹⁹ Redman, [91]; Fowler, Annexure AF-20, at 6.3.4 and 11.1.4.

9. MARKET CONCENTRATION

Provide estimates of current and post-acquisition market shares for the merger parties and existing alternative suppliers or purchasers in the relevant market(s) identified above

Generation and wholesale supply of electricity

9.1 An estimate of market shares of electricity generators in the NEM over the last five financial years, measured by the registered capacity of those generators, is set out below.¹²⁰

Figure 12 – NEM Market Shares By Portfolio (Registered Capacity)¹²¹

FY	2009	2010	2011	2012	2013
ACCIONA	0.0%	0.0%	0.0%	0.1%	0.1%
AGL	7.5%	7.5%	7.7%	7.9%	11.9%
Alcoa	0.4%	0.3%	0.3%	0.3%	0.3%
Alinta	0.0%	2.4%	2.9%	2.7%	2.2%
Arrow	0.0%	0.0%	0.0%	1.1%	1.1%
Aurora	0.3%	0.9%	1.0%	1.0%	1.0%
Babcock	3.4%	0.8%	0.0%	0.0%	0.0%
Comalco	3.9%	0.0%	0.0%	0.0%	0.0%
CS	6.4%	6.1%	5.9%	8.6%	8.6%
Delta	9.8%	10.6%	9.4%	5.5%	4.3%
EA	6.6%	6.8%	7.9%	11.7%	11.8%
EnergyBrix	0.4%	0.4%	0.4%	0.4%	0.4%
Eraring	6.7%	6.4%	4.8%	0.1%	0.1%
Ergon	0.1%	0.1%	0.1%	0.1%	0.1%
ERM	0.0%	1.1%	1.1%	0.0%	0.0%
HydroTas	5.6%	4.8%	4.6%	4.6%	4.6%
Infigen	0.4%	0.4%	0.4%	0.5%	0.5%
Infratil	0.3%	0.3%	0.3%	0.3%	0.3%
Intergen	3.0%	2.9%	2.8%	2.7%	2.8%
IP	8.0%	7.7%	7.4%	7.3%	7.4%
LoyYang	3.3%	3.2%	3.1%	3.1%	0.0%
MacGen	10.9%	10.5%	10.2%	10.1%	10.2%
Marubeni	0.4%	0.4%	0.3%	0.3%	0.3%

¹²⁰ Frontier (Industry) Report, Annexure A.

¹²¹ Frontier (Industry) Report, Annexure A.

FY	2009	2010	2011	2012	2013
Origin	3.0%	3.6%	6.5%	11.3%	12.6%
PacHydro	0.0%	0.1%	0.1%	0.1%	0.1%
QGC	0.0%	0.2%	0.3%	0.3%	0.3%
RATCH	0.0%	0.0%	0.0%	0.4%	0.2%
Redbank	0.0%	0.0%	0.2%	0.3%	0.3%
Rio	0.0%	0.0%	0.3%	0.3%	0.3%
Roaring40s	0.0%	0.0%	0.2%	0.0%	0.0%
Snowy	10.1%	9.7%	9.4%	9.7%	10.0%
Stanwell	3.8%	7.3%	7.1%	9.1%	8.2%
Tarong	5.4%	5.2%	5.0%	0.0%	0.0%
Transfield	0.4%	0.4%	0.4%	0.0%	0.0%
Total	100.0%	100.0%	100.0%	100.0%	100.0%

9.2 An estimate of market shares of electricity generators in the NEM over the five preceding financial years, measured by the generation output of those generators, is set out below.¹²²

Figure 13 – NEM Market Shares By Portfolio (Output)¹²³

FY	2009	2010	2011	2012	2013
ACCIONA	0.0%	0.0%	0.0%	0.1%	0.1%
AGL	4.7%	5.0%	5.0%	5.4%	11.2%
Alcoa	0.6%	0.6%	0.6%	0.6%	0.6%
Alinta	0.0%	2.7%	3.3%	2.4%	2.0%
Arrow	0.0%	0.0%	0.0%	0.5%	0.5%
Aurora	0.1%	0.6%	0.8%	0.8%	0.9%
Babcock	3.7%	0.9%	0.0%	0.0%	0.0%
Comalco	3.8%	0.0%	0.0%	0.0%	0.0%
CS	7.8%	7.8%	7.2%	9.3%	9.5%
Delta	12.2%	11.4%	9.2%	3.0%	3.9%
EA	6.8%	7.0%	9.3%	15.0%	13.2%
EnergyBrix	0.6%	0.6%	0.6%	0.6%	0.1%
Eraring	7.5%	6.9%	4.9%	0.1%	0.1%
Ergon	0.0%	0.0%	0.0%	0.0%	0.0%

¹²² Frontier (Industry) Report, Annexure A.

¹²³ Frontier (Industry) Report, Annexure A.

FY	2009	2010	2011	2012	2013
ERM	0.0%	0.8%	0.6%	0.0%	0.0%
HydroTas	3.6%	3.8%	4.4%	4.0%	5.3%
Infigen	0.2%	0.1%	0.2%	0.3%	0.3%
Infratil	0.2%	0.2%	0.2%	0.2%	0.2%
Intergen	4.4%	4.6%	4.3%	4.3%	4.7%
IP	11.6%	11.2%	11.2%	11.8%	11.8%
LoyYang	5.4%	5.7%	5.6%	5.8%	0.0%
MacGen	13.7%	12.7%	11.2%	13.1%	12.0%
Marubeni	0.5%	0.5%	0.5%	0.5%	0.5%
Origin	0.9%	1.5%	4.4%	8.5%	9.4%
PacHydro	0.0%	0.1%	0.1%	0.1%	0.1%
QGC	0.0%	0.1%	0.3%	0.3%	0.3%
RATCH	0.0%	0.0%	0.0%	0.1%	0.0%
Redbank	0.0%	0.0%	0.2%	0.5%	0.6%
Rio	0.0%	0.0%	0.6%	0.7%	0.7%
Roaring40s	0.0%	0.0%	0.1%	0.0%	0.0%
Snowy	1.9%	2.0%	2.6%	1.7%	2.7%
Stanwell	4.4%	8.0%	6.9%	10.3%	9.5%
Tarong	5.3%	5.0%	5.3%	0.0%	0.0%
Transfield	0.3%	0.2%	0.2%	0.0%	0.0%
Total	100.0%	100.0%	100.0%	100.0%	100.0%

9.3 An estimate of market shares of electricity generators in the NEM over the last five financial years, measured by the NEM Pool Price revenue of those generators, is set out below. This information is provided because it responds to the directions contained in Form S. However these estimates should be treated as indicative only, and as less reliable than the estimates based on capacity and generation. This is because it is based on NEM Pool Price revenue only, and does not take into account the impact of the OTC and ETF hedge contracts that NEM participants use to manage their exposure to that price. There is no data available which would allow market shares to be calculated on the basis of revenue adjusted to take into account price outcomes under OTC and ETF hedge contracts.¹²⁴

¹²⁴ Frontier (Industry) Report, Annexure A.

Figure 14 – NEM Market Shares By Portfolio (Revenue)¹²⁵

FY	2009	2010	2011	2012	2013
ACCIONA	0.0%	0.0%	0.0%	0.1%	0.1%
AGL	4.7%	5.0%	5.0%	5.4%	11.2%
Alcoa	0.6%	0.6%	0.6%	0.6%	0.6%
Alinta	0.0%	2.7%	3.3%	2.4%	2.0%
Arrow	0.0%	0.0%	0.0%	0.5%	0.5%
Aurora	0.1%	0.6%	0.8%	0.8%	0.9%
Babcock	3.7%	0.9%	0.0%	0.0%	0.0%
Comalco	3.8%	0.0%	0.0%	0.0%	0.0%
CS	7.8%	7.8%	7.2%	9.3%	9.5%
Delta	12.2%	11.4%	9.2%	3.0%	3.9%
EA	6.8%	7.0%	9.3%	15.0%	13.2%
EnergyBrix	0.6%	0.6%	0.6%	0.6%	0.1%
Eraring	7.5%	6.9%	4.9%	0.1%	0.1%
Ergon	0.0%	0.0%	0.0%	0.0%	0.0%
ERM	0.0%	0.8%	0.6%	0.0%	0.0%
HydroTas	3.6%	3.8%	4.4%	4.0%	5.3%
Infigen	0.2%	0.1%	0.2%	0.3%	0.3%
Infratil	0.2%	0.2%	0.2%	0.2%	0.2%
Intergen	4.4%	4.6%	4.3%	4.3%	4.7%
IP	11.6%	11.2%	11.2%	11.8%	11.8%
LoyYang	5.4%	5.7%	5.6%	5.8%	0.0%
MacGen	13.7%	12.7%	11.2%	13.1%	12.0%
Marubeni	0.5%	0.5%	0.5%	0.5%	0.5%
Origin	0.9%	1.5%	4.4%	8.5%	9.4%
PacHydro	0.0%	0.1%	0.1%	0.1%	0.1%
QGC	0.0%	0.1%	0.3%	0.3%	0.3%
RATCH	0.0%	0.0%	0.0%	0.1%	0.0%
Redbank	0.0%	0.0%	0.2%	0.5%	0.6%
Rio	0.0%	0.0%	0.6%	0.7%	0.7%
Roaring40s	0.0%	0.0%	0.1%	0.0%	0.0%
Snowy	1.9%	2.0%	2.6%	1.7%	2.7%

¹²⁵ Frontier (Industry) Report, Annexure A.

FY	2009	2010	2011	2012	2013
Stanwell	4.4%	8.0%	6.9%	10.3%	9.5%
Tarong	5.3%	5.0%	5.3%	0.0%	0.0%
Transfield	0.3%	0.2%	0.2%	0.0%	0.0%
Total	100.0%	100.0%	100.0%	100.0%	100.0%

9.4 The market size of the NEM is as follows:¹²⁶

Figure 15 – Wholesale electricity – total market size (NEM)¹²⁷

Financial year	2009	2010	2011	2012	2013
Total capacity (MW)	43,466	45,333	46,990	47,662	47,258
Total output (GWh)	208,816	206,457	204,020	199,533	194,299
Total revenue (\$m)	9,169	9,388	7,271	5,927	11,679

9.5 The estimated market shares of electricity generators in NSW over the last five financial years, measured by the registered capacity of those generators, are set out below.

Figure 16 – NSW Market Shares By Portfolio (Registered Capacity)¹²⁸

FY	2009	2010	2011	2012	2013
ACCIONA	0.0%	0.0%	0.1%	0.3%	0.3%
Alinta	0.0%	0.7%	0.5%	0.0%	0.0%
Babcock	1.0%	0.2%	0.0%	0.0%	0.0%
Delta	28.2%	29.7%	26.7%	15.6%	12.4%
EA	1.4%	2.7%	6.2%	16.4%	16.9%
Eraring	19.4%	18.1%	13.6%	0.2%	0.2%
Infigen	0.0%	0.0%	0.0%	0.2%	0.3%
MacGen	31.6%	29.5%	29.1%	28.5%	29.4%
Marubeni	1.1%	1.0%	1.0%	1.0%	1.0%
Origin	2.2%	4.1%	8.8%	22.3%	23.0%
Redbank	0.0%	0.0%	0.5%	0.9%	0.9%
Snowy	15.0%	14.0%	13.7%	14.6%	15.6%
Total	100.0%	100.0%	100.0%	100.0%	100.0%

¹²⁶ Frontier (Industry) Report, Annexure A.

¹²⁷ Frontier (Industry) Report, Annexure A.

¹²⁸ Frontier (Industry) Report, Annexure A.

- 9.6 An estimate of market shares of electricity generators in the NEM over the last five financial years, measured by the generation output of those generators, is set out below.¹²⁹

Figure 17 – NSW Market Shares By Portfolio (Output)¹³⁰

FY	2009	2010	2011	2012	2013
ACCIONA	0.0%	0.0%	0.1%	0.2%	0.2%
Alinta	0.0%	1.1%	0.9%	0.0%	0.0%
Babcock	1.0%	0.4%	0.0%	0.0%	0.0%
Delta	34.2%	33.3%	27.7%	9.1%	11.6%
EA	1.1%	3.4%	10.3%	26.5%	25.7%
Eraring	21.1%	20.2%	14.6%	0.4%	0.3%
Infigen	0.0%	0.0%	0.0%	0.2%	0.2%
MacGen	38.4%	37.0%	33.9%	39.3%	35.9%
Marubeni	1.4%	1.4%	1.5%	1.5%	1.5%
Origin	0.3%	0.5%	6.9%	18.4%	18.5%
Redbank	0.0%	0.0%	0.8%	1.6%	1.7%
Snowy	2.7%	2.6%	3.3%	2.9%	4.4%
Total	100.0%	100.0%	100.0%	100.0%	100.0%

- 9.7 An estimate of market shares of electricity generators in NSW over the last five financial years, measured by the revenue of those generators, is set out below. These market shares have the same limitations as set out in paragraph 9.3 above regarding calculation of market shares using revenue from NEM Pool Prices without having regard to the impact of OTC and ETF hedge contracts.¹³¹

Figure 18 – NSW Market Shares By Portfolio (Revenue)¹³²

FY	2009	2010	2011	2012	2013
ACCIONA	0.0%	0.0%	0.0%	0.2%	0.2%
Alinta	0.0%	0.9%	0.5%	0.0%	0.0%
Babcock	0.8%	0.2%	0.0%	0.0%	0.0%
Delta	31.8%	29.9%	27.9%	9.0%	11.6%
EA	1.1%	3.5%	7.8%	26.2%	25.5%
Eraring	19.6%	16.9%	14.0%	0.4%	0.3%
Infigen	0.0%	0.0%	0.0%	0.2%	0.2%

¹²⁹ Frontier (Industry) Report, Annexure A.

¹³⁰ Frontier (Industry) Report, Annexure A.

¹³¹ Frontier (Industry) Report, Annexure A.

¹³² Frontier (Industry) Report, Annexure A.

FY	2009	2010	2011	2012	2013
MacGen	38.6%	34.8%	32.5%	38.9%	35.5%
Marubeni	1.4%	1.4%	1.4%	1.5%	1.5%
Origin	0.7%	2.5%	6.3%	18.6%	18.8%
Redbank	0.0%	0.0%	0.9%	1.5%	1.6%
Snowy	5.9%	9.9%	8.6%	3.4%	4.6%
Total	100.0%	100.0%	100.0%	100.0%	100.0%

9.8 The NSW market share estimates in the two preceding tables, and the market size data in the **Figure 19**, overstate the level of concentration in NSW, since they do not reflect the capacity of generators to supply electricity into NSW by using the interconnects with NSW and Queensland. Relevantly, as noted above:¹³³

- (a) NSW is a net importer of electricity from other NEM regions, and from FY09-FY13, imported between 7.2% and 12.8% of total NSW electricity consumption; and
- (b) the total capacity to import electricity into NSW using the interconnects with Queensland and Victoria is 2,798MW – equivalent to 17% of the total registered capacity of all generators in NSW.

9.9 The market size of the NSW region of the NEM (subject to the limitations of this data, as described in **Error! Reference source not found.** above) is as follows:¹³⁴

Figure 20 – Wholesale electricity – total market size (NSW)

Financial year	2009	2010	2011	2012	2013
Total capacity (MW)	15,017	16,109	16,477	16,938	16,425
Total output (GWh)	74,411	70,570	67,601	66,626	64,979
Total revenue (\$m)	3,135	3,753	2,951	2,053	3,654

Retail Supply

9.10 AGL is only in a position to calculate retail market shares by reference to customer numbers, and not by capacity, sales or revenue.¹³⁵

9.11 The data used to calculate market shares by reference to customer numbers are the annual "Australian Utilities Structure" reports published by UBS. The UBS reports are based on information from companies, ESAA, AEMO and UBS estimates of retailers' total retail customer numbers. For listed companies, the data used is the most up-to-date public information as at June or September of the relevant year. However, the data does not cover retailers which UBS estimates to have fewer than 10,000 customers in any one NEM region, and so omits the following retailers which are active electricity retailers in one or more of Victoria, NSW and Queensland: BlueNRG, Click Energy, Diamond Energy,

¹³³ Frontier (Industry) Report, Annexure A.

