IN THE AUSTRALIAN COMPETITION TRIBUNAL

ACT1/2014

AGL Energy Limited

RE: PROPOSED ACQUISITION OF MACQUARIE GENERATION (A CORPORATION ESTABLISHED UNDER THE ENERGY SERVICES CORPORATIONS ACT 1995 (NSW))

Statement of: Ross Murdoch Bunyon AM
Address: 132 Morshead Drive, Hurstville Grove, Sydney
Occupation: Director
Date: 25 March 2014

Contents

I, Ross Murdoch Bunyon, of 132 Morshead Drive, Hurstville Grove, Sydney, non-executive director, say on oath:

1. I make this statement from my own knowledge, except where otherwise stated. Where I refer to facts on the basis of information provided to me, I believe those facts to be true.

Qualifications and Experience

2. I have the following professional qualifications:

   (a) a Bachelor of Commerce majoring in industrial relations (UNSW);

Filed on behalf of (name & role of party) AGL Energy Limited, Applicant
Prepared by (name of person/lawyer)
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(b) Advanced Management Program (Harvard Business School);

(c) Companion of the Institution of Engineers (Australia).

3. My curriculum vitae is attached at **RB1**.

4. I have over 45 years of experience in the power industry commencing in 1966 as a Commercial Cadet with the Electricity Commission of NSW later to become Pacific Power. In the period from 1966 to 1989, I held various positions at Pacific Power including Personnel Manager, Industrial Manager, Manager of Strategy and Commercial Manager.

5. Between 1989 and 1992, I was the Chief Operating Officer of Pacific Power. From 1992 to 1996, I was the Chief Executive Officer of Pacific Power. Pacific Power was Australia's largest electricity generating company. It owned and operated seven major coal fired power stations, including Bayswater and Liddell, a number of small hydro power stations and the HV Transmission Network. In addition, Pacific Power had wholly owned coal mining and consulting subsidiary companies. Pacific Power underwent a major restructure and cultural change over this period in preparing for the National Electricity Market (**NEM**). In 1996, I was requested by the NSW Government to restructure Pacific Power for the emerging National Electricity Market.

6. In 1996, following the successful restructure of Pacific Power, I joined ANI Corporation as Chief Executive Officer of Mining and Resources Business, where I was responsible for a mix of Australian and International Businesses, including ANI Aurora UK, a speciality metals business, Comsteel, a business supplying grinding media rail wheels and steel, Bradken, which operated foundries and supplied mining equipment and cast products to the mining and rail industries, ANI Engineering, ANI Mills and Strata Products. After Smorgon Steel Group purchased ANI Corporation in 2000, I was engaged to manage the restructuring and sale of nine international business units that were not part of the Smorgon Steel strategy.

7. I performed a similar role when Smorgon acquired Email Ltd, before moving to non-executive roles in 2005.

8. Between 1991 and 2010, I held the following directorships and associations for the approximate dates as shown:

(a) Director, Power Coal, 1990 – 1996;

(b) Director, Treasury Corporation of NSW, 1990 – 1996;

(c) Member of the World Energy Council – Executive Council, 1991 – 1996;

(d) Commissioner of the Snowy Mountains Council, 1991 - 1996;

(e) Chairman of the Electricity Supply Association of Australia, 1992 – 1995;

(f) Chairman Pacific Power, 1998 – 2000;

(g) Chairman, Eraring Energy, 2000 – 2010;

(h) Chairman, Greens Foods Ltd, 2000 – 2005;

(i) Director, AMPY Digilog Holdings, UK Metering Manufacturers, 2001 - 2005;

(j) Chairman, Railcorp, 2003 – 2008;

(k) Chairman, ICS Global, 2004 - 2008; and

(l) Director, Hunter Valley Training Company, 2005 – 2010.

9. I have recently held the following non-executive positions:

(a) Chairman, Turner Townsend Australia, 2005 – 2013;

(b) Chairman, ACT Government Solar Power Station Auction, 2011-2012;

(c) Member, Federal Government Energy Security, 2012 – 2013; and

(d) Directory of Forestry Tasmania, 2012 – present.

Material considered

10. I have been provided with, read and have had regard to the statement of Glen Schumacher sworn 23 March 2014 (**Schumacher**), and the annexures to that statement. I have also had regard to the publicly available Macquarie Generation Statement of Corporate Intent, 2012/13, a copy of which is annexed (**RG2**).

