



**22 November 2016**

**Ann Palmer**

**Committee Secretary (Acting)**

**Environment and Communications References Committee**

**Email: [committee.sen@aph.gov.au](mailto:committee.sen@aph.gov.au)**

Dear Ms Palmer,

### **Inquiry into the retirement of coal fired power stations**

On behalf of AGL Energy Limited (AGL), I set out below responses to the questions on notice received from the Senate Environment and Communications References Committee, following the hearing of the Committee on the retirement of coal-fired power stations held in Melbourne on 17 November 2016.

Each question and answer are set below, using the numbering provided.

#### **Question 1**

**Senator DASTYARI:** What about the regional pooling redundancies? How does that fit into that? It does not I suppose—it is completely separate?

**Mr Chappel:** I am aware of a proposal about that. I think the Victorian government is seeking to develop that. We have not had detailed discussions with the Victorian government about that, so I might take that on notice, if that is okay?

#### **AGL response:**

The Hon. Simon Crean has been appointed by the Victorian State Government to investigate an early retirement and regional employment transfer scheme. AGL has recently met with Mr Crean and Victorian Government representatives to begin exploring a potential collective approach including the pooling of redundancies. No work has been undertaken yet relating to the details of such an arrangement or costings at this stage.

#### **Question 2**

**Senator DASTYARI:** Yes. Can I put one or two other things on notice for you to come back on? You can take that on notice, but I would not mind if you could give me a little bit more information about what you said before, the lateral entry. My understanding—this is from what the union told us yesterday—is that the issue is not so much the lateral component, it is that they do not want other rights and conditions watered down as part of that. It is an interesting debate to be had. If you can take that on notice, and also regional pooling. I may have one or two more questions that I might put on notice in writing. Latrobe is talking about having some kind of a pool scheme, and I think that is where the Victorian government seems to be heading at the moment. Could you take on notice whether AGL has estimated what the cost of such a scheme would be to the company, and have there been any discussions with governments—state or federal—about such a

scheme? Is that something you can answer now? Have you had those discussions with the government yet about a scheme?

**AGL response:**

The current AGL Loy Yang Enterprise Agreement prohibits lateral entry of new employees. There are complex restrictive practices in place regarding recruitment and promotion. In July 2016, in anticipation of Hazelwood's closure, AGL Loy Yang formally requested the inclusion of a special clause allowing lateral entry of employees from other power stations if or when those power stations closed. The CFMEU representatives declined this request at that time.

**Mr Chappel:** No, those discussions are commencing now. Later this week or early next week we are meeting representatives of the Victorian government to broadly engage in those discussions.

**Senator DASTYARI:** It sounds like there has been a discussion about it around Latrobe, but there has not been a broader discussion about a national scheme yet.

**Mr Chappel:** Certainly not to my knowledge, but I am happy to take it on notice and provide a written answer.

**AGL response:**

AGL has not been involved in any conversations about a national scheme at this stage.

**Question 8**

Can you provide your assessment of the implications for capacity in Victoria and the NEM if Yallourn power station was to close immediately. What would be the implications in five years?

**AGL response:**

Eventually ageing emissions intensive power stations will close despite potential barriers to exit. However, due to the lumpy nature of capital investment and the potential for closure announcements to be made in a way that does not allow new capacity to be constructed before closure occurs, pricing outcomes are likely to reflect prolonged periods of 'famine' and 'feast' ([Nelson and Orton, 2016](#)). There is a role for governments to establish policy that facilitates 'orderly' rather than 'disorderly' exit of emissions intensive aged power stations ([Nelson et al, 2015](#)).

The Australian Energy Market Operator (AEMO) would be best placed to provide a view on the implications for the energy system if Yallourn was to close immediately or in five years.

**Question 9**

Can you provide more details on what you see as the preferred mechanism for a phased orderly retirement of coal fired power generation and why?

**AGL response:**

In AGL's view, there is a role for governments to establish policy that facilitates 'orderly' rather than 'disorderly' exit of emissions intensive aged power stations. Such policy could be based upon age (e.g. the Canadian rule which requires power stations to be closed or retrofitted with carbon capture and storage after 50 years of operation), emissions intensity limits which apply at given years, or a market-based mechanism (as proposed by Jotzo and Mazouz).