¹³⁴ Frontier (Industry) Report, Annexure A.

¹³⁵ Brownfield, [2.33], [2.34], [2.35].

Powershop, Qenergy and Sanctuary Energy. Percentage figures below may not add to 100% due to rounding.¹³⁶

9.12 The estimated market shares of electricity retailers in the NEM over the last five financial years, measured by small customer numbers, are set out below:¹³⁷

Figure 21 – NEM retail market shares¹³⁸

Retailer	2009	2010	2011	2012	2013
AGL (inc. APG from 2013)	19%	21%	21%	23%	25%
Origin Energy	19%	19%	35%	33%	31%
Energy Australia	15%	14%	0%	21%	21%
TRUenergy (now EA)	8%	8%	22%	0%	0%
Country Energy (now Origin)	9%	8%	0%	0%	0%
Integral Energy (now Origin)	9%	9%	0%	0%	0%
Ergon Energy	7%	7%	8%	8%	8%
Alinta	0%	0%	1%	1%	1%
Simply Energy	2%	2%	2%	2%	2%
Lumo (Infratil)	3%	3%	3%	4%	4%
Aurora Energy	3%	3%	3%	3%	3%
ActewAGL (50% AGL)	2%	2%	2%	2%	2%
Red Energy (Snowy)	2%	2%	2%	3%	3%
Australian Power & Gas (removed in 2013)	1%	1%	2%	2%	0%
Dodo Energy (new for 2013)					1%
Momentum (new for 2013)					0%
Jackgreen	1%				
Totals	100%	100%	100%	100%	100%
Total customer numbers (ie market size)	9,260,000	9,100,000	9,150,000	9,270,000	9,380,000

9.13 AGL's estimate of market shares of electricity retailers in NSW over the last five financial years, measured by customer numbers, are set out below:¹³⁹

¹³⁶ Brownfield, [2.34], [2.35].

¹³⁷ Brownfield, Annexure MB5.

¹³⁸ Brownfield, Annexure MB5.

¹³⁹ Brownfield, Annexure MB5.

Figure 22 – NSW retail market shares¹⁴⁰

Retailer	2009	2010	2011	2012	2013
AGL (inc. APG)	9%	12%	14%	19%	24%
Origin Energy	4%	6%	47%	43%	41%
Energy Australia	39%	36%	0%	33%	32%
TRUenergy (now EA)	1%	2%	36%	0%	0%
Country Energy (now Origin)	22%	21%	0%	0%	0%
Integral Energy (now Origin)	24%	22%	0%	0%	0%
Lumo (Infratil)	0%	1%	0%	1%	1%
ActewAGL (50% AGL)	0%	0%	1%	1%	1%
Red Energy (Snowy)	0%	0%	1%	1%	1%
Australian Power & Gas (removed in 2013)	0%	0%	1%	2%	0%
Dodo Energy					1%
Jackgreen	1%				
Totals	100%	100%	100%	100%	100%
Total customer numbers (ie market size)	3,600,000	3,220,000*	3,260,000	3,320,000 [#]	3,360,000

*However the figures above are based on a total market size of 3,210,000, because the remaining 10,000 are customers of retailers with a market share too small for inclusion in this report.

10. CONSTRAINTS ON THE EXERCISE OF MARKET POWER

(a) **Provide details of the extent to which the merger parties are likely to be constrained post-acquisition from raising prices and profit margins and/or reducing the quality of good and/or services by:**

- (i) **input suppliers**
- (ii) **competitors in the relevant market(s)**
- (iii) **customers in the relevant market(s)**
- (iv) **others**

Constraints on the exercise of market power concerning the generation and wholesale supply of electricity

10.1 Wholesale electricity is a homogenous good. The wholesale price of electricity is determined by the NEM dispatch price, in relation to which generators and customers are price takers. The effective price received by generators and paid by customers (e.g., retailers) is determined by the position of the generator/customer having regard to their hedge contract position and other risk management products they hold. Competition in the wholesale supply of electricity occurs on the basis of price, via the bids generators

¹⁴⁰ Brownfield, Annexure MB5.

make to be dispatched into the NEM. Brand loyalty, pricing variations and/or product quality do not relevantly bear upon an assessment of competition in the wholesale supply of electricity.

- 10.2 The Proposed Acquisition will increase concentration in the ownership of electricity generation in the NEM to a modest extent: as compared to the position in 2012/13, the incremental increase in AGL's market share will be in the order of 10.2% (by registered capacity) or 12% (by generation output), and AGL's post-transaction market share will be in the order of 22.1% (by registered capacity) or 23.2% (by generation output). There will be no concentration of ownership of electricity generation assets in NSW, because AGL does not currently own any scheduled electricity generation assets in NSW.¹⁴¹
- 10.3 The following table shows the figures produced by calculating the Herfindahl-Hirschman Index (**HHI**) to electricity generation in the NEM before and after the Proposed Acquisition. The HHI is a measure of market concentration – all else being equal, an increase in the value of the HHI indicates an increase in market concentration as a result of a particular acquisition. In the following table, the HHI figures are stated on the basis of market concentration of electricity generation in the NEM, and specifically in the NSW region of the NEM. These figures have been calculated on the basis of market shares derived from registered capacity in the NEM, the volume of electricity dispatched in the NEM, and revenue from electricity dispatched in the NEM (i.e., the Pool Price received for electricity dispatched in the NEM).¹⁴²

Figure 23 – HHI analysis of the Proposed Acquisition ¹⁴³

Table 1: HHI results for the transaction

Market share definition	State of the World	Geographic market definition	
		NEM	NSW
GWh dispatch (FY2013)	Pre	943	2,448
	Post	1,206	2,448
	Change	262	0
MW capacity (current)	Pre	887	2,089
	Post	1,115	2,089
	Change	228	0
Pool revenue (FY2013)	Pre	930	2,428
	Post	1,173	2,428
	Change	243	0

Source: Frontier analysis of AEMO dispatch, price and capacity data. Various public reports to attribute portfolio ownership

Notes: Installed capacity is current. Annual GWh and pool revenue is for the 2012/13 financial year.

- 10.4 As these results show, on each measure of market share:¹⁴⁴

¹⁴¹ Frontier (Industry) Report, Annexure A.

¹⁴² Frontier (Competition), Report, section 5.3.1.

¹⁴³ Frontier (Competition), Report, section 5.3.1.

- (a) the HHI in the NEM following the Proposed Acquisition is 1,206 or less. The ACCC's Merger Guidelines state that where a merger produces an HHI less than 2,000 the ACCC is less likely to identify concerns with the impact of an acquisition on competition; and
 - (b) the HHI in NSW will be the same whether or not the Proposed Acquisition proceeds.
- 10.5 Following the Proposed Acquisition, AGL will continue to bid generation from its portfolio into the NEM. Accordingly, AGL will be a price taker of the NEM-determined dispatch price, and in this sense, will not determine the price at which it supplies electricity into the NEM. Since electricity is a homogenous good, and is dispatched by generators generically into the NEM rather than directly to particular customers, AGL does not, and will not, have the ability to reduce the "quality" of electricity it supplies.
- 10.6 However a relevant question is whether, as a result of the acquisition of Macquarie Generation's assets, AGL will have the ability and incentive to bid generation capacity into the pool at higher prices than would otherwise be the case (**economic withholding of capacity**).¹⁴⁵
- 10.7 AGL does not currently own any scheduled electricity generation assets in NSW, but would own the Bayswater and Liddell power stations if the Proposed Acquisition proceeds.
- 10.8 Analysis of the Proposed Acquisition requires assessment of whether AGL would acquire an ability to sustainably and profitably increase Pool Prices in the NEM as a result of the Proposed Acquisition (and the factors which would constrain it from having or using such an ability), which it would not have in the situation where it did not own any scheduled electricity generators in NSW, and the Bayswater and Liddell power stations continued to be owned by the State of NSW.
- 10.9 This requires a counterfactual assessment of what is likely to happen in the future both with and without the merger.¹⁴⁶ For reasons developed in Section 22 below, the appropriate counterfactual in respect of the Proposed Acquisition is a future in which the State of New South Wales continues to own and operate Macquarie Generation.
- 10.10 Within that context, the following factors will prevent AGL from sustainably and profitably increasing Pool Prices in the NEM following the acquisition of Macquarie Generation.
- 10.11 The design of the NEM means that AGL would face a significant risk that its generation would not be dispatched if it sought to engage in economic withholding of capacity following the Proposed Acquisition. The NEM is designed to incentivise generators to compete for dispatch of their generation output based on price. Base load generators – such as Bayswater and Liddell – which have a more limited ability to reduce their generation output than other types of power stations, and which typically have high sunk costs and low variable costs, have a strong incentive to have their generation dispatched. When AGL bids to supply electricity into the NEM, it faces a trade-off between volume and price – it can bid:
- (a) at lower prices, with a high likelihood of being dispatched for significant volumes at that price; or
 - (b) at higher prices, with a lower likelihood of being dispatched for significant volumes at that price.

¹⁴⁴ Frontier (Competition), Report, section 5.3.1.

¹⁴⁵ Fowler, from [253].

¹⁴⁶ *ACCC v Metcash Trading Limited* (2011) 282 ALR 464 at [136] and [145] (Emmett J)

- 10.12 If AGL's generation is dispatched, that generation provides a natural hedge for a corresponding portion of AGL's retail load. If AGL's generation is not dispatched, AGL does not have any such natural hedge for that portion of its retail load, and as well as foregoing the revenue from the Pool Price in relation to that load, AGL must acquire electricity in the NEM at prevailing Pool Prices in order to satisfy its retail obligations. This trade-off, and the cost and risk associated with AGL's generation not being dispatched, currently constrains AGL when it bids generation into the NEM, and will continue to constrain AGL if AGL acquires Macquarie Generation. Macquarie Generation and AGL currently compete with, and following the Proposed Acquisition AGL will continue to compete with, a significant number of substantial generation businesses in order to be dispatched in the NEM. Owners of substantial competing generators located in NSW include Origin Energy, EnergyAustralia, Snowy Hydro and Delta Electricity. Owners of substantial competing generators located in NEM regions outside of NSW include Origin Energy, EnergyAustralia, Stanwell, CS Energy, GDF Suez and others. The fact that customers do not deal individually with particular NEM generators means that the ease of customer switching in the NEM is effectively infinite and costless. None of these factors will change following the Proposed Acquisition.
- 10.13 There is substantial excess generation capacity in the NEM, and several electricity generators have retired or "mothballed" generation plants (see paragraph 4.45 above). The availability of substantial underutilised or mothballed generation capacity that could be reintroduced in response to an increase in the Pool Price means that even if AGL sought to increase Pool Prices following the Proposed Acquisition, it would not be able to do so sustainably and profitably. Rather, generators with mothballed generation capacity would be likely to respond to a Pool Price increase by reintroducing mothballed capacity, thereby defeating the temporary increase and preventing any sustained increase in Pool Prices.¹⁴⁷
- 10.14 AGL's incentives will continue to be affected by the fact that it operates a vertically integrated generation and retail business. As a vertically integrated generator and retailer, AGL's incentives in relation to the level of the Pool Price depend on whether, and the extent to which, AGL's retail load exceeds its generation portfolio in any particular half hourly settlement period, and hence whether AGL is a net "buyer" rather than a net "generator" of electricity in that period. This is determined by the relative size and availability of AGL's generation portfolio compared to its prevailing retail customer load, and AGL's portfolio of risk management instruments during that period. The extent to which AGL is "long" or "short" to the Pool Price (i.e., a net seller or buyer of electricity) moderates AGL's incentives in relation to the level of the NEM spot price. Following the Proposed Acquisition, AGL will have a substantial retail load in NSW, representing almost 2500MW at AGL's forecast of maximum demand. Through the Proposed Acquisition, AGL will also acquire the 900MW Tomago Hedge Contract, [REDACTED]¹⁴⁸
- 10.15 The uncertainty, cost and risk associated with engaging in economic withholding in the limited circumstances in which AGL may have an ability to influence the Pool Price is such that the Proposed Acquisition will not give AGL any increased ability or incentive to sustainably and profitably increase Pool Prices by engaging in economic withholding:
- (a) Even in periods of high demand, output from Macquarie Generation's generators is not required to satisfy market demand.¹⁴⁹ However, it is possible that Macquarie Generation has the ability to influence Pool Prices in periods of tight demand and supply conditions in the NEM. Accordingly, a relevant question is whether, comparing the situation in which AGL acquired the Macquarie Generation assets to

¹⁴⁷ Fowler, [268], [269].

¹⁴⁸ Fowler, [261].

¹⁴⁹ Frontier (Industry) Report, section 6.4.5.

the situation in which those assets continued to be owned by the State of NSW, AGL would have any greater ability than AGL and Macquarie Generation would otherwise independently have, to sustainably and profitably increase Pool Prices during those periods.

- (b) Any such ability that Macquarie Generation has on a standalone basis will exist with and without the Proposed Acquisition, since there will be no concentration in ownership of scheduled generation in NSW as a result of the Proposed Acquisition. Hence, the question is whether AGL's ownership of the Macquarie Generation assets along with its generation assets in other NEM regions, would give AGL a greater ability than AGL and Macquarie Generation would have on a standalone basis, to sustainably and profitably increase Pool Prices during those periods.
- (c) There are very few periods in which the output of AGL's generation portfolio and the Macquarie Generation assets is required to be dispatched in order to meet demand in the NEM.¹⁵⁰
- (d) The only circumstances in which AGL's ownership of the Bayswater and Liddell power stations, in combination with its other generation assets, could give it an ability to influence the NEM spot price which neither AGL nor Macquarie Generation would have if they continued to operate as independent businesses, would be the rare circumstances in which:¹⁵¹
 - (i) there was extremely high demand for electricity in the adjacent South Australian, Victorian and NSW regions of the NEM; and
 - (ii) the flow of electricity over the interconnectors into those NEM regions was constrained.

These conditions may occur during coincident periods of high or extreme temperatures in both regions, in work-day peak periods. Such co-incident weather events in Melbourne and Sydney are both extremely rare and extremely difficult to predict. In the last 34 years, there have been only two days on which temperatures in Melbourne and Sydney exceeded 40°C and only 14 days where temperatures in Melbourne and Sydney exceeded 37°C.¹⁵² There has only been one occasion in the last 34 years on which extreme temperatures (ie higher than 40°C) have been recorded in Melbourne, Sydney and Adelaide. Data on the high temperatures typically associated with NEM pool prices over \$300/MWh in Victoria and NSW is set out at paragraph 276 of the affidavit of Anthony Fowler.

- (e) Any opportunity that AGL and Macquarie Generation may have on a standalone basis, or an expanded AGL may have, to take advantage of such conditions by engaging in economic withholding would involve significant cost, risk and uncertainty. In particular:
 - (i) weather conditions such as coincident extreme high temperatures in Sydney, Melbourne and Adelaide are extremely difficult to forecast;¹⁵³
 - (ii) supply of electricity in the NEM depends on the availability of generators to dispatch electricity, and key determinants of available generation, such as the existence of wind, are extremely difficult to forecast.¹⁵⁴

¹⁵⁰ Frontier (Industry) Report, section 6.4.5.

¹⁵¹ Fowler, [270].

¹⁵² Fowler, [274], [275], [276].

¹⁵³ Fowler, [280].

¹⁵⁴ Fowler, [280].