Macquarie Generation

11. Macquarie Generation is a State Owned Corporation whose core business is the production and wholesale sale of electricity into the NEM.

12. Macquarie Generation owns and operates the Liddell and Bayswater power stations (**Liddell** and **Bayswater**, respectively). Between 1989 and 1996, as COO and CEO of Pacific Power, I had overall responsibility for the operation and performance of both Bayswater and Liddell. Prior to those roles, I worked in strategic planning, financial management and industrial relations roles across Pacific Power. I visited both power stations very regularly and was familiar with their operations. I had close involvement with the financial management of Bayswater and Liddell, including maintenance and capital expenditure. Further, the power station at Eraring, where I was Chairman from 2000 to 2010, is a sister station to Bayswater, and both have the same boilers, turbines and similar construction. I was very familiar with Bayswater and Liddell during my time with Pacific Power.

13. Bayswater is a 2,640 megawatt (**MW**) black-coal fired baseload generator. It comprises four 660 megawatt units, commissioned between 1985 and 1986. Bayswater has a projected life through to 2035.

14. Liddell is a 2,000 MW black-coal fired baseload and shoulder generator. It comprises four 500 megawatt units, commissioned between 1971 and 1973. Liddell has a projected life through to 2022. Liddell was originally a base load station in the 1970's and early 80's, but has been replaced in that role by newer and more efficient plant.

Availability of Bayswater and Liddell

15. [redacted]

16. [redacted]

[1] Schumacher paragraph 23 and GS6; WorleyParsons Report for Bayswater, p28.

[2] Schumacher GS6; WorleyParsons Report for Bayswater, p28.

17. [redacted]

18. I have read the Macquarie Generation Statement of Corporate Intent, 2012/13. It includes the following statements:

(a) "Macquarie Generation will deliver on the objective of being a successful business and maximising net worth by:

- Minimising production and maintenance costs ...";[4]

(b) "A number of strategic issues arise from [Macquarie Generation's] environment in addition to those that Macquarie Generation already faces as a result of ongoing operational issues. The strategic issues include: ...

- Plant performance and operating costs have been comparable to similar plant within Australia and internationally. However, in light of the margin squeeze it is increasingly a requirement to rebalance operating costs, including maintenance against plant performance."[5]; and

(c) The "total capital budget", which is comprised only of "stay in business" capital expenditure, at Macquarie Generation is forecast to fall significantly over the period from 2012/13 to 2015/16.[6]

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[3] Schumacher paragraph 52(b)and GS7; WorleyParsons Report for Liddell, p30.

[4] Page 3 Statement of Corporate Intent, Macquarie Generation 2012/13.

[5] Page 6 Statement of Corporate Intent, Macquarie Generation 2012/13.

[6] Page 8 Statement of Corporate Intent, Macquarie Generation 2012/13.

19. [redacted] The corporate intention to reduce maintenance costs and capital expenditure, [redacted] The declining levels of expenditure on maintenance and capital works proposed by Macquarie Generation in its most recent Statement of Corporate Intent [redacted]

20. [redacted]

21. Where a power station has a relatively shorter remaining operational life (5 to 10 years, say), and a decision has been taken not to extend that operational life, it is an accepted industry practice to "harvest" the capacity of that power station, by striking a balance between operational availability and maintenance costs, which saves on expenditure so as to maximise profit, but results in a managed decline in availability through to station close. [redacted]

22. My views on the recent Bayswater performance and its implications, as set out above, are informed by my experiences while at Pacific Power. In around 1989, as I became COO of Pacific Power, the EAF for all seven of the Pacific Power power stations, combined, had fallen to around 64%. This was a result of a combination of several factors, including:

(a) *Plant condition and maintenance*: Many of the power stations had increasing levels of recurring plant failure, causing many forced outages. For example, I recall that Liddell had persistent boiler tube leaks, which required in each case, the boiler for the unit to be shut down fully in order for it to be repaired. At

other power stations, there were significant problems with coal processes, including conveyors malfunctioning and, in one case, a coal bunker collapsing due to poor maintenance. There were also significant issues with the coal grinding mills, precipitators and turbine failures in several of the power stations, as I recall.

(b) *Time to repair unplanned outages*: The poor forced outage rate performance was being exacerbated by Pacific Power's record of taking long periods of time in which to repair and restart damaged plant.