An age based rule has no cost to government, addresses both modernisation and decarbonisation and provides for an orderly transition.

### Question 10

Given the increasing gas prices in Australia, what is your forecast for LCOE of gas fired generation over the next decade?

#### AGL response:

It is uncertain. Page five of [Nelson and Orton \(2016\)](#) provides an envelope of potential costs.

### Question 11

I understand in 2002 AGL was giving a coal allocation perhaps at Flynn Creek to support a proposal for a 1000 MW so-called clean coal plant is that correct? What is the status of that project? Do you see any future for CCS given the technical challenges and the cost involved?

#### AGL response:

Prior to AGL Energy Ltd acquiring the Loy Yang Mine and Loy Yang A Power Station, the previous owners of these assets participated in a 2001 – 2002 Victorian Government tender process for exploration rights to defined brown coal resources in the Latrobe Valley region. As a result of that tender process, the previous owners of the Loy Yang Mine and Power Station were granted an Exploration Licence over land in the Flynn Creek area on 14 December 2005 (EL4683), which is adjacent to the existing mining licence (MIN5189). The work plan for EL4683 included feasibility studies into the construction of a new 1000MW power station using what the Victorian Government described as “less greenhouse intensive technology” and the mine developments required for its coal supply. This power station would have been the primary customer for the EL 4683 coal resources, but the feasibility assessment determined that a new base-load coal fired power station was not economically viable in the current business environment at that time.

However, since the initial grant of EL4683 there has been an increasing level of interest from industries wishing to establish in the region and transform brown coal to low carbon, value added products for domestic and export use. The Victorian Government granted an extension to EL4683 in 2011 on the basis of exploring the scope of using the coal resource for new coal development opportunities. Prior to EL4683’s expiry in 2013, AGL Loy Yang Pty Ltd applied to convert EL4683 to a Retention Licence to continue this proposed work program. Retention Licence application RL2014 is currently pending with the Victorian Government. EL4683 continues in effect until the Victorian Government determines AGL Loy Yang Pty Ltd’s retention licence application.

AGL Energy Ltd remains open to exploring options with respect to CCS.

### Question 12

If the government does put in place a plan what will happen in the electricity sector over the next ten to twenty years?

#### AGL response:

An orderly transition is likely to occur with the following key policies in place:

- o Firstly, it is necessary to ensure that the transition to a modern, secure and low-emissions electricity system occurs in an ‘orderly’ rather than ‘disorderly’ way. A policy framework that ensures the orderly retirement of ageing emissions intensive power

stations is required. Such a policy has precedent given the existence of age based limitations on power station operations in Canada.

- o Secondly, it is necessary to revisit the design of complementary policies to the NEM. 'Energy-only' markets require extreme pricing volatility to produce adequate revenues to incentivise new investment in renewables and complementary capacity (e.g. open-cycle gas turbines or advanced batteries). Renewable policy frameworks should evolve to creating 'virtual' firm low-emissions 'baseload' generation.
- o Thirdly, it is necessary to develop robust and nationally consistent policy frameworks for incentivising new renewable generation capacity; and
- o Fourthly, a smoother emissions abatement pathway can be achieved through the inclusion of carbon intensity in the wholesale electricity price, for example through a baseline and credit carbon intensity trading scheme.

With this policy architecture in place, the transition of the Australian energy system and the renewal of its infrastructure can happen very quickly.

### Question 13

**Regarding Bayswater Power Station (Hunter Valley)** – An analysis of the National Pollution Inventory shows Comparing 2013-14 emission levels from Bayswater to the most recent figures of 2014-15, sulphur dioxide, hydrochloric acid, nitrous oxide, fine particle pollution (PM10) and mercury emissions all rose in both total emissions, and intensity per megawatt generated. Bayswater is the single largest source of sulphur dioxide in the country. In response to a question from a Hunter Valley resident at your AGM about these alarming figures, your chairman suggested AGL was applying 'best practicable facilities to control emissions and byproducts' from its power stations. Can you speak to what specific measures has AGL taken to reduce the load emissions of this station? Has, for example AGL considered the use of selective catalytic reducers that are common place in Japanese and many European plants?