- (iii) in order to be "long" to the Pool Price, so as to benefit from an increase in that price, AGL would need to:
 - (A) refrain from obtaining hedge contract cover for that part of its generation portfolio which it intended would benefit from higher Pool Prices. This would involve a decision by AGL not to sell contracts, even though such contracts are priced at a premium to expectations of the forward Pool Price;¹⁵⁵ and
 - (B) assume substantial "physical risk" associated with plant failure. Specifically, if AGL operated "long" to the Pool Price, and a material generator in AGL's portfolio failed, AGL would need to buy electricity at the prevailing Pool Price (rather than at previously contracted prices) in order to satisfy its retail load.¹⁵⁶

10.16 Accordingly:

- (a) in both the factual and the counterfactual, AGL and/or Macquarie Generation may have the ability to temporarily increase Pool Prices in periods of tight demand and supply conditions;
- (b) in both the factual and the counterfactual, AGL and/or Macquarie Generation would face significant cost, uncertainty and risk in seeking to engage in economic withholding in those circumstances; and
- (c) any portfolio effects of combining Macquarie Generation with AGL's existing generation located outside NSW will be limited to very rare, highly unpredictable, and temporally finite episodes of coincident of extreme temperatures (and therefore high demand) between, on the one hand Sydney, and on the other hand, Melbourne and Adelaide.

10.17 As Justice French found in *AGL v ACCC*, the fact that "there are periods of high demand where a generator may opportunistically bid to increase the spot price" does not mean that:

*such inter-temporal market power reflects more than an intermittent phenomenon nor does it reflect a longrun phenomenon having regard to the possibilities of new entry through additional generation capacity and the upgrade of interconnections between regions. It does not amount to an ongoing ability to price without constraint from competition.*¹⁵⁷

10.18 Consequently:

- (a) an increase in the number of rare, unpredictable and temporally finite opportunities AGL may have to engage in economic withholding if the Proposed Acquisition proceeds, compared to the situation in which Macquarie Generation continues to be owned by the State of NSW, would not amount to an ongoing ability to sustainably and profitably raise prices, such as could be considered to amount to AGL having market power following the Proposed Acquisition; and
- (b) the costs, risks and uncertainty involved in using those opportunities to engage in economic withholding are so significant as to undermine any theoretical incentive AGL may have to do so.

¹⁵⁵ Redman, [137].

¹⁵⁶ If a material generator failed during periods of high prices, the financial detriment to AGL from operating long to the pool price would be significant. Fowler, from [283].

¹⁵⁷ *AGL v ACCC* [2003] FCA 1525, at [493].

- 10.19 Further, economic modelling of the Proposed Acquisition suggests that the Proposed Acquisition will not have a material impact on prices or competition in the NEM, and will not have any impact that could be said to give rise to a substantial lessening of competition. In particular:
- (a) Economic modelling of the Proposed Acquisition suggests that the impact of AGL's acquisition of Macquarie Generation supports this conclusion, and shows that:¹⁵⁸
 - (i) the impact of AGL's acquisition of the Macquarie Generation assets on average NEM pool prices is not material; and
 - (ii) AGL's acquisition of the Macquarie Generation assets would not significantly change AGL's or Macquarie Generation's ability to influence pool prices compared to the counterfactual.
 - (b) This economic modelling overstates the actual impact of the Proposed Acquisition, because:¹⁵⁹
 - (i) it assumes that market participants have perfect information about NEM conditions - such as demand, and the level of generation dispatched from wind generators in a particular period - and so can find and take all available opportunities to engage in strategic bidding to increase prices in the NEM. In reality, NEM participants have incomplete information about those highly variable and uncertain matters; and
 - (ii) it does not have regard to market participants' risk preferences. It assumes that they are neutral to risk, whereas in reality engaging in strategic bidding involves significant cost and risk, and generators cannot be expected (as the model assumes) to be neutral to that risk.

Constraints on the exercise of market power in the market for the retail supply of electricity

- 10.20 There will be no concentration in the retail electricity market as a result of the Proposed Acquisition, but modest concentration in the wholesale electricity market.

Vertical competition analysis: supply of electricity and hedge contracts to competing retailers

- 10.21 Following the Proposed Acquisition, AGL will continue to bid generation from its portfolio into the NEM, and AEMO will determine the volume of its generation which is dispatched at the Pool Price. Accordingly, currently the structure and design of the NEM prevent AGL and other generators from raising prices and/or restricting supply to particular customers. Following the Proposed Acquisition, these characteristics will continue to constrain AGL from lessening competition in retail electricity by increasing the prices paid by competing retailers to acquire wholesale electricity, or foreclosing the supply of wholesale electricity to competing retailers.
- 10.22 However a relevant question is whether, as a result of the acquisition of Macquarie Generation's assets, AGL will have the ability and incentive to withhold the supply of competitively priced hedge contracts to competing retailers, including independent retailers.
- 10.23 The following factors will prevent AGL from withholding supply in this way following the Proposed Acquisition.

¹⁵⁸ Frontier (Competition) Report, section 5.3.4.

¹⁵⁹ Frontier (Competition) Report, section 5.3.4.

- 10.24 AGL will have a strong commercial incentive to enter into OTC contracts with retailers and trade ETFs, because:¹⁶⁰
- (a) hedge contracts are generally sold at a premium to forward expectations of the Pool Price, therefore it is profitable for a generation business to sell contracts; and
 - (b) hedge contracts and other forms of risk management strategy are the mechanisms by which generation businesses manage their future exposure to the NEM spot price, thereby increasing the certainty and predictability of earnings.
- 10.25 If the Proposed Acquisition proceeds, AGL will be in NSW "long" to the NEM spot price by between approximately 800MW and 1,000MW, until 2018.¹⁶¹ Being exposed to low Pool Prices has the effect of reducing the return AGL earns on its generation portfolio. Accordingly, AGL will have a powerful incentive to supply OTC contracts and sell ETFs to competing retailers that are referenced against the NSW node.¹⁶²
- 10.26 This commercial incentive will exist in relation to selling contracts to the major retailers Origin Energy and EnergyAustralia, and in relation to selling contracts to other existing or new entrant retailers. AGL will not face different incentives in relation to supplying contracts to Origin and EnergyAustralia compared to those it faces in relation to supply contracts to other retailers.
- 10.27 AGL's Merchant Energy business operates within the AGL's Board determined risk management protocols, which set the parameters within which the Merchant Energy business must manage risk relating to AGL's portfolio, and in effect require AGL to engage in prudent hedge contract practices.¹⁶³
- 10.28 The conditions in which OTC and ETF contracts are traded do not readily permit AGL to, and AGL does not, discriminate in the counterparties with which it trades on the basis of identity. In particular:¹⁶⁴
- (a) In order to comply with AGL's internal risk management protocols, AGL maintains a "good names" list, which identifies all potential counterparties that satisfy AGL's requirements as to creditworthiness. AGL's good names list currently includes retailers that compete with AGL's business, including retailers which compete with AGL's retail business in NSW.
 - (b) AGL enters into between 25% and 50% of all OTC contracts through a broker, rather than through direct negotiations with its contract counterparty. When AGL contracts through a broker, AGL provides the broker with its "good names list", and gives the broker instructions about the nature of the contracts it seeks to execute (eg the price and volume of those contracts), and the maximum financial exposure AGL will tolerate to a particular counterparty. AGL does not otherwise give instructions to the broker about the identity of the counterparty, and provided the broker faithfully executes AGL's instructions, AGL is bound by the OTC contract before it knows, and regardless of the identity of, the counterparty.
 - (c) AGL also trades ETFs on the ASX. AGL does not maintain a "good names list" in relation to ETF trading, because AGL does not bear the risk of counterparty default when it trades ETF. When AGL trades ETF products, it has no knowledge of the identity of the counterparty to that trade, either before or after the trade is

¹⁶⁰ Redman, [137].

¹⁶¹ Fowler, [260].

¹⁶² Redman, from [134].

¹⁶³ Redman, from [102]; Fowler [112] - [117].

¹⁶⁴ Fowler, [160], [163], [164], [170] - [180], [186].

executed. Further, AGL is currently participating in the development of a new platform for trading ETFs, which will compete with the current ASX platform (see paragraph 4.55 above). This will increase the opportunities for AGL and competing retailers and other counterparties to trade in a manner where it is not possible to know, or to restrict trading activities based on, the identity of the counterparty to a trade.

- (d) AGL currently has hedge contracts with a significant number of counterparties which operate competing retail businesses, including [REDACTED]

The Proposed Acquisition will not alter AGL's current incentive to contract with retailers, including independent retailers, in order to manage the risks associated with its exposure to the Pool Price.

10.29 Even if AGL did have an incentive to withhold the supply of competitively priced contracts to competing retailers, withholding supply in this way would not have any effect on retail competition following the Proposed Acquisition. This is because hedge contracts supplied by Macquarie Generation are not a necessary input for retailers seeking to operate a retail business in NSW, and retailers can readily obtain contracts from other sources.

- (a) If the Proposed Acquisition proceeds, AGL will manage the risks associated with acquiring electricity for its NSW retail load substantially using output from Macquarie Generation. It will, as a result, have a reduced need to buy contracts from generators to manage those risks compared to the situation if the Proposed Acquisition does not proceed. *Accordingly, if the Proposed Acquisition proceeds, those contracts that AGL would otherwise have entered into with generators in relation to its NSW retail load will become available for other NSW retailers.* Those contracts include, but are not limited to, base load swap contracts with NSW generators settled at the NSW regional reference node. A significant portion of AGL's hedge contract position comprises contracts with Queensland generators, and swap and cap contracts with NSW generators that are not base load generators.¹⁶⁵
- (b) Origin Energy and EnergyAustralia are likely to have surplus generation capacity at times of non-peak demand and can be expected to use that surplus generation to sell contracts to retailers. AGL has bought contracts from Origin Energy and EnergyAustralia in order to manage the risks associated with its NSW retail load.¹⁶⁶
- (c) Snowy Hydro and Delta Electricity both own substantial electricity generation assets in NSW that they could use to supply hedge contracts to independent retailers.¹⁶⁷
- (i) Snowy Hydro operates substantial generation assets and has previously supplied swap contracts to AGL referenced to the NSW node.
- (ii) Delta Electricity is also an alternative supplier of hedge contracts, and has previously supplied both swap and cap contracts to AGL that were referenced to the NSW node.

¹⁶⁵ Fowler from [135]; also [217].

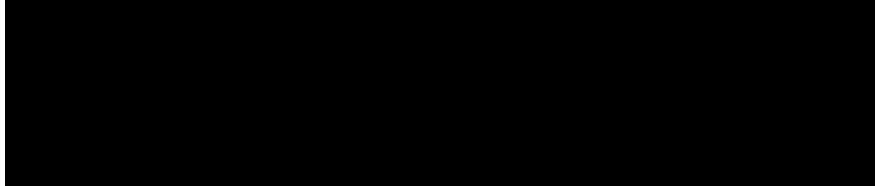
¹⁶⁶ Fowler, [138], [173].

¹⁶⁷ Fowler, from [141].

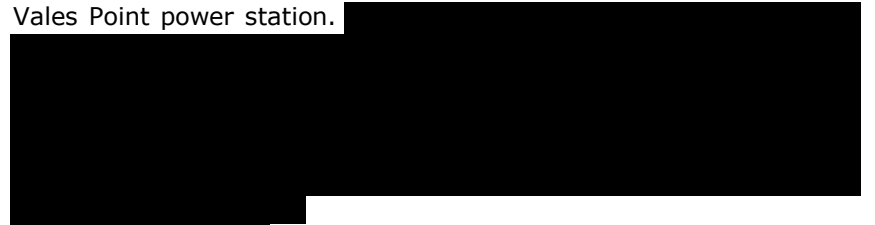
START CONFIDENTIAL – NOT TO BE SHARED WITH AGL

(A) Delta Electricity owns and operates the Vales Point power station (a coal fired power station with registered capacity of 1320 MW) and the Colongra power station (a peaking power station, with a current capacity of 667MW when operated as a gas fired power station rather than a diesel powered plant).¹⁶⁸

(B)

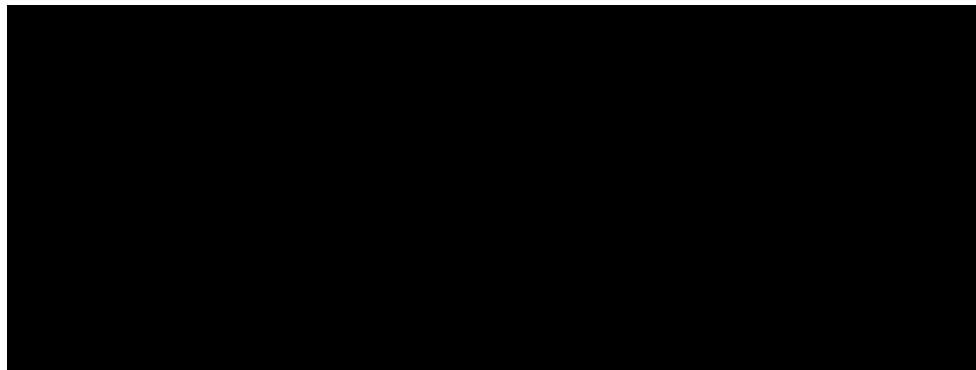
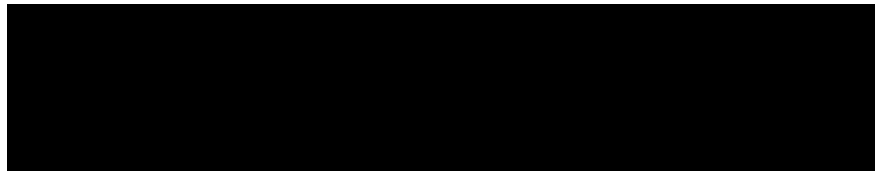


(C) Delta Electricity is party to long term coal supply contracts for the Vales Point power station.



(D) The value of the Colongra power station to the Delta portfolio is mostly the fact that Delta can sell cap contracts against Colongra's generation. Even if cap prices are well below Colongra's average cost, Delta has a strong incentive to sell contracts against Colongra's output, because it has no alternative means of earning regular revenue in relation to that output.¹⁷¹

(E)



¹⁶⁸ Carver, Annexure LC-1.

¹⁶⁹ Carver, Annexure LC-1.

¹⁷⁰ Carver, Annexure LC-1.

¹⁷¹ Carver, Annexure LC-1.

¹⁷² Carver, Annexure LC-1.

¹⁷³ Carver, Annexure LC-1.

[Redacted]

(F)

[Redacted]

[Redacted]

[Redacted]

[Redacted]

(G)

[Redacted]

¹⁷⁴ Carver, Annexure LC-1.

¹⁷⁵ Carver, Annexure LC-1.

(H) Accordingly, Delta is a demonstrated alternative supplier of hedge contracts to independent retailers.¹⁷⁶

END CONFIDENTIAL – NOT TO BE SHARED WITH AGL

- (d) Independent retailers could also seek to obtain hedge coverage by contracting with generators located in other states – for example, by:¹⁷⁷
- (i) entering into hedge contracts with Queensland electricity generators which are priced with reference to the NSW node (as AGL has done); and/or
 - (ii) entering into swap contracts which are priced with reference to a different regional node, and managing the associated inter-regional bases risk by purchasing IRSRs in AEMO settlement residue auctions and purchasing cap contracts referenced to the NSW node.
- (e) Independent retailers will also remain able to manage their exposure to the Pool Price by means other than entering into OTC contracts, such as by trading ETFs and using weather derivatives. The Proposed Acquisition will not affect the availability, or liquidity in the trading of, these instruments.¹⁷⁸
- (f) Relevant examples of retailers obtaining contracts from sources other than AGL are described in paragraph 13.15 below.

10.30 Accordingly, withholding the supply of OTC contracts to retailers who compete with AGL's retail business:

- (a) would have no effect on those retailers' ability to compete in the supply of electricity to retail customers, since those retailers would be able to obtain those products and other risk management instruments from alternative sources; and
- (b) would be economically irrational for AGL, which has a strong incentive to execute OTC contracts at competitive prices, in order to manage its exposure to the Pool Price.

10.31 If the Tribunal grants authorisation on the Conditions set out in Annexure H, those Conditions will impose a further constraint on AGL's conduct in entering into hedge contracts with other retailers, since the effect of those Conditions is as summarised in paragraph 3.5 above.