23. Running in parallel with Pacific Power's poor availability performance at this time, were a very poor workplace safety record and financial losses from its operations. In my experience, a trend of falling power station availability due to increasing forced outages at a baseload power station is likely to be accompanied by falling safety performance and falling financial performance. This will not be the case where an old power station is being sensibly "harvested" (as referred to above) in the period prior to closure. However, it is the case in baseload power stations which are not being well run or maintained.

24. To address these issues at Pacific Power, the management team took steps including the following:

(a) we took a close, active interest in every significant forced outage event, and every accident. In each case, we called the power station management and engineers together and worked carefully through the details of finding the cause, planning and implementing a timely and effective response and taking steps to avoid a recurrence. Each response and decision was viewed and reviewed through the prism of how that decision would impact on the plant;

(b) in some cases, we worked with equipment providers and consultants in addition to the Pacific Power team, to find engineered solutions. I recall that we called together an internal team with external consultants and representatives from IHI (the Japanese boiler manufacturer), in an endeavour to address systemically recurring boiler tube failures at Bayswater and elsewhere;

(c) we endeavoured to take a more targeted, thoroughly planned and longer term approach to maintenance and capital expenditure. This meant looking forward over the whole of the projected life of the power station plant, and

endeavouring to make better decisions on the nature and timing of planned maintenance, inspections and capital investments, primarily so as to have the effect of reducing forced outages and ensuring the safe operation of the plant. We also performed economic evaluations of all major capital investments to assess the NVP of each investment, which assisted in better decision making. This planning also assisted in scheduling planned maintenance more effectively. Our planning did not have some of the more sophisticated tools of today, but did have regard to longer term considerations than had previously been the case at Pacific Power. This was an early form of "whole-of-life" asset management and encapsulated the same conceptual approach as current "whole-of-life" asset management approaches. This planning, in general, meant that Pacific Power increased its capital expenditure program and reduced its operating costs across the plant. The clear objective was to reduce overall costs, by reducing the very significant expenses and opportunity costs involved in forced outages; and

(d) we endeavoured to change the culture of the Pacific Power staff to forced outages, so that forced outages were not an accepted part of operations and were to be engineered out. We did this by demonstrably paying close attention when they occurred and carefully monitoring the response.

25. Over the five years to 1994, these efforts resulted in significantly improved generation availability (of in excess of 90% EAF), safety and financial performance at Pacific Power. However, this "turn around" in performance required a great deal of management time and attention together with targeted capital expenditure.

Forced Outages

26. While the precise cost of any given forced outage will depend on the type and nature of that particular outage, in my experience, plant failure resulting in a forced outage always results in more cost overall, being incurred in the repair, maintenance and inspection of the plant involved and other consequences of the forced shutdown, than if the plant had been adequately inspected and maintained in the first place.

27. By way of an example, where an unplanned or forced outage of a generation unit in a coal-fired power station such as Bayswater or Liddell occurs due to a boiler tube leak, the following costs and other outcomes are, in my experience, likely to be involved:

(a) it is necessary to cool the boiler plant aggressively, using fans, so as to minimise the time in which the unit is down. This has a longer term impact on the durability and expected operational life of the boiler and other plant. I understand that cooling the boiler aggressively to safe levels takes several days;

(b) the unit is likely to be down for about a week, by the time the boiler has been cooled, the repair has been undertaken and checked, and the unit restarted. The gross margin on lost electricity sales over that period (based on average pool prices at which the electricity generated might otherwise have been sold) will be several hundreds of thousands of dollars, in the case of a baseload 660MW generation unit;

(c) labour and contractor costs involved in mobilising a team to repair the plant tend to be higher in the context of a forced shutdown, due to the urgency of minimising the shutdown period;

(d) re-starting the unit involves burning (relatively) high cost fuel oil. Fuel oil costs for a 660 MW unit restart are likely to be at least $100,000;

(e) importantly, the need for a subsequent scheduled and planned maintenance shutdown is rarely avoided by having to undertake repairs during a forced shutdown. Due to the urgency of the work involved in a forced shutdown, and it being (by definition) otherwise unplanned, it is only rarely the case that sufficient scheduled work can be undertaken at the same time, so as to shorten or defer a subsequent planned shutdown, or reduce the cost of that shutdown significantly; and

(f) there can be serious financial impacts from the derivatives position held by the generation company at the time of a forced outage. If the company is unable otherwise to cover its generation position (by starting up and dispatching other otherwise idle generation plant), it will be exposed to having to pay out on hedge positions it has sold, in the context of potentially significantly higher physical prices (due to the unplanned outage).