#### **AGL response:**

AGL acquired Bayswater power station from the NSW Government in September 2014.

Since acquisition AGL has identified and implemented a range of operating and maintenance works focused on returning the power station to design specification. This work has resulted in more efficient operations.

It is important to note that Bayswater power station operates in compliance with licence conditions set by the NSW EPA, and national air quality guidelines that are designed to ensure air quality is maintained and public health is protected.

The increase in emissions data contained in the recent National Pollution Inventory (NPI) report is the result of improved and more rigorous reporting since AGL acquired Bayswater and Liddell power stations, leading to more accurate information submitted to the NPI.

Other variations in emissions levels are the result of increased electricity generation to meet community energy demand.

AGL is constantly reviewing available technologies and best practice operations, and evaluating their implementation where practicable.

To AGL's knowledge no power stations in Australia are fitted with selective catalytic reducers, and AGL has not considered their installation at Bayswater power station.

#### Question 14

**Regarding Liddell Power Station (Hunter Valley)** - is currently slated for closure for 2022, though at the time of its purchase former AGL CEO Michael Fraser suggested the plant could close as soon as 2017. Liddell's main customer is Tomago Smelter, both Liddell and Bayswater run significantly under capacity. Given this, we have two questions:

- 1) what transition and rehabilitation plans does AGL already have in place for Liddell given the possibility of an earlier closure, to ensure the significant fly ash dam is managed and workers/community have an opportunity to prepare for transition?

#### AGL response:

AGL has developed a revised rehabilitation management plan for the Liddell ash dam, which will be submitted to Muswellbrook Shire Council (the relevant consent authority) for approval on 30 November 2016.

- 1) has AGL considered shifting the Tomago contract to Bayswater to facilitate an earlier closure of Liddell and speed up the energy transition?

#### AGL response:

The Tomago smelter is a customer of AGL as a result of its acquisition of Macquarie Generation. AGL supplies Tomago from its Bayswater and Liddell power stations, and will continue to provide an electricity hedge contract to Tomago irrespective of the operation of the Liddell power station.

#### Question 15

**Regarding Loy Yang:** Can you advise on whether AGL is considering an earlier closure date for Loy Yang to match both the companies own commitments and the global carbon challenge?

#### AGL response:

AGL is constantly reviewing the capital expenditure requirements for continuing to operate existing plants and adjusting plans on this basis.

The dates in the AGL Greenhouse Gas (GHG) Policy represent the last possible year of operation. Market or government policy requirements could bring forward closure timeframes.

#### Question 16

**Regarding the proposed 800 MW gas plant (SA)** - On Monday AGL outlined plans to develop a gas import plant and to build a new 800MW gas power station in South Australia. Given the need to full decarbonise the electricity sector in the coming decades and the cost effective alternative of a concentrated solar thermal plant, with storage capacity, and the emerging battery storage market, why is AGL proposing to invest up to 1.2 billion in a new fossil fuel plant in SA?

#### AGL response:

Open-cycle gas fired power stations are ideal for meeting demand at times of low renewable energy output, and can play an important role in ensuring electricity system security and enabling significantly higher renewable energy penetration.

Open-Cycle Gas Turbines (OCGT) rarely have capacity factors beyond a few percent as they are used to provide fast-start capacity at times of increasing demand or decreasing renewable

output. As such, relative to existing thermal plant, new OCGT would provide for a secure, modern and significantly lower emissions outcome.

### References

Nelson, T & Orton, F *'Climate and electricity policy integration: Is the South Australian electricity market the canary in the coalmine?'* in *The Electricity Journal*, Vol.29, Issue 4, May 2016

Nelson, T; Reid, C & McNeill, J *'Energy-only markets and renewable energy targets: Complementary policy or policy collision?'* in *Economic Analysis and Policy*, Vol.46, June 2015