Horizontal competition analysis: supply of electricity to retail customers

10.32 Following the Proposed Acquisition, the following factors will continue to constrain AGL from raising the prices it charges to retail electricity customers, or lowering the quality of the services it provides to those customers.

- (a) **Competing retailers and ease of customer switching:** AGL competes with Origin Energy, EnergyAustralia and a significant number of other electricity retailers. Customers switch readily between competing electricity retailers. The Proposed Acquisition will not affect the intensity of competition among existing retailers, or the ability of customers to switch readily from one retailer to another.

¹⁷⁶ Carver, Annexure LC-1.

¹⁷⁷ Fowler, [141], [147].

¹⁷⁸ Fowler, [216].

These factors will continue to constrain AGL's retail business following the Proposed Acquisition.¹⁷⁹

- (b) **Low barriers to entry:** the existence of the NEM facilitates intense competition in the retail supply of electricity, because it facilitates essentially unlimited access to a homogenous product (wholesale supply of electricity) at a market determined price, and access to regulated transmission and distribution infrastructure. The low barriers to entry are reflected in the changes in retailers' market share over time, and the success of new entrant retailers in establishing viable retail businesses. Retailers will continue to be able to enter into OTC contracts, ETF trades and other risk management arrangements in order to manage the risks associated with their exposure to the NEM spot price following the Proposed Acquisition, including through the avenues described in paragraph 7.3 above, and pursuant to AGL's obligations under the Conditions (described in paragraph 3.5 above). As a result of these low barriers to participation in the retail electricity market, the prospect of new entry and expansion will continue to constrain AGL's conduct as a retailer following the Proposed Acquisition.¹⁸⁰

11. **IMPORTS**

- (a) **Provide details of the actual and potential level of imports in the relevant market(s) and details of the importers and their suppliers**

11.1 Not applicable.

- (b) **Describe any barriers to importation in the relevant market(s) including whether significant investment in facilities or in distribution arrangements is needed to facilitate importation**

11.2 Not applicable.

- (c) **Describe facilities and distribution arrangements necessary for importation in the relevant market(s), their capacity and who has ownership or control of these facilities and arrangements**

11.3 Not applicable.

- (d) **Provide details of the price of imports as opposed to domestic production in the relevant market(s) and explain any divergence in these prices**

11.4 Not applicable.

- (e) **Provide details as to the extent of constraint which would be likely to be provided by imports on domestic suppliers including the merger parties in the relevant market(s) post-acquisition**

11.5 Not applicable.

12. **EXPORTS**

- (a) **Provide details of the actual and potential level of exports in the relevant market(s)**

12.1 Not applicable.

¹⁷⁹ Brownfield, [2.22], [2.23], and section 3.

¹⁸⁰ Brownfield [2.37] – [2.49], [3.2] – [3.12] and Annexure MB-5.

(b) Describe the export barriers faced by suppliers of inputs to the merger parties in the relevant markets

12.2 **In relation to electricity generation:** the key input into the generation of electricity is coal.

(a) Brown coal is not typically exported from Australia, because its physical and chemical properties (including its high ash content) make it unsuitable for export.¹⁸¹

(b) Australia is a well-established exporter of black coal, and exported 335.86 Mt of black coal in 2012-2013.¹⁸² This suggests that there are no barriers to exporting material to the analysis of the Proposed Acquisition.

12.3 **In relation to electricity retailing:** not applicable.

(c) Provide details of the sale price of exports as opposed to domestic sales in the relevant market(s) and explain any divergence in these prices

12.4 Australian coal exporters are price takers in global export markets, and the price of black coal supplied to domestic customers such as Macquarie Generation is constrained by the price of black coal exported from Australia.¹⁸³

(d) Describe whether the suppliers of inputs to the merger parties are or would be able to export such inputs post-acquisition and, if so, describe the extent of constraint this would be likely to provide on the merger parties post-acquisition

12.5 The ability of suppliers of black coal to Macquarie Generation to export coal will not change as a result of the Proposed Acquisition. [REDACTED]

¹⁸⁴

13. BARRIERS TO ENTRY AND EXPANSION

(a) Provide details of any barriers to entry and expansion in the relevant market(s)

Wholesale electricity

Generation – Key inputs

13.1 This section sets out the key inputs that a new entrant generator would require in order to establish a business to generate and supply electricity in the NEM.

Registration

13.2 The electricity wholesale industry is regulated under (among other things) the National Electricity Law (**Law**) and the National Electricity Rules (**Rules**), and electricity generators must be registered with the Australian Energy Market Operator (**AEMO**) as a market participant under the Rules in order to participate in the NEM.¹⁸⁵

¹⁸¹ <http://www.ga.gov.au/energy/province-sedimentary-basin-geology/coal-geology.html>

¹⁸² Australian Government Bureau of Resources and Energy Economics, Resource and Energy Statistics 2013 publication, page 42. In 2011-2012, Australia exported 8516.4 petajoules of coal (Australian Government Bureau of Resources and Energy Economics data, Table J: Australian energy supply and trade, by fuel type, energy units, available at <http://www.bree.gov.au/publications/australian-energy-statistics/2013-australian-energy-statistics-data>).

¹⁸³ Frontier.

¹⁸⁴ Frontier.

¹⁸⁵ Fowler, [47].

Development approvals

- 13.3 A developer of new generation assets requires government planning, environment and other regulatory approvals. These approvals can take a significant period of time to obtain. For example, the process to acquire approvals from the NSW government equivalent to those currently in place for Macquarie Generation's Bayswater B development site would take approximately two to four years.¹⁸⁶
- 13.4 The development and approvals process for wind generation assets can also lengthy, and typically involves a significant period of community engagement. The duration of the approval process for gas fired generation will depend upon its location. If the proposed site is near residential areas, the process is likely to be lengthy. If the site is not located near residential areas the period is likely to take approximately 2 years. The approvals process for solar generation developments may be shorter than for other generation projects.¹⁸⁷
- 13.5 The table below sets out a summary of planning approval timing for recent gas fired generation developments in NSW for locations that are not near residential areas.¹⁸⁸

Figure 26 – timing for planning approvals for development of gas fired generation¹⁸⁹

Project	DGRs issued	Exhibition period	Determination	Total
Dalton Power Station	19/04/2010	17/08/2011 – 19/09/2011	19/07/2012	27 months
Marulan	03/03/2008	10/09/2008 – 13/10/2008	26/10/2009	19 Months
Burronga	10/08/2007	11/08/2008 – 12/09/2008	06/09/2009	25 months
Wellington	31/01/2007	21/05/2008 – 23/06/2008	04/03/2009	26 months
North West Parkes	28/10/2006	21/11/2007 – 21/12/2007	10/07/2008	21 months
Bamarang	18/08/2005	19/05/2006 – 19/06/2006	27/02/2007	18 months
Uranquinty	18/07/2003	February 2004	04/04/2005	21 months

- 13.6 As this information shows, the planning approval processes for recent gas fired generation projects have taken between 18 and 27 months.¹⁹⁰
- 13.7 Accordingly, planning approval timing is not a significant barrier to entry for gas fired generation projects in NSW.

Capital costs

¹⁸⁶ Fowler, [48].

¹⁸⁷ Fowler, [49].

¹⁸⁸ Fowler, [50].

¹⁸⁹ Fowler, [50].

¹⁹⁰ Fowler, [51].

- 13.8 There are substantial capital costs associated with the development and construction of new generation assets, as well as the supporting infrastructure. The extent of those costs varies depending on the type of generation asset being developed. For example, the development of a base load, coal fired power plant would involve larger total upfront capital costs than development of a gas fired peaking generator. Wind generation developments have large upfront capital costs but relatively low operating costs.¹⁹¹

Access to appropriate site and inputs

- 13.9 A new entrant generator would need to identify a suitable site for their new development, having regard to factors such as the following:¹⁹²
- (a) **Site location** – appropriate sites for electricity generation assets must typically be located proximate to demand centres (e.g., significant population centres and/or commercial and industrial operations) and to appropriate transmission infrastructure, and in the case of renewable energy generators, they must be in a location where there are consistently favourable weather conditions.
 - (b) **Access to fuel and other inputs** – generation developments require long-term access to fuel. Access to appropriate fuel can influence site location. Coal fired power plants require access to significant volumes of thermal coal and water (including appropriate transport, such as rail networks).
 - (c) **Compatibility with community** – generation developments need to be located sensitively with regard to surrounding communities.

Hedge contracts

- 13.10 In order to establish an electricity generation business, a new entrant would require hedge contracting or equivalent risk management arrangements to manage their exposure to the financial risks associated with volatility in the NEM spot price.¹⁹³ In the case of new thermal generation assets with substantial capacity, a new entrant would also be likely to need an associated retail business or "foundation" customer contracts to secure financing.
- 13.11 Two options for managing that risk are entering into over the counter (**OTC**) hedge contracts, and trading in exchange traded futures (**ETFs**).¹⁹⁴
- 13.12 In order to trade OTC hedge contracts, a new entrant generator would need to:¹⁹⁵
- (a) obtain an Australian Financial Services Licence (**AFSL**). This involves an application to ASIC demonstrating that the applicant has the knowledge, experience, financial/human/system resources and compliance programs to provide the relevant financial service and payment of an application fee;
 - (b) maintain the AFSL. This involves complying with the obligations and conditions imposed by the AFSL, including meeting financial adequacy metrics;
 - (c) negotiate and execute ISDA Master Agreements with counterparties;
 - (d) satisfy the credit requirements set by their counterparties. Typical credit requirements are either an investment grade rating, or provision of a corporate or

¹⁹¹ Fowler, [53].

¹⁹² Fowler, [54].

¹⁹³ Fowler, [56].

¹⁹⁴ Fowler, [57].

¹⁹⁵ Fowler, [58].

bank guarantee, subsequent credit requirements could include the provision of additional bank guarantees under credit margining arrangements;

- (e) put in place banking and payment systems for the settlement of the contracts;
- (f) implement an Anti-Money Laundering and Counter-Terrorism Financing compliance program, and meet associated requirements, as regulated by AUSTRAC;
- (g) obtain access to data about prices of OTC contracts – this is typically available through an information service such as those provided by Reuters or Bloomberg; and
- (h) obtain an executing broker service (or, alternatively, engage staff to execute OTC contracts directly).

13.13 In order to trade ETFs on the ASX, a new entrant generator would need to:¹⁹⁶

- (a) enter into an agreement with a futures clearer;
- (b) put in place banking and payments systems for the payment of trade initial margins and daily variation margins;
- (c) have adequate financial liquidity to pay daily margin calls;
- (d) obtain access to price data. This is typically available through an information service such as those provided by Reuters or Bloomberg; and
- (e) obtain an executing broker service.

13.14 OTC contracts and ETFs are readily available from a variety of businesses who trade those instruments, including NEM participants (eg generators and retailers), financial institutions (including international and Australian banks, hedge funds and private investment funds), large industrial customers (for example, aluminium smelters), and energy companies (such as major oil companies or international utilities).¹⁹⁷

13.15 Small retailers are able to obtain hedge contracts through these sources to manage the risks associated with establishing a retail business. For example:

- (a) QEnergy Limited is a national electricity retailer based in Brisbane that specialises in supplying retail electricity to small businesses. QEnergy was established in 2009, and currently has a customer base of just under 18,000 customers. It is QEnergy's experience that:¹⁹⁸
 - (i) AGL supplies contracts to independent retailers using its Loy Yang A power station, and has not attempted to use its market position in a manner adverse to small retailers;
 - (ii) small retailers in NSW are well serviced for the supply of hedge contracts, by generators in NSW and by [REDACTED];
 - (iii) intermediaries and generators (including [REDACTED] [REDACTED] have offered and are prepared to offer "shaped" or load following contracts to small retailers;

¹⁹⁶ Fowler, [59].

¹⁹⁷ Fowler, [60].

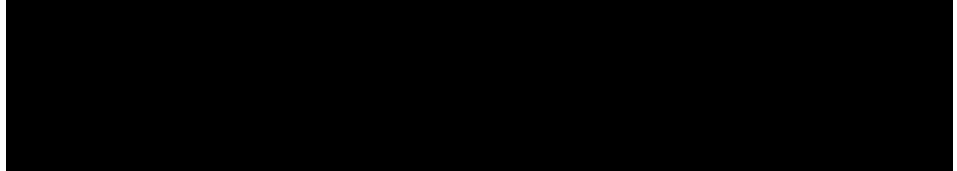
¹⁹⁸ Farrar, [3.4], [3.5], 3.6, [3.7], [3.9], [3.10].

- (iv) while QEnergy initially used shaped contracts it now uses lower cost vanilla contracts; and
- (v) the fact that some NEM generators have vertically integrated into retail operations does not stop them from contracting with small retailers.

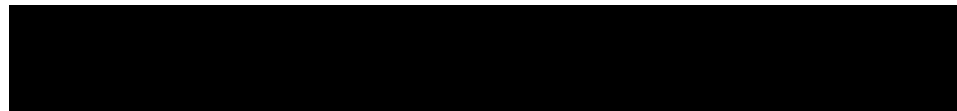
(b)



(i)



(ii)



(c) Powershop is an electricity retailer in Victoria, and is part of the business of Meridian Energy Australia, which also owns wind generation assets in the NEM. It is Powershop's experience that:²⁰⁰

- (i) small retailers are able to obtain hedge contract coverage from a large number of generators and financial intermediaries, particularly because, in current market conditions, generators have surplus generation and seek to contract to reduce the risks associated with that surplus;
- (ii) a small retailer does not require customised load following or reallocation hedge contract arrangements in order to establish a retail business, and Powershop has not bought any such contracts to support its own retail business; and
- (iii) small retailers can use "vanilla" hedge contracts (both exchange traded and "over the counter" products) to establish their retail business, and Powershop has relied on those products to establish its retail business.

Recent new entry and expansion in electricity generation

13.16 The table contained in Annexure G below identifies new entry and expansion in electricity generation the NEM since 2008. A table identifying acquisitions in the NEM since 2008 is also contained in Annexure G.²⁰¹

Potential for expansion by existing generators

13.17 In the last two years several NEM generators have announced plans to withdraw or "mothball" generation capacity that has the potential to be reintroduced in future, including as summarised in the following table.²⁰²



²⁰⁰ Burge, [13], [14], [17], [22].

²⁰¹ Fowler, Annexure AF-9; Brownfield, Annexure MB-8.

²⁰² Fowler, [67], [68].

Figure 27 – Withdrawal/mothballing of generation²⁰³

	Station (owner; node)	Volume	Off date	Return date
1.	Swanbank E (Stanwell; Qld)	385MW	1/10/2014	~3 years
2.	Tarong units 2 and 4 (Stanwell; Qld)	2 x 350MW	Unit 2: October 2012 Unit 4: December 2012	Unit 4: late 2014 Unit 2: mid 2015
3.	Wallerawang unit 8 (Energy Australia; NSW)	500MW	Unit 8: Late March 2014	Unit 8: three month recall if conditions change
4.	Yallourn (1 unit, cycled over time) (Energy Australia; VIC)	380MW	23/10/2012	Returned to 4 units 4/01/2013
5.	Northern (Alinta Energy; SA)	2 x 265MW	01/04/2012, winter only with three week recall	1/10/2014
6.	Playford (Alinta Energy; SA)	240MW	20/04/2012	No set date, available on 70 day recall

13.18 The fact that significant volumes of base load electricity generation have recently been "mothballed" from the NEM, but are capable of being reintroduced in response to a change in market conditions, means that the barriers to expansion in the wholesale supply of electricity are low.²⁰⁴

Potential for establishment of new generation capacity

13.19 The capital costs associated with the development of wind and solar generators are lower in absolute terms than the capital costs associated with base load power stations.²⁰⁵

13.20 Assuming no material change to the current conditions of oversupply and the cost relativities referred to above, if new entry is to occur in the NEM in the short to medium term, it is most likely to occur through the establishment of new wind powered generation, and in particular in large scale wind generation installations (i.e., units with capacity greater than 2MW and wind farms with capacity greater than 100MW).²⁰⁶

13.21 However new entry is also likely to be possible in solar generation, particularly for large scale solar projects (capacity greater than 1MW), which can be established in a short period of time. Several large scale systems have recently been installed or committed (in Royalla ACT, Nyngan, Broken Hill), with the benefit of significant government subsidies.²⁰⁷

13.22 The table included in Annexure F below identifies a limited sample of firms that may be interested in participating in the development of new wind generation projects in the NEM. This list does not include owners of existing major wind generation developments, such as Origin Energy, EnergyAustralia, Meridian, CWP Renewables, Infigen Energy, GE and Goldwind.²⁰⁸

²⁰³ Fowler, [68].