28. By comparison, where a scheduled shutdown inspection identifies a potential boiler tube failure, a replacement of the tube can usually be effected at a much lower cost without any significant extension of the planned shutdown. Further, when undertaking the planned shutdown, the maintenance and inspection work will be

carefully planned to minimise the shutdown period. Also, the generator's hedge book or its other generation assets will have been planned to minimise the potential impact of the shutdown.

29. For these reasons, it is generally the case, in my experience, that the forced outage of a generation unit, especially one which involves having to shut down the heated plant, involves much higher overall costs than the planned and scheduled inspection and maintenance which reduces the risk of forced outage.

AGL Due Diligence Review

30. It is evident from Schumacher, and I assume, that:

[redacted]

[redacted]

(c) the incremental maintenance and capital expenditure proposed by AGL (in addition to Macquarie Generation's forecast maintenance and capital expenditure plans for Bayswater), in order to achieve the forecast availability required at Bayswater, has been calculated at $304 million (over the remaining projected life of Bayswater); and

(d) the incremental maintenance and capital expenditure proposed by AGL (in addition to Macquarie Generation's forecast maintenance and capital expenditure plans for Liddell), in order to achieve the forecast availability required at Liddell, has been calculated at $41 million (over the remaining projected life of Liddell).

31. [redacted]

(a) the time in which the plant is not available (or only partly available) is minimised;

(b) the risk of catastrophic failure is minimised;

(c) total expenditure on maintenance, repairs and capital equipment is minimised;

(d) larger capital investments (in replacing plant and equipment) are timed so as not to be "stranded" at the end of the projected life of the generation unit;

(e) plant and equipment is inspected and monitored effectively, in conjunction with planned maintenance shutdowns, so as to minimise the risk of unplanned or forced outage;

(f) potential weaknesses are identified and addressed in advance, so as to reduce the risk of unplanned or forced outage;

(g) [redacted]

(h) environmental and regulatory risks are minimised; and

(i) if it becomes commercially attractive to extend the operational life of the plant, this may be done at less cost than might otherwise be the case.

32. [redacted] I consider it to be best practice in the management of large electricity power stations and complex industrial plants.

33. In my opinion, from the material I have reviewed in Schumacher, AGL's proposed additional maintenance and capital expenditure, [redacted] appears to be prudent and sensible.

34. I understand that AGL conducted an analysis of spending less than the amounts referred to in paragraphs 30(c) and (d) on the maintenance and capital expenditure planned for Bayswater and Liddell. I have reviewed the chart at paragraph 42 of Schumacher, which sets out the results of this analysis in relation to Bayswater. The forecasts and valuations in the chart are consistent with my experience and expectations in relation to these issues. Particularly:

[redacted]

[redacted]

Public benefits that flow from AGL's proposed investment of $345 million

35. On AGL acquiring the Macquarie Generation assets [redacted] and its maintenance and capital expenditure commitments set out in Schumacher and referred to above, I expect that the following outcomes will occur:

(a) it is likely that there will be higher levels of availability of generation units at the Bayswater baseload power station to generate electricity for supply into the NEM than would otherwise occur;

(b) there will be a lower risk of unplanned failure (particularly catastrophic plant failure) and resulting forced outage of generation units at Bayswater than would otherwise occur, and reduced risk of the higher costs involved in unplanned failure;

(c) there will be a reduced requirement for AGL to have other higher cost generation plant operating but not generating at full capacity ("spinning reserve"), as a result of greater confidence in the reliable operation of the Bayswater power station;

(d) it is likely that there will be a reduced incidence of expensive plant start-ups at Bayswater;

(e) there will be a reduced environmental impact, as a result of:

(i) AGL being able to operate all generation units at Bayswater at high levels of efficiency and capacity factor;

(ii) the likely reduced incidence of start-ups; and

(iii) avoiding or minimising the need for spinning reserve at Liddell,

[redacted]

(g) the overall cost of maintenance, repair and capital expenditure on the Bayswater power station assets (achieving AGL's target levels of EAF) will be very likely to be reduced, over their projected life to 2035;

(h) there will be an increased prospect of efficiently extending the operation of the Bayswater power station beyond 2035, or preserving that option at lower cost;

(i) it is likely that there will be reduced price volatility and lower prices in the wholesale supply of electricity into the NEM, with Bayswater operating more reliably as a major baseload power station; and

(j) it is potentially the case that further investment in baseload generation assets in NSW will be deferred as Bayswater operates more consistently as a major baseload power station, and there will be cost savings achieved by deferring that investment.