²⁰⁴ Fowler, [72].

²⁰⁵ Fowler, [73] – [79].

²⁰⁶ Fowler, [73] – [79].

²⁰⁷ Fowler, [73] – [79].

²⁰⁸ Fowler, [73] – [79]; Annexure AF-11.

13.23 The table included in Annexure F below also identifies a limited sample of the firms that may be potential investors in new large scale solar generation projects in the NEM.²⁰⁹

Retail electricity

13.24 There are no material barriers to entry in the retail electricity market.

13.25 The significant number of new electricity retailers which have entered and expanded since the introduction of the NEM, and of full retail contestability in States other than Tasmania, demonstrates that barriers to entry and expansion are low. Other retailers that have entered new regions of the NEM and/or expanded in those regions include: People Energy, Diamond Energy, Simply Energy, Click Energy, Qenergy, Powershop, Blue NRG, Alinta Energy, Sanctuary Energy, Momentum Energy, Lumo Energy, Australian Power & Gas, Red Energy.²¹⁰

13.26 Other retailers have achieved the greatest market penetration in the Victorian and South Australian regions of the NEM. Neither of these regions has price regulation and each has a high degree of vertical integration. The primary reason for the historical lack of market penetration by other retailers in New South Wales and Queensland has been the existence and level of regulated prices in that region.²¹¹

13.27 In recent reports on competition in NSW energy retailing:²¹²

(a) the AEMC found that there are no significant barriers to retailers entering, expanding or exiting the retail electricity market, and that barriers to entry in the electricity market are low for new entrants (evidenced, for example, by the recent entry of Click Energy in March 2013); and

(b) IPART stated that "competition in the New South Wales retail electricity market has continued to improve", and that the number of new retailers entering the market since the 2010 determination suggests that barriers to entry continue to be low.

(b) Provide details of any firms not currently supplying or acquiring goods or services in the Relevant Market(s) but which could enter the Relevant Market(s) quickly and provide an effective competitive constraint in the Relevant Market(s) to the merged entity

Wholesale electricity

13.28 There are several classes of firms that would be potential developers of new wind generation projects.²¹³

(a) **Developers** – parties that identify suitable sites for wind generation development, and seek to enter into land access arrangements with landowners. Numerous developers have been active since the commencement of the Renewable Energy Target scheme.

(b) **Original Equipment Manufacturers (OEMs)/Constructors** – most or all of the major wind generation OEMs are represented in Australia. OEMs typically become involved in project construction in Australia (due to a local preference for turnkey

²⁰⁹ Fowler, Annexure AF-11.

²¹⁰ Brownfield, [3.2] – [3.12].

²¹¹ Brownfield, [3.54] – [3.56].

²¹² Brownfield, [3.41] – [3.47].

²¹³ Fowler, [78].

construction), and also frequently supply ongoing operation and maintenance services to developers/owners.

- (c) **Investors** – Developers frequently work with investors to produce an ownership group for projects.

Retail electricity

13.29 Potential new entrants in electricity retailing could include businesses wthat have a strong retail customer base and/or a mass market customer billing platform, (whether or not they are currently energy retailers). For example, banks and telecommunications companies and potential new entrants. New entry in a particular State could also occur by an electricity retailer with operations in another state expanding their business into that particular state. AGL is aware that, on 21 February 2014, the AER accepted an application from Macquarie Bank Ltd (**Macquarie Bank**) for an electricity retailer authorisation under the National Energy Retail Law.²¹⁴

- (c) **Provide details of any firms which have recently tried and failed to enter the relevant market(s), including the reasons (if known) for their failure**

Wholesale electricity

13.30 AGL is not aware of any firms which have recently entered the wholesale electricity market and whose business has failed after entering. AGL is aware that investors look at opportunities in the wholesale electricity market from time to time, and in some cases choose not to pursue a particular opportunity, but is not aware of any such investors which it would consider have "tried and failed" to enter.²¹⁵

Retail electricity

13.31 The table below provides details of firms that have entered the energy retailing market and subsequently failed.

Figure 28 – examples of recent failed new entry²¹⁶

Entity	Summary
Jackgreen	Jackgreen was incorporated in June 2001, and began retailing electricity in New South Wales in January 2005. Jackgreen was the wholly owned subsidiary of the public company, Jackgreen Limited. Jackgreen was suspended from the NEM by the independent market operator on 18 December 2009.
Energy One	Energy One Limited was established in 1996 and listed on the ASX in January 2007. Energy One was an electricity retailer with customers in New South Wales, Queensland, Victoria and the Australian Capital Territory. Energy One was suspended from the NEM on 22 June 2007.

14. DYNAMIC CHARACTERISTICS

Provide details of the dynamic characteristics of the relevant market(s)

14.1 The dynamic characteristics of the markets for the wholesale and retail supply of electricity are addressed in response to questions 4, 5, 7, 9 10 and 13 above.

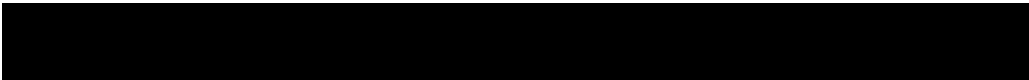
²¹⁴ Brownfield, [2.26] – [2.28].

²¹⁵ Fowler, [64].

²¹⁶ Brownfield, Annexure MB9.

15. VIGOROUS AND EFFECTIVE COMPETITOR

Indicate whether the Target or any other participant in the relevant market(s) could be described as a vigorous and effective competitor to the Applicant or other market participants to any and to what extent, and why.

- 15.1 Macquarie Generation is one of a large number of competitors of AGL. The pricing and dispatch arrangements in the NEM mean that any generator is potentially a vigorous and effective competitor of AGL in the supply of electricity in the NEM.²¹⁷ AGL does not own any NEM scheduled generators in NSW, and so Macquarie Generation is not a close competitor of AGL in a geographic sense. Macquarie Generation does not have a history of distinctive competitive pricing or purchasing behaviour, innovation, growth or independent behaviour.
- 15.2 AGL considers that Origin Energy and Energy Australia are vigorous and effective competitors to AGL, for the following reasons:²¹⁸
- (a) like AGL, they have a history of developing a broad portfolio of energy assets, including a range of types of electricity generation;
 - (b) like AGL, they have rapidly grown their retail businesses, and innovated in relation to the prices and products (including ancillary services) offered to retail customers; and
 - (c) 
- 15.3 In addition, AGL also faces vigorous and effective competition from a number of other vertically integrated generators and retailers, including:
- (a) **GDF Suez (formerly International Power)/ Simply Energy:** has interests in the Hazelwood and Loy Yang B coal-fired power stations in Victoria, and in wind, gas fired and peaking generators in South Australia. It also owns the Simply Energy retail business, which retails electricity and gas to more than 300,000 customer accounts in Victoria and South Australia, and retails electricity to commercial and residential customers in Queensland.²¹⁹
 - (b) **Snowy Hydro Limited/ Red Energy:** owns and operates the Snowy Mountains Scheme and two gas-fired peaking power stations in Victoria. It also owns the Red Energy electricity and gas retail business, which operates in Victoria, South Australia and NSW. Red Energy has approximately 110,000 customers in Victoria. It owns retail licences for the Australia Capital Territory and Queensland, but is not currently active in those states.²²⁰
 - (c) **Hydro Tasmania/ Momentum Energy:** (which is owned by the Tasmanian government) owns extensive hydro-powered generation assets in Tasmania (which have a total generating capacity of 2,615MW), and also owns the Momentum Energy retail business which sells electricity in Victoria, NSW and South Australia (the Tasmanian government also owns the Aurora Energy retail business, which

²¹⁷ Fowler, [40].

²¹⁸ Brownfield, [3.61] – [3.65]; Fowler, [42].

²¹⁹ Brownfield, Annexure MB2, p 43.

²²⁰ Brownfield, Annexure MB2, p 43 – 44.

operates in Tasmania and South Australia). Momentum Energy specialises in serving industrial and business customers, but also serves residential customers.²²¹

- (d) **Alinta Energy:** owns 9 operating power stations in Western Australia, Queensland, Victoria, South Australia and New Zealand, representing approximately 2,500MW of base load, intermediate and peaking power generation; it also retails gas and electricity to 700,000 residential, commercial and industrial customers in Victoria, South Australia and Western Australia.²²²
- (e) **Infratil Energy Australia/Lumo Energy:** owns four peaking power stations totalling 165MW of capacity located at Angaston, Port Stanvac and Lonsdale in South Australia and in the Hunter Valley, New South Wales. Its "sister company", Lumo Energy, retails electricity in Victoria, NSW, Queensland and South Australia. The parent company of both Lumo Energy and Infratil Energy Australia is Infratil Limited, a NZ energy and public transport operator listed on both the New Zealand Stock Exchange and the ASX.²²³

15.4 AGL considers that Origin Energy and EnergyAustralia in general impose a greater competitive constraint on AGL than other retailers. While other retailers are a material factor in the competitive environment in which AGL operates, and do provide an important competitive constraint on AGL, AGL principally considers these other retailers as a class and no other retailer is considered by AGL to individually be a more significant competitor than Origin and EnergyAustralia.²²⁴

16. VERTICAL INTEGRATION

(a) Describe whether the acquisition would, or would be likely to, result in increased vertical integration between firms involved at different functional levels in the relevant market(s).

16.1 AGL is a vertically integrated electricity generator and retailer. The Proposed Acquisition will result in increased vertical integration to the extent that AGL will be "more" vertically integrated as a result of having a larger generation business following the Proposed Acquisition.

16.2 Other than as described in 4.54 above in relation to AGL's hedge contracting with Macquarie Generation, AGL does not buy raw materials, supplies, services, capital or finished products for resale from, or sell raw materials, supplies, services, capital or finished products for resale to, Macquarie Generation.

(b) Describe whether the acquisition would, or would be likely to, increase the risk of limiting the supply of inputs or access to distribution such that downstream or upstream rivals face higher costs post-acquisition or full or partial foreclosure of key inputs or distribution channels

16.3 For the reasons addressed in response to question 10 above, the Proposed Acquisition would not increase or be likely to increase the risk of AGL limiting the supply of wholesale electricity or risk management arrangements to competing electricity retailers.

17. PRICES AND PROFIT MARGINS

(a) Provide details of recent and current levels of pricing in the relevant market(s) including the use of rebates and discounts

²²¹ Brownfield, Annexure MB2, p 44.

²²² Brownfield, Annexure MB2, p 44 - 45.

²²³ Brownfield, Annexure MB2, p 45.

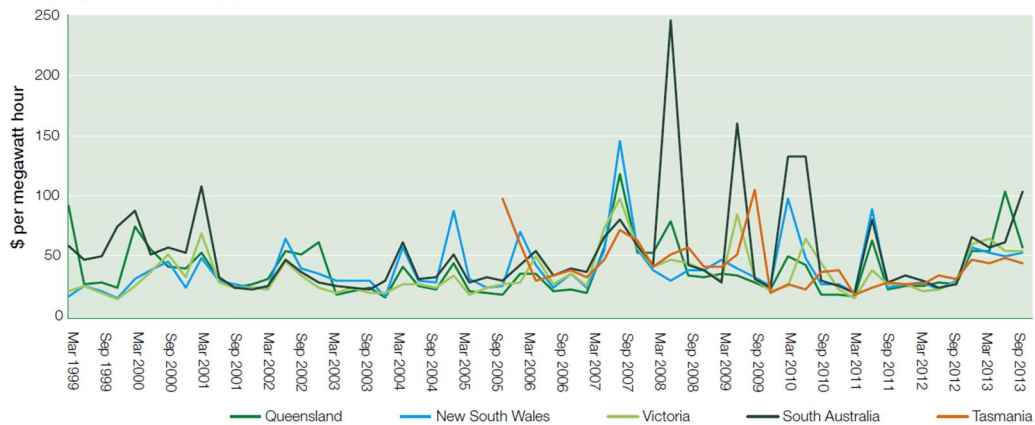
²²⁴ Brownfield, [3.52] - [3.65].

- 17.1 *Figure 29 shows the volume weighted average quarterly Pool Prices for each region of the NEM from March 1999 to present.*

Figure 29 – quarterly spot electricity prices

Figure 1.14

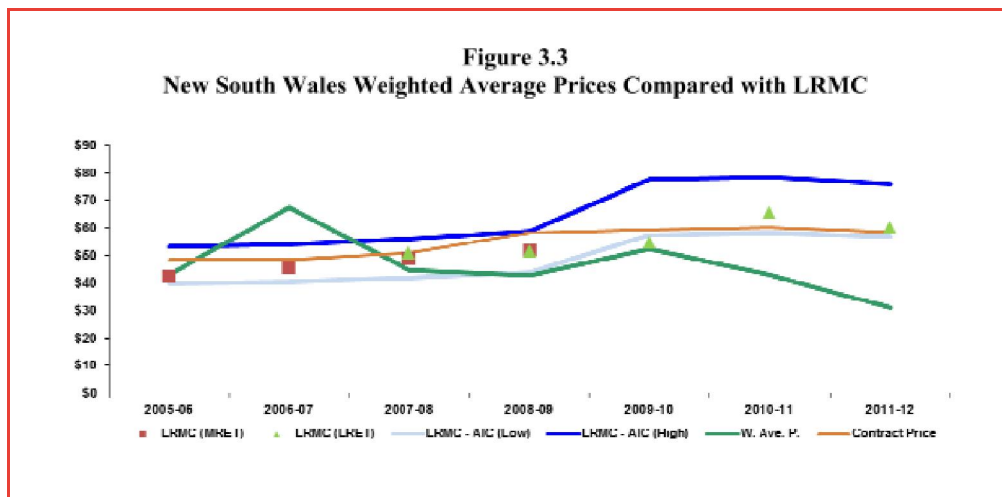
Quarterly spot electricity prices



Note: Volume weighted average prices.
Sources: AEMO; AER.

- 17.2 The following graph compares recent NEM Pool prices in NSW to the Australian Energy Market Commission's (AEMC's) estimates of generators' long run marginal costs, and shows that recent wholesale prices have been below long run marginal cost.²²⁵

Figure 30: Recent NEM wholesale prices and long run marginal cost



Source: NERA, 2012, "Estimates of the long run marginal cost for electricity generation in the National Electricity Market"

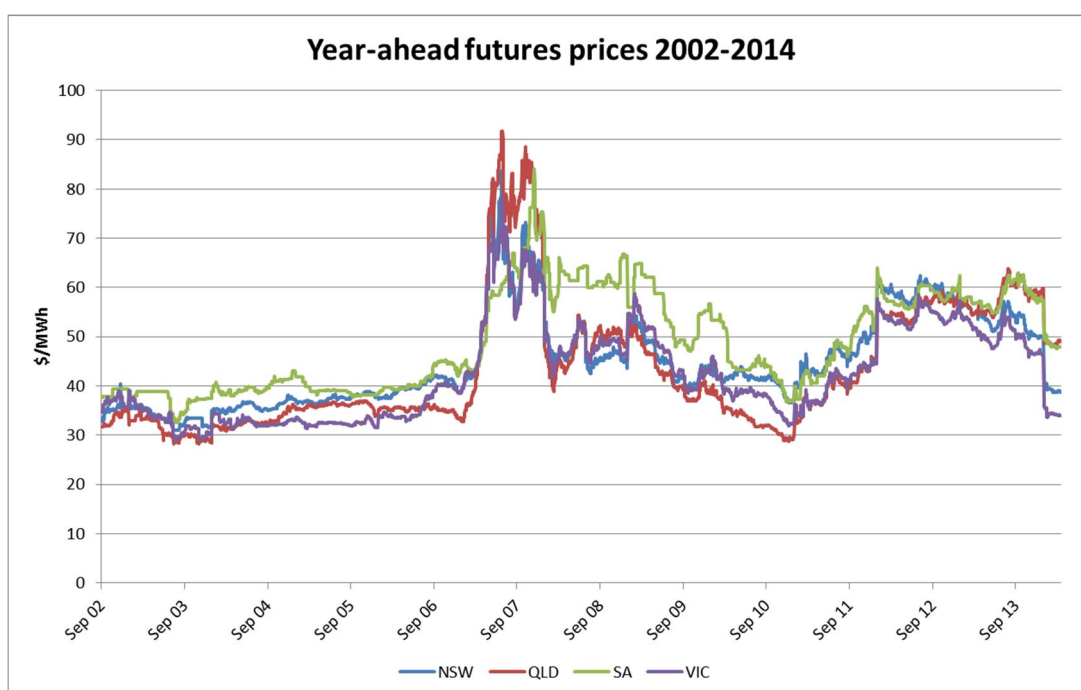
- 17.3 Hedge contracts are traded at a premium to the expectations of future spot prices. Retrospective analysis of contract prices as against actual spot price outcomes is consistent with the proposition that contracts trade at a premium to the pool price. Customised hedge products, which include load following arrangements and/or reallocation arrangements, trade at an additional premium, to reflect the additional risk that a generator takes on under those arrangements.²²⁶

²²⁵ Frontier (Industry) Report, section 6.4.2.

²²⁶ Redman, [137].

- 17.4 AGL's calculations show that the premium of the hedge contract price over the actual NSW spot price for the period from 1 January 2012 to 31 December 2013 was, on average, \$8.41/MWh.²²⁷
- 17.5 The following graph illustrates the level and changes in prices of electricity ETFs, using data produced by ASX Energy. For each year shown below, the graph shows the prices for contracts covering the following calendar year period, as reported by the ASX, for contracts priced with reference to NSW, Queensland, South Australia and Victoria.²²⁸

Figure 31 – ETF prices (prices for ETF contracts for the following calendar year)



- 17.6 Retail electricity prices have increased in recent years. Data from the Australian Bureau of Statistics indicates that household retail electricity prices have increased by about 70% over the past ten years. Regulated retail electricity prices have more than doubled in NSW in nominal terms over the past 6 years. This is principally due to increases in network (transmission and distribution) costs, which comprise approximately half of a typical residential customer's annual electricity bill, and the increased costs associated with environmental schemes, such as the carbon tax.²²⁹
- 17.7 The average electricity revenue per customer for the year ended 30 June 2013 was approximately \$1,650.²³⁰

(b) Provide details of supply costs of goods and services supplied by the merger parties including manufacturing, marketing and distribution costs in the relevant market(s)

Merchant Energy

- 17.8 The following information is provided in addition to the information in paragraphs 6.3 to 6.5 above.

²²⁷ Redman, [141].

²²⁸ Fowler, [158].

²²⁹ Frontier (Industry) Report, section 6.4.

²³⁰ Redman, [31].

17.9 EPM is responsible for making bids for dispatch of AGL's generation to the AEMO in accordance with the National Electricity Rules. The NEM operates as a gross energy pool which means (with limited exceptions) all electricity generated by registered generators is settled at the spot price and AEMO pays the generators for that generation. **Figure 32** below sets out the "pool sales" receipts received by AGL for the financial year ending 30 June 2013. AGL's average pool receipt was [REDACTED] on a per megawatt hour basis. **Figure 33** below sets out the "pool purchases" by AGL for the financial year ending 30 June 2013. AGL's average pool purchase price was [REDACTED] on a per megawatt hour basis.²³¹

Figure 32 – NEM pool receipts (pool sales \$ and \$ per PWh)²³²

Item	Value
Pool sales	[REDACTED]
GWh	20,545
\$ per MWh	[REDACTED]

Figure 33 – NEM pool purchases (pool sales \$ and \$ per PWh)²³³

Item	Value
Pool Purchases	[REDACTED]
GWh	[REDACTED]
\$ per MWh	[REDACTED]

17.10 EPM also buys and sells "hedge contracts". In the ordinary course, AGL generates financial information about its hedge trading on a "net basis" – that is, the net position having regard to receipts from hedges sold and payments in relation to hedges bought. **Figure 34** sets out the "net" position for the various categories of hedges and other risk management products traded by EPM.²³⁴

²³¹ Redman, [22].

²³² Redman, [22].

²³³ Redman, [22].

²³⁴ Redman, [23].

Figure 34 – NEM derivatives²³⁵

	Year ended 30.06.13 \$ million
Hedges	█
Futures	█
Settlement residual auctions	█
Hedge premiums	█

17.11 The net positions of a █ and █ losses on hedge and futures trading for the period obscures the volume and value of trading that AGL undertakes over the course of a year. While AGL does not report on gross sales and payments in relation to hedges and derivatives the gross or face value of contracts traded in the year ending 30 June 2013 is set out in **Figure 35**.²³⁶

Figure 35 – Face value of derivative contracts traded²³⁷

	Year ended 30.06.13 \$ million
OTC	█
SFE	█

17.12 Merchant Energy is also responsible for the conduct of the AGL's retail business for industrial and commercial customers, as distinct from mass market retail and small to medium sized businesses. Business Customers is the unit within Merchant Energy that manages AGL's approximately 20,000 Business Customer energy accounts, but not individual smaller industrial and commercial customers or consumer market customers. Like the "internal transfer price" between the Merchant Energy and Retail Divisions in AGL, the internal financial reporting for the Business Customer Unit is undertaken on the basis of an "internal transfer price" from the EPM Unit. This reporting structure provides management within the Business Customers' Unit appropriate financial incentives and accountabilities. "Business Customers" are described as large single site customers.²³⁸

17.13 **Figure 36** sets out the revenue and certain (but not all) costs associated with the business of selling electricity to industrial and commercial customers for the year ending 30 June 2013.²³⁹

²³⁵ Redman, [24].

²³⁶ Redman, [25].

²³⁷ Redman, [25].

²³⁸ Redman, [26].

²³⁹ Redman, [27].

Figure 36 – Business Customers²⁴⁰

Electricity gross margin	Year ended 30.06.13 \$ million
Revenue	██████
Commodity and green transfer price (internal)	██████
Network charges	██████
Metering	██████
Market fees and charges	██████
Sales commissions	██████
Other	██████
Gross margin	65

Retail division

17.14 **Figure 37** below outlines the revenue and costs for AGL's Retail business for the financial year ending 30 June 2013. It includes costs relating to both electricity and gas because many of the customer service costs are common.

Figure 37 – Retail revenue and costs²⁴¹

FY13	
Revenue	
- Electricity	3,541.7
- Gas	1,302.3
- Other fees and charges	82.6
Total Revenue	4,926.6
Cost of Sales	
- Electricity	(3,078.1)
- Gas	(1,064.3)
Total Cost of Sales	(4,142.3)

²⁴⁰ Redman, [27].

²⁴¹ Redman, [28].

FY13	
Gross Margin - Electricity	463.6
Gross Margin - Gas	238.0
Other fee and charges	82.6
Gross Margin	784.3
Operating Costs (excl D&A)	
- Labour & Contractor Services	(141.8)
- Net Bad Debt Expense	(48.0)
- Campaigns & Advertising	(76.4)
- Other	(86.9)
Total Operating Costs (excl D&A)	(353.1)
Depreciation & Amortisation	(75.6)
Operating EBIT	355.5

17.15 One of the costs of electricity is the internal transfer price paid by Retail to Merchant Energy.²⁴²

17.16 **Figure 38** sets out AGL's customer numbers as at 30 June 2013.²⁴³

Figure 38 – AGL customer numbers²⁴⁴

Customer Numbers (‘000)					
	VIC	NSW	SA	QLD	Total
Elec	611	717	444	374	2146
Gas	482	683	129	77	1371
Total	1093	1400	573	451	3517
Elec	17.4%	20.4%	12.6%	10.6%	61.0%
Gas	13.7%	19.4%	3.7%	2.2%	39.0%
Total	31.1%	39.8%	16.3%	12.8%	100.0%

17.17 Based on the data contained in **Figure 37** and **Figure 38**, the average electricity revenue per customer for the year ended 30 June 2013 was approximately \$1,650.²⁴⁵

(c) Describe the competitive constraints, if any, which would, or would be likely to, prevent the merger parties from being able to significantly and sustainably increase the prices paid by their customers, or lower the prices paid to their suppliers, post-acquisition in the relevant market(s)

²⁴² Redman, [29].

²⁴³ Redman, [30].

²⁴⁴ Redman, [30].

²⁴⁵ Redman, [31].

17.18 These competitive constraints are described in the response to question 4, 5, 7, 9 10 and 13 above.

(d) Describe the impact of the acquisition on the potential for coordinated conduct between remaining competitors in the relevant market(s) post-acquisition

17.19 There is very limited potential for coordinated conduct between AGL's generators and other electricity generators, as a result of the following factors: ²⁴⁶

- (a) a large number of generators supply electricity in the NEM, and there is very low concentration in the supply of electricity in the NEM. Following the Proposed Acquisition, AGL estimates that the HHI for the NEM would be in the order of 1,115 to 1,206, with a delta of between 228 and 262 (depending on whether the Proposed Acquisition is considered in terms of generation dispatched in FY13, capacity or pool revenue).
- (b) AGL's incentives are not inherently aligned with those of its competitors:
 - (i) AGL, Origin Energy and Energy Australia have differently composed generation portfolios, and different combinations of retail load and hedge contracting portfolios, which mean that there is considerable variation between them (nationally and across different States) in the extent to which they are "long" or "short" to the NEM spot price (i.e., a net seller or net buyer of electricity in the NEM).
 - (ii) Several of the largest generators in the NEM (and many of the other generators) are not vertically integrated, and so face materially different incentives to AGL, Origin and EnergyAustralia. Accordingly, there is limited homogeneity of generators in the NEM, and no homogeneity of such an extent as would facilitate coordinated conduct.
- (c) Seeking to raise prices in the NEM, whether unilaterally or through coordinated conduct, would involve significant cost, risk and uncertainty for generators involved in coordinated conduct, as a result of the sustained, intense competition among generators in the NEM.
- (d) While there is transparency in the NEM to the extent that data on market participants' bids is released by AEMO, there is little transparency in relation to hedging practices. While prices of ETFs are publically available, there is no comprehensive, transparent and contemporaneous record of the terms and prices of OTC contracts.
- (e) Although market participants in the NEM engage in repeated interactions to the extent that they bid and dispatch generation in the same regulated market, these repeated interactions are unlikely to facilitate collusion given the constantly and rapidly changing nature of the power system itself and the very high-dimensional strategy space at each dispatch interval. The extent to which AGL interacts with Origin Energy, EnergyAustralia and other generators in relation to the entry into hedge contracts is likely to decrease following the Proposed Acquisition, since AGL will be able to use Macquarie Generation's power stations to hedge its NSW retail load, and will have reduced need to purchase hedge contracts from competing generators.
- (f) Several NEM participants are vertically integrated generators and retailers of electricity, and a number are also producers and retailers of gas. However, in light of the factors identified above, the fact that participants in the NEM are also

²⁴⁶ Frontier (Competition) Report, section 5.1.2.

involved in other markets does not give rise to a capacity to "punish" independent conduct, or any other conditions which might facilitate coordinated conduct in the wholesale supply of electricity.

17.20 These factors will continue to exist following the Proposed Acquisition.

17.21 The Proposed Acquisition will not increase concentration, and will not alter the potential for coordinated conduct, in the retail electricity market.

(e) Describe the likely impact of the acquisition on the profit margins of the merger parties post-acquisition and the expected cause of any change

17.22 AGL has not undertaken any analysis of the impact of the Proposed Acquisition on profit margins.

18. RELATED MARKETS

(a) Describe the extent of complementarity between products supplied by the merger parties

18.1 Not applicable – there is no complementarity between the wholesale and retail supply of electricity, which occur at separate functional stages in the electricity supply chain.

(b) Describe the extent to which the products identified above are, or could be, offered to customers as a product range through bundling or tying

18.2 Not applicable – there is no scope for bundling or tying the supply of wholesale and retail supply of electricity to customers.

(c) Describe the competitive constraints that would, or would be likely to, prevent such bundling or tying from significantly foreclosing the ability of the merged entity's competitors to compete, including foreclosure of access to distribution by the merged entity's competitors

18.3 Not applicable.

19. DETRIMENT FROM A LESSENING OF COMPETITION

Having regard to the information provided above, and any other relevant information, describe any detriment which would or would be likely to flow from a lessening of competition as a result of the acquisition

19.1 As a result of the factors set out in the responses to questions 4, 5, 7, 9 10 and 13 above, the Proposed Acquisition will not lead to any lessening of competition in relation to the generation and wholesale supply of electricity in the NEM, or the retail supply of electricity in NSW.

20. OTHER PUBLIC DETRIMENT

Describe any public detriment likely to result from the proposed acquisition that has not already been described above

20.1 Not applicable.

21. PUBLIC BENEFIT CLAIMS

(a) Describe any public benefit in the form of increased efficiencies (for example, economies of scale or scope) which would, or would be likely to, result from the acquisition

Increased availability and efficiency from AGL ownership of Bayswater and Liddell

21.1 Following the Proposed Acquisition, AGL will:²⁴⁷

- (a) invest approximately \$345 million in the maintenance of, and capital expenditure on, the Bayswater and Liddell power stations over the projected life of those assets, in addition to the planned levels of future investment in Bayswater and Liddell of current Macquarie Generation management;
- (b) apply [REDACTED] AGL's technical capability and expertise to the maintenance and operation of the Bayswater and Liddell power stations; and
- (c) capture annual cost savings in labour costs, and improve Macquarie Generation staff engagement to create value.

21.2 As set out in more detail below, these outcomes will deliver public benefits.

Increased maintenance and capital expenditure

21.3 Prior to making a bid for the Proposed Acquisition, AGL conducted a detailed technical due diligence process in relation to the condition, operation, maintenance and management of the Bayswater and Liddell power stations. Particularly, AGL's technical due diligence team assessed:²⁴⁸

- (a) the asset management plans and strategies, including the maintenance and capital expenditure forecasts, for the Bayswater and Liddell power stations; and
- (b) the forecast availability of the Bayswater and Liddell power stations,

of Macquarie Generation management (provided to AGL in the due diligence process).

21.4 In January 2014, AGL's technical due diligence team concluded that AGL would have to spend an additional \$345 million over the Macquarie Generation management expenditure forecasts (the **MacGen Case**), over the expected life of the Bayswater and Liddell power stations, in order to achieve AGL's objectives, which are as follows:²⁴⁹

"Liddell: Manage issues to 2022 without stranding capital, low capacity factor, able to tolerate high forced outage. Operation must be safe.