36. In my view, these outcomes, in turn, are likely to result in a more reliable, long-term, baseload electricity supply into the NEM from Bayswater, safely, at lower cost and with reduced environmental impact.

37. The outcomes above, and the likely result from them are, in my view, consistent with the broad public objectives of the NEM, as set out in the National Electricity Law[7].

38. I will now deal with each of the matters set out at paragraph 35 above.

Higher Availability

39. As a generation unit operates more reliably at higher levels of capacity factor, it becomes more cost efficient, in terms of cost per MW generated, and environmentally more efficient, in terms of carbon output per MW generated.

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7 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."*

40. To have a generation unit operating even at very low levels of output, a significant amount of heat input (in this case, from burning pulverised coal fuel) is required to have the plant turning over. This baseline level of fuel input is unproductive, other than to have the unit operating at minimum levels. However, as the unit generates and is dispatched at increasingly higher levels of MW output, that baseline fuel cost is defrayed across an increasing volume of MW output. It is for this reason that as a generation unit increases its output, it becomes more cost efficient (in cost per MW terms), as well as more environmentally efficient (in carbon emissions per MW terms).

Reducing Forced Outages

41. A carefully planned, "whole-of-life" approach such as that AGL proposes and the increased commitment to capital and maintenance expenditure over the projected life of the Bayswater and Liddell plants, are likely in my experience to result in fewer unplanned or forced outages.

42. As noted above in paragraphs 26 and 27, forced outages can involve very significant direct and opportunity costs. The revenue loss can be severe if a major shutdown is required. However, much greater losses can be sustained if there is a major unplanned outage which results in significantly increased spot prices (because of a lack of alternative generation capacity being available, or other constraints), and the generator has large, contracted positions in its hedge arrangements, which it cannot cover.

43. Reducing forced outages at low-cost, major baseload generators such as Bayswater has the very important result of decreasing the potential for acute supply shortages in the NEM as a whole. While periods of acute supply shortage are relatively rare (usually confined to hot days combined with unplanned generation outage and/or transmission constraints), it is socially unacceptable for there to be blackouts, even for short periods. The industry needs reliable base load plant to operate efficiently and to meet community needs and expectations of a reliable supply.

Spinning Reserve

44. Where AGL will have some increased confidence in the reliable availability of Bayswater, AGL will be able to reduce the extent to which it has generation units at Liddell running and operating at low output levels, so as to be available to produce at higher levels of output at short notice if there is a failure at Bayswater. This is

known as "spinning reserve", because the generation unit (at Liddell in this case) is operating , but not generating and being dispatched at full capacity, so that it can be an immediate backup to the Bayswater units in the event of an outage. If Liddell is not required to provide the same amount of spinning reserve, because of the increased reliability of Bayswater, there will be an increase in the amount that Liddell can sell into the market, either as spot sales or under derivatives or other contracts.

45. A reduction in the amount of spinning reserve deployed has both cost advantages, and environmental benefits. Particularly:

(a) resources are not consumed in operating the spinning reserve; and

(b) spinning reserve which is operating at low levels of output and dispatch is more costly and less environmentally efficient, per MW, than generation units operating at consistently higher capacity factors (see paragraph 40 above).

Start ups

46. If the forced outage rate at Bayswater falls, it will be likely to have fewer start ups (due to fewer unplanned shutdowns). Fewer start ups has both cost and environmental benefits, not only is a significant amount of fuel oil required for a start up, but that fuel oil is relatively expensive.

[redacted]

Reduced overall cost of maintenance and repair

48. Adopting a well-planned, [redacted] approach to managing and scheduling maintenance, inspections, repairs and capital investment is very much intended, barring force majeure type events, to consistently reduce overall costs of operating a power station over its projected life.