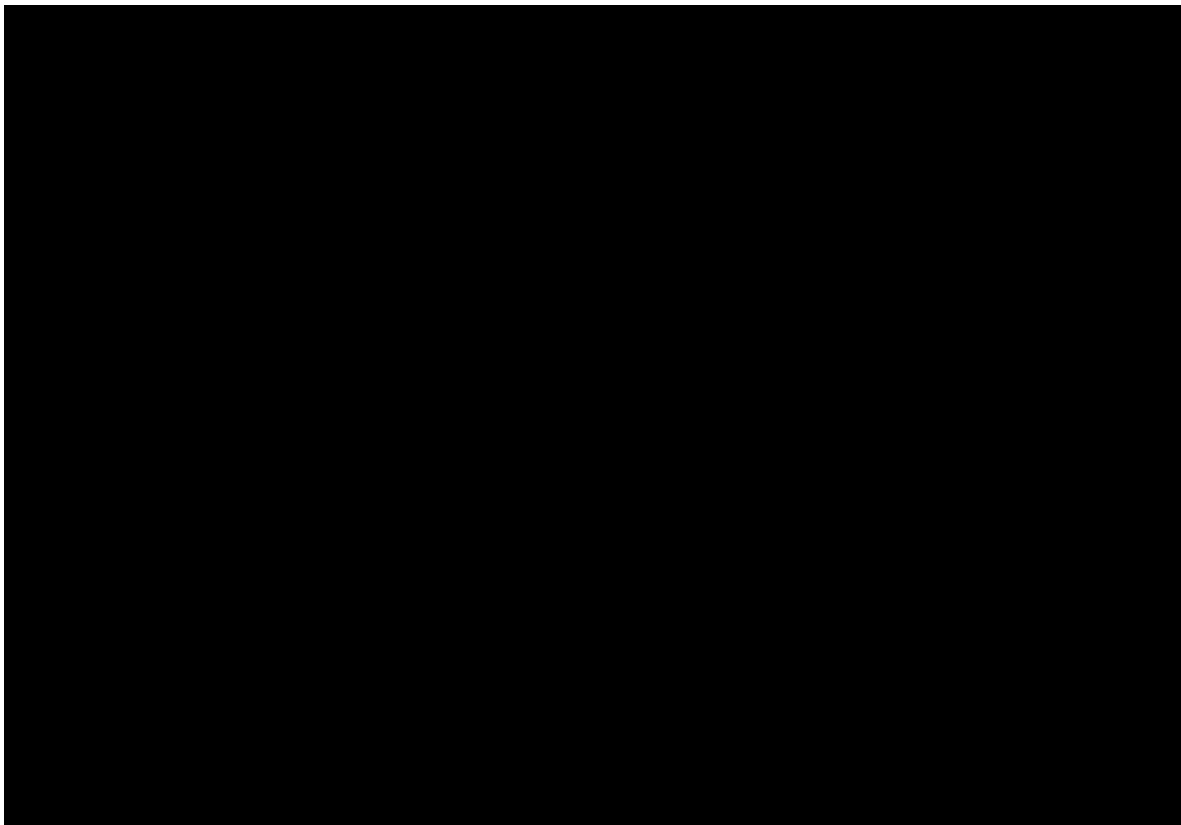
Bayswater: Optimise Bayswater risks and production plans to cost effectively meet market needs through to 2035. High availability & reliability, and high capacity factor required. Operation must be safe."

21.5 In respect of the Bayswater power station, the technical due diligence team forecast that AGL would have to spend an additional \$304 million over the MacGen Case expenditure forecasts, over the expected life of the Bayswater power station, to achieve the objectives set out in paragraph 21.4. The forecast timing of that expenditure and the resulting plant availability performance outcomes are set out in the charts below.

²⁴⁷ Schumacher, [41], [53], [55]; Fowler [250].

²⁴⁸ Schumacher, [17] - [21].

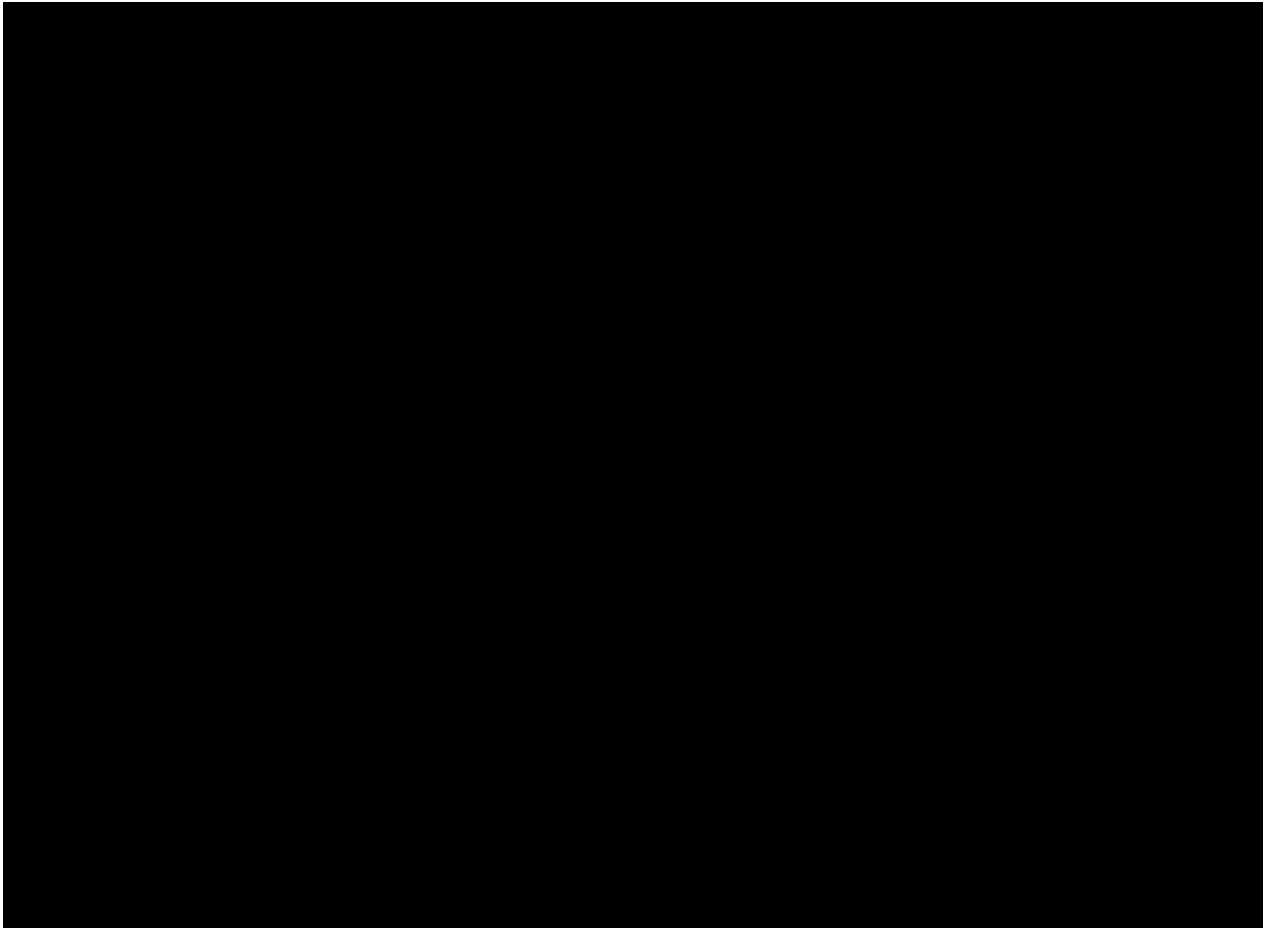
²⁴⁹ Schumacher, GS19 (as set out in the AGL "Project Hunter Internal Due Diligence Report", 14 January 2014).




21.6 In the case of the Liddell power station, the technical due diligence team forecast that AGL would have to spend an additional \$41 million over the MacGen Case expenditure forecasts, over the expected life of the Liddell power station to 2022, to achieve the objectives set out in paragraph 21.4.²⁵¹ The forecast timing of that expenditure and the resulting plant availability performance outcomes are set out in the chart below.

²⁵⁰ [Redacted]

²⁵¹ Schumacher, GS19 (AGL Board presentation, "Project Hunter Due Diligence presentation", January 2014, slide 14).



- 21.7 Further details of the work and conclusions of the AGL technical due diligence team are set out in the statement of Glenn Schumacher.
- 21.8 In assessing the Macquarie Generation assets and developing its conclusions, the AGL technical due diligence team:²⁵³
- (a) drew upon technical expertise within AGL, its consulting engineers, Evans & Peck, and other expert consultants; and
 - (b) 
- 21.9 The forecast additional expenditure of \$345 million over the MacGen Case expenditure forecasts was applied by AGL in the valuation model that it used to formulate its bid for the Macquarie Generation assets.²⁵⁴
- 21.10 The AGL technical due diligence team assessed the likely impact, in terms of forecast availability of the Bayswater power station over the period to 2035, of spending less than the AGL forecast of \$304 million over the MacGen Case expenditure forecasts, referred to above. The technical due diligence team prepared the chart below, which was presented to the AGL board on 21 January 2014.²⁵⁵

²⁵² 

²⁵³ Schumacher, [16].

²⁵⁴ Fowler, [235]; Schumacher, [52].

²⁵⁵ Schumacher, GS20 (AGL Board presentation, "Project Hunter Supplementary issues", 21 January 2014, slide 21).

21.11

21.12 If:

- (a) [REDACTED] the Macquarie Generation Bayswater and Liddell assets; or
- (b) increased levels of maintenance and capital expenditure, as proposed by the AGL technical due diligence team, are not implemented or are delayed by several years (or more):
 - (a) the cost of maintaining and operating those assets, at AGL's intended levels of availability over their projected life, will rise; and
 - (b) for so long as the plans or increased expenditure are not implemented, there will be higher risk of unplanned plant failure (including catastrophic failure), than otherwise would be the case; and
 - (c) in the event of such unplanned plant failure, overall repair and ensuing maintenance costs of those assets will be higher.

²⁵⁶ Schumacher, GS20 (AGL Board presentation, "Project Hunter Supplementary issues", 21 January 2014, slide 21).

21.13 Following the Proposed Acquisition, AGL is committed to implementing [REDACTED] for the Bayswater and Liddell power station assets, and to spending approximately \$345 million more than the MacGen Case expenditure forecasts, in maintaining those assets, for the following reasons:²⁵⁷

- (a) that level of expenditure is expected to be required so that the Bayswater and Liddell power stations are likely to be available as required by AGL, as set out in paragraph 22.4 above;
- (b) the NPV valuation of the Bayswater power station is maximised by doing so; and
- (c) higher rates of unavailability for the Bayswater power station are avoided.

Further efficiencies

21.14 In relation to employees at Macquarie Generation, the AGL technical due diligence team found that several efficiencies will accrue upon completion of the Proposed Acquisition, as follows:²⁵⁸

- (a) [REDACTED]
- (b) with "solid leadership, a clear mission and well executed asset plans", AGL will be able to increase staff engagement and "create value" (which has not been quantified by AGL).

21.15 [REDACTED]²⁵⁹

21.16 However, pursuant to the terms of the SPA,²⁶⁰ AGL is obliged, in summary terms, not to terminate the employment of Macquarie Generation employees post-acquisition, for a period of four years (unless a temporary employee's contract terminates prior to that point), except:

- (a) for serious misconduct;
- (b) pursuant to the proper application of reasonable disciplinary procedures; or
- (c) by agreement with the employee.

21.17 **Figure 40** and **Figure 41** above show the increased levels of maintenance and capital expenditure at Bayswater and Liddell. At Bayswater, the increased expenditure over the MacGen Case expenditure forecasts exceeds \$190 million for the 5 years from FY15 to FY19. At Liddell, over the same period, AGL expects to spend approximately an additional \$35 million. In expending these increased amounts in maintenance and capital investment at Bayswater and Liddell, AGL will generate employment for contractors and

²⁵⁷ Fowler, from [235].

²⁵⁸ Fowler, [247] - [249]; Schumacher, GS20 (AGL Board presentation, "Project Hunter Supplementary issues", 21 January 2014, slide 22); Schumacher, GS19 (AGL Board presentation, "Project Hunter Due Diligence presentation", January 2014, slide 25).

²⁵⁹ Fowler [247] - [249].

²⁶⁰ See clause 15.6(c) of the SPA, contained in Annexure BAR 25 to the affidavit of Brett Redman.

employees in the Hunter Valley region in addition to the employment levels referred to in paragraph 21.14 above.²⁶¹

Public benefits

21.18 The following public benefits will result from the facts set out above.

Benefits from increased availability of Bayswater, at lower cost

21.19 Bayswater is and will remain a 2,640MW base load power station in the NEM. Bayswater has the lowest short run carbon adjusted marginal cost of any thermal generators of scale in NSW. Upon AGL completing the Proposed Acquisition, [REDACTED] and its maintenance/capital expenditure forecasts referred to above, there will be:

- (a) higher levels of likely availability of generation units at the Bayswater base load power station to generate electricity for supply into the NEM than would otherwise occur;
- (b) lower risk of unplanned plant failure (particularly catastrophic plant failure) and resulting forced outage of generation units at Bayswater than would otherwise occur, and reduced risk of the higher repair and maintenance costs involved in plant failure;
- (c) a reduced requirement for AGL to have other higher cost generation plant on line but not generating at full capacity ("spinning reserve"), as a result of greater confidence in the efficient operation of the Bayswater power station;
- (d) likely reduced incidence of plant start-ups at Bayswater;
- (e) reduced environmental impact as a result of:
 - (i) operating all generation units at Bayswater at high levels of efficiency and capacity factor;
 - (ii) reduced incidence of start-ups; and
 - (iii) avoiding or minimising the need for spinning reserve at Liddell;
- (f) safer operation of the Bayswater power station;
- (g) reduced overall cost of maintenance, repair and capital investment in the Bayswater power station assets, over their projected life to 2035;
- (h) increased prospect of efficiently extending the operation of the Bayswater power station beyond 2035, or preserving that option at lower cost;
- (i) likely reduced price volatility and lower prices in the wholesale supply of electricity into the NEM; and
- (j) potential deferral of further investment in base load generation assets in NSW and cost savings from that deferral,

thereby delivering a more reliable, long-term, baseload electricity supply into the NEM, at lower cost and with reduced environmental impact. These outcomes are consistent with the objectives of the National Electricity Law.²⁶²

²⁶¹ Bunyon.

Benefits from increased availability of Liddell, at lower cost

21.20 Liddell is operated as an intermediate generator in the NEM. It comprises four 500MW units, generally operated at lower levels of dispatch into the NEM than base load generation assets. Upon completing the Proposed Acquisition, [REDACTED] and its maintenance/capital expenditure forecasts referred to above, there will be:²⁶³

- (a) higher levels of likely availability of generation units at the Liddell power station to generate electricity for supply into the NEM than would otherwise occur;
- (b) lower risk of unplanned plant failure (particularly catastrophic plant failure) and resulting forced outage:
 - (i) of generation units at Liddell than would otherwise occur, and reduced risk of the higher repair and maintenance costs involved in plant failure; and
 - (ii) occurring at Bayswater, in a context where sufficient capacity at Liddell to cover the resulting loss of generation capacity at Bayswater is not readily available;
- (c) likely reduced incidence of plant start-ups at Liddell;
- (d) reduced environmental impact as a result of:
 - (i) operating generation units at Liddell at high levels of efficiency and continuous output; and
 - (ii) reduced incidence of start-ups;
- (e) safer operation of the Liddell power station;
- (f) reduced overall cost of maintenance, repair and capital investment in the Liddell power station assets, over their projected life to 2022; and
- (g) increased availability of the Liddell units as back-up generation capacity for dispatch into the NEM in the event of unplanned outage at Bayswater or elsewhere;
- (h) likely reduced price volatility and lower prices in the wholesale supply of electricity into the NEM; and
- (i) potential deferral of further investment in baseload generation assets in NSW and cost savings from that deferral,

thereby delivering a more reliable electricity supply into the NEM, at lower cost and with reduced environmental impact. These outcomes are consistent with the objectives of the National Electricity Law.

Benefits in depth/availability of hedging arrangements for retailers

²⁶² Section 7 of the *National Electricity Law* provides that:

"The objective of this Law is to promote efficient investment in, and efficient operation and use of, electricity services for the long term interests of consumers of electricity with respect to:

- (a) price, quality, safety, reliability and security of supply of electricity; and
- (b) the reliability, safety and security of the national electricity system."

²⁶³ See Bunyon; Fowler; Schumacher.

21.21 All else equal, higher levels of likely availability of the generation units at the Bayswater and Liddell power stations will, in turn, result in increased supply of hedge contracts for electricity retailers.²⁶⁴

21.22 Where a generator has increased the reliability and likely availability of its generation capacity, the generator will incur less risk in selling hedge contracts. In this context, [REDACTED]

Employment in the Hunter Valley region

21.23 [REDACTED] AGL will employ (or will retain contractors which, in turn, will employ) further technicians and other labour in the Hunter Valley region, in implementing AGL's planned increased levels of capital and maintenance expenditure at Bayswater and Liddell.

Vertical integration efficiencies

21.24 The vertical integration of AGL with the Macquarie Generation assets will result in significant cost reductions and other efficiencies. In the competitive context in which AGL will operate, these efficiencies are likely to result in lower electricity prices for end customers.²⁶⁵

21.25 A stand-alone retailer will:²⁶⁶

- (a) commonly prefer short term, variable quantity hedge contracts, so as to minimise the risk of future periods of low spot prices resulting in the retailer having higher energy purchase costs than its competitors (although it may prefer less costly standard hedging instruments, rather than variable load contracts, as the retailer's customer base grows);
- (b) incur transaction costs and hold-out risks in having to secure hedge contracts to manage its energy purchase cost risk; and
- (c) not be able to cover all of its market risk with hedge contracts, other than at very high cost.

21.26 A stand-alone generator will:²⁶⁷

- (a) prefer longer term, fixed quantity hedge contracts, to assure dispatch and ensure that its largely fixed costs are met;
- (b) incur transaction costs and hold-out risks in having to secure hedge contracts to manage its energy sales risk; and
- (c) not be able to cover all of its market risk with hedge contracts, other than at very high cost.

21.27 AGL and Macquarie Generation currently have these preferences and incur these costs, as non-integrated retailer and generator in NSW, respectively.

²⁶⁴ Fowler [251].

²⁶⁵ Fowler, [242], [245].

²⁶⁶ Frontier (Competition) Report, section 6.2.

²⁶⁷ Frontier (Competition) Report, section 6.2.

21.28 Post-acquisition, in avoiding these costs and divergent preferences, an integrated AGL/Macquarie Generation is likely to incur lower costs than the sum of the costs of the stand-alone retailer and stand-alone generator operations currently.²⁶⁸

21.29 As described in section 10 above, post-acquisition, AGL will operate in competitive markets for:

- (a) the generation and wholesale supply of electricity in the NEM or, in the alternative, in New South Wales; and
- (b) the retail supply of electricity to end customers in all of the NEM regions or, in the alternative, in New South Wales.

In this context, AGL's lower costs referred to above are likely to result in lower prices in both markets.

(b) Describe whether the acquisition would, or would be likely to, result in a significant increase in the real value of exports

21.30 Not applicable.

(c) Describe whether the acquisition would, or would be likely to, result in significant substitution of domestic products for imported goods

21.31 Not applicable.

(d) Detail any public benefit claims relating to the international competitiveness of any Australian industry arising from the acquisition

21.32 Not applicable.

(e) Detail any other public benefit claims

Funds invested in NSW public infrastructure

21.33 The gross sale proceeds from the Proposed Acquisition will be \$1.505 billion by way of purchase price payable by AGL, and a further \$220 million by way of cash currently held by Macquarie Generation.²⁶⁹

21.34 The proceeds from the Proposed Acquisition must be paid to the State into the Restart NSW Fund, subject only to specific authorised deductions from the transaction proceeds, as may be approved by the Treasurer of NSW.²⁷⁰

21.35 As at 30 June 2013, Macquarie Generation had "total borrowings" of \$710.6 m. On the basis that:²⁷¹

²⁶⁸ Frontier (Competition) Report, section 6.2.

²⁶⁹ Ergas.

²⁷⁰ Section 6 of the Electricity Generator Assets (Authorised Transactions) Act 2012 (NSW). The permitted deductions are (shortly put):

- to repay debt or other liabilities "in respect of electricity generator assets transferred for the purposes of an authorised transaction";
- to reimburse agencies for payments made by them for any tax, duty, fee or charge in connection with a transaction arrangement;
- to satisfy "any liability of a public sector agency arising under or in connection with a transaction arrangement"; or
- to meet expenses reasonably incurred by public sector agencies for the purposes of an authorised transaction.

²⁷¹ Fowler, AF-22.

- (a) debt held by Macquarie Generation of approximately that amount will be repaid from the proceeds of the sale (as is permitted); and
- (b) other permitted deductions from the proceeds of the sale will be relatively small,

AGL assumes that approximately \$1 billion will be transferred to the Restart NSW Fund upon completion of the Proposed Acquisition by AGL.

21.36 The *Restart NSW Fund Act 2011* (NSW) establishes the Restart NSW Fund. The purpose of the fund, per section 6, is "to improve economic growth and productivity in the State" of NSW and particularly:²⁷²

- "(a) to fund major infrastructure projects²⁷³;*
- (b) to fund infrastructure projects that will improve:*
 - (i) public transport;*
 - (ii) roads, and*
 - (iii) infrastructure required for the economic competitiveness of the State (including movement of freight, inter-modal facilities and access to water); and*
 - (iv) local infrastructure in regional areas that are affected by mining operations;*
 - (v) hospital and other health facilities and services; and*
 - (vi) workplaces for law and justice officers, teachers, nurses, and other staff providing services to the public."*

21.37 In NSW, there are public infrastructure deficiencies in urban road capacity, bus and train services to the Sydney CBD, regional rail services, regional water supply and wastewater management, flood mitigation, and in the capacity of hospitals and schools.²⁷⁴

21.38 On 12 February 2014, upon entering into the conditional agreement to sell Macquarie Generation to AGL, the Treasurer of NSW stated that, "the sale will allow us to recycle the value of the asset on our balance sheet, which means more money for critical road, school and hospital projects across NSW".²⁷⁵

21.39 The NSW Government is constrained in its ability to fund (or to finance) new infrastructure in NSW. Those constraints include:²⁷⁶

- (a) all new public infrastructure is ultimately to be funded by user charges or taxation;
- (b) the NSW Government has clear incentives to retain its AAA credit rating;
- (c) increasing NSW Government taxation rates would be economically costly; and
- (d) other reasonably available sources of funding are restricted to:
 - (i) proceeds of asset sales and other windfall gains;

²⁷² Ergas.

²⁷³ A "major infrastructure project" is defined as "an infrastructure project: (a) that has a capital investment value of more than \$100m; or (b) that is nominated by the Premier as a special project requiring oversight or coordination by Infrastructure NSW".

²⁷⁴ Ergas.

²⁷⁵ Redman, BAR-23.

²⁷⁶ Ergas.

- (ii) reduction of public transport and other government subsidies;
- (iii) reduction in other existing government expenditure;
- (iv) reprioritisation of other government capital expenditure plans; and
- (v) Commonwealth government contributions (which are not controlled by the NSW government).

21.40 The NSW Government has stated that no other bid for Macquarie Generation exceeded the State's retention value, and that if the AGL bid does not proceed, "the Government will not proceed with the sale of Macquarie Generation at this time".²⁷⁷

21.41 Infrastructure NSW was created by the *Infrastructure NSW Act 2011* (NSW). The objects of the *Infrastructure NSW Act 2011* are:²⁷⁸

- "(a) to secure the efficient, effective, economic and timely planning, coordination, selection, funding, implementation, delivery and whole-of-lifecycle asset management of infrastructure that is required for the economic and social well-being of the community; and
- (b) to ensure that decisions about infrastructure projects are informed by expert professional analysis and advice."

21.42 Infrastructure NSW is a statutory body, which is required to exercise its functions with a view to achieving the objects of the Act.²⁷⁹ The functions of Infrastructure NSW include:²⁸⁰

- (a) to prepare and submit to the Premier a 20-year State infrastructure strategy;
- (b) to prepare and submit to the Premier 5-year infrastructure plans;
- (c) to prepare project implementation plans for major infrastructure projects;
- (d) to review and evaluate proposed major infrastructure projects
- (e) to assess the risks involved in planning, funding, delivering and maintaining infrastructure, and the management of those risks; and
- (f) to provide advice to the Premier on appropriate funding models for infrastructure.

21.43 Infrastructure NSW has published a 20-year State infrastructure strategy. It sets out recommendations on infrastructure development in NSW (in addition to existing NSW Government commitments) over the period from 2012 to 2032. The estimated cost to the State of NSW of those projects (after user funding assumptions) is \$20 billion over the 20 year period.²⁸¹

21.44 Deloitte Access Economics has modelled the impact of effective implementation of the Infrastructure NSW 20-year State infrastructure strategy, and has estimated that it will increase the size of the NSW economy by more than \$50 billion (present value).²⁸² The

²⁷⁷ Redman, Annexure BAR-23.

²⁷⁸ See section 3 of the *Infrastructure NSW Act 2011*.

²⁷⁹ See section 11(2) of the *Infrastructure NSW Act 2011*.

²⁸⁰ See section 11 of the *Infrastructure NSW Act 2011*.

²⁸¹ Ergas.

²⁸² Infrastructure NSW, "First things First, The State Infrastructure Strategy, 2012 – 2032"; Ergas.

Deloitte Access Economics estimates are consistent with other studies of the benefits that increased investment in public infrastructure will derive, in NSW and more broadly.²⁸³

- 21.45 The contribution of the net proceeds from the sale to AGL of Macquarie Generation to the Restart NSW Fund, for the purposes of developing NSW public infrastructure in line with the Infrastructure NSW 20-year State strategy, will deliver the following public benefits:²⁸⁴
- (a) increased prospects of useful public infrastructure being developed in NSW, with the wider economic and social benefits that completion of such infrastructure will bring;
 - (b) a reduction in debt funding otherwise required from the NSW government to fund infrastructure projects;
 - (c) increased prospects of the NSW Government retaining its AAA credit rating, and lower cost of debt;
 - (d) a reduction in the prospect of decreased public transport and other existing NSW Government subsidies and/or decreased public expenditure on existing NSW Government programs;
 - (e) a reduction in the prospect of increased taxation by the NSW Government;
 - (f) a reduction in the prospect of NSW Government capital being diverted from other NSW Government investment priorities; and
 - (g) reduced call for contributions from Commonwealth funds for NSW infrastructure projects.

22. THE COUNTERFACTUAL

Describe the likely state of the relevant market(s) in the future if the proposed acquisition does not take place, giving reasons

- 22.1 The sale process adopted by the State of NSW to date in respect of the Macquarie Generation Assets is described at paragraphs 3.1 and 3.2 above. As there noted, following a sale process of approximately 7 months' duration, AGL was the only party that exceeded the required retention value and was otherwise an acceptable acquirer for the State.
- 22.2 The State of NSW is selling the Macquarie Generation assets, at a time when the electricity industry is characterised by considerable uncertainty, including as a result of:²⁸⁵
- (a) changes in the price of key inputs (particularly coal and gas);
 - (b) cost pressures faced by generators as a result of the introduction of the carbon tax under the Clean Energy Policy;
 - (c) the lack of clarity about whether and when the legislation imposing carbon tax liability on generators will be repealed, and what policy will replace it;
 - (d) flattening or decreasing demand for electricity;

²⁸³ Deloitte Access Economics, "Infrastructure and the NSW Economy", 21 September 2012, prepared for Infrastructure NSW; Ergas.

²⁸⁴ Ergas.

²⁸⁵ Frontier (Competition) Report, section 3.2.1.

- (e) increasing supply of electricity, including as a result of investments in renewable energy made pursuant to the Commonwealth government's renewable energy target.

22.3 As a result of the factors described in response to question 3 above, and the uncertainty described in paragraph 22.2:

- (a) it is unlikely that the Macquarie Generation assets would be attractive, at a price that meets the State's retention value, and otherwise satisfies conditions imposed upon the sale by the State of NSW, to any bidder, including a bidder which has not participated in the sale process to date; and ²⁸⁶
- (b) accordingly, the counterfactual is that:²⁸⁷
 - (i) Macquarie Generation (including both the Bayswater and Liddell power stations) remains owned and operated by the State of NSW;
 - (ii) the State of NSW does not obtain the \$1,505 million sale proceeds which it would obtain if AGL acquired Macquarie Generation; and
 - (iii) the public benefits identified in Part 21 above do not arise.

23. JOINT VENTURES

(a) Does this application for authorisation deal with a matter relating to a joint venture (see section 4J of the Act)

- (i) If so, are there any other applications for clearance or authorisation under Part VII of the Act being made simultaneously with this application in relation to the joint venture**
- (ii) If so, describe the nature of the applications and who is making those other applications**

23.1 The joint ventures in which AGL is involved are described in Annexure D.

23.2 Other than to the extent that it involves AGL, being a participant in those joint ventures, the Proposed Acquisition does not deal with a matter relating to a joint venture.

24. INTERNATIONAL

(a) Does the acquisition involve:

- (i) A company operating in Australia that has a foreign parent**
- (ii) Australian businesses or consumers affected by conduct occurring overseas**
- (iii) Foreign consumers affected by conduct occurring in Australia**
- (iv) Conduct occurring across international boundaries**

(b) Provide details of competition authorities in jurisdictions other than Australia to which the proposed acquisition has been, or is intended to be, notified and the timing of such notifications

²⁸⁶ Redman, [82] – [84].

²⁸⁷ Redman, [82] – [84].

24.1 Not applicable.

25. **PERIOD OF AUTHORISATION**

Outline the period for which authorisation is sought, detailing reasons why authorisation should be granted for the requested period

25.1 Not applicable.

26. **UNDERTAKING**

Consistent with subsection 95AV (2) of the Act, the Applicant is required, pursuant to the regulations, to give an undertaking to the Commission under section 87B of the Act that the acquisition will not be made while the application for authorisation is being considered by the Tribunal. An undertaking which is in a form that must be offered to the Commission is attached to this Form.

26.1 This undertaking is attached.

27. **FURTHER INFORMATION**

Name, postal address, telephone, facsimile and email contact details of person authorised by the notifying parties to provide additional information in relation to this application

27.1 Liza Carver

Partner, Ashurst Australia

Postal address: 225 George Street Sydney NSW 2000 Australia

Telephone: +61 2 9258 5897

Facsimile: +61 2 9258 6999

Email: liza.carver@ashurst.com

28. **INFORMATION PROVIDED IN RELATION TO THE TARGET**

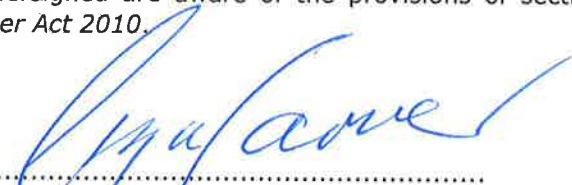
Where the Target has been consulted during the preparation of information provided in response to the questions contained in this Form relating to the Target, an authorised representative of the Target must indicate here that information relating to the Target is complete and accurate.

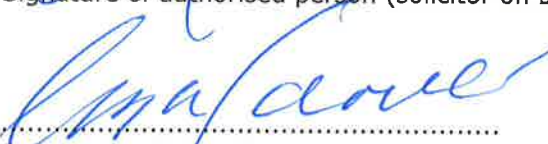
Not applicable.

29. **DECLARATION**

29.1 The undersigned declare that, to the best of their knowledge and belief, the information given in response to questions in this form is true, correct and complete, that complete copies of documents required by this form have been supplied, and that all estimates are identified as such and are their best estimates of the underlying facts and that all the opinions expressed are sincere.

The undersigned are aware of the provisions of section 95AZN of the *Competition and Consumer Act 2010*.


.....
Signature of authorised person (solicitor on behalf of the Applicant)


.....
Solicitor for the applicant


.....
(Print) Name of authorised person

This 24th day of March 2014

Note If the Applicant is a corporation, state position occupied in the corporation by person signing. If signed by a solicitor on behalf of the Applicant, this fact must be stated.