49. In this case, I expect that AGL will achieve such cost savings, if its plans are implemented.

50. Further, in my experience, the sooner a well-planned [redacted] approach is adopted, the lower the overall costs over the remainder of the power station's projected life are likely to be. Thus, deferring the adoption of this approach can incur greater costs.

Impact on life of plant

51. AGL's proposed approach is likely to preserve more effectively the real option to extend the operational life of Bayswater beyond 2035.

52. By maintaining the availability and capacity factor performance of a baseload power station such as Bayswater at relatively high levels over the life of the asset, the owner/operator will arrive at the point at which it is decided whether to extend the life of the station or to "harvest" it down to a defined (and reasonably imminent) closure point, with lower cost options. Usually, this decision is made by reference to market conditions (particularly current and forecast supply/demand balance) and plant condition. Where the generation plant is in good condition, and has been well maintained pursuant to a well-managed whole-of-life approach, plant condition is less of a consideration, and the decision can be made principally by reference to the prevailing commercial and market conditions. However, if the plant is in poorer condition, with lower availability, a larger consideration in the decision analysis will be the investment required (which will then be sunk) to return to a higher availability performance over the extended life.

53. Maintaining and operating Bayswater at relatively high levels of availability, even in the near term, may also signal to other operators that further investment in baseload capacity is not required (at least for the time being). Deferring a large sunk investment such as new baseload capacity, even for only a few years, may involve very significant cost savings, more broadly. Accordingly, a private market based decision to defer the "harvest" of a power station has public consequences.

One reason for the creation of the NEM was to avoid unnecessary capital investment and to operate the electricity industry more efficiently, and this approach is consistent with that goal.

Environmental Impact

54. Operating Bayswater at higher levels of availability will reduce its environmental impact. Particularly:

(a) operating Bayswater at higher levels of EAF for longer periods of time will result in a decreased carbon output per MW generated;

(b) reducing the use of spinning reserve operating at Liddell will also reduce carbon emissions, both in total and per MW generated; and

(c) fewer start ups will reduce the consumption of fuel oil.

55. I note also that Schumacher refers to several initiatives which are to be implemented by AGL (over and above the planned Macquarie Generation maintenance expenditure forecasts) which, I understand, are likely to have a positive effect on the thermal efficiency of Bayswater (and thus will reduce carbon emissions per MW generated) in addition to improving EAF. They are:

(a) renewing the cooling tower packs; and

(b) replacing condenser tubes .

Reduced price volatility

56. A direct consequence of increasing forced outage rates at a major baseload power station like Bayswater is the increased potential for greater price volatility. As the risk of a major unplanned outage rises, so does the risk of the outage having a dramatic "spike" effect on prices. To do so, an outage at Bayswater would need to occur in the context of some or all of the following:

(a) high demand in NSW, due to hot weather or other load factors;

(b) constraints at the interconnectors; and/or

(c) other generator outage,

and AGL being unable to increase output from Liddell in the short term so as to cover the outage at Bayswater.

57. Even though those conditions may come together only infrequently, the increased risk of higher volatility in pricing from less reliable performance at the baseload Bayswater station is significant. Over time, it is likely to result in higher average electricity prices and I understand has a potential impact on the prudential requirements on retailers.

Virtuous circle or cultural effect

58. Based on my experience as an executive in the power industry for over 30 years, I am of the opinion that there is a significant virtuous circle impact (on workers, staff and the broader community) from a well-run and efficient power station.

59. AGL's proposed further investment in Bayswater will incentivise staff and management who will see a greater emphasis on capital expenditure, maintenance and sustainable investment. Such investment is likely, in my opinion, to result in increased staff participation and retention of the best staff and management. This in turn results in greater innovation, increased workplace productivity and better management of assets and the creation and reinforcement of a virtuous circle.

60. The benefits of a virtuous circle are difficult to quantify but, in my opinion, it is vital to productivity and innovation. It is an intangible asset that makes a significant difference to the operation of a power station.

Derivative market

61. During my early time at Pacific Power, there was no electricity derivatives trading. However, in my role as Chairman of Eraring Energy, the Board had direct oversight of the hedging strategy and its implementation. This strategy was reported on and reviewed monthly and, as a result, I am very much aware of the main considerations, as a generator, in offering derivative contracts.

62. As explained above in relation to forced outages, a major consideration in dealing with a forced outage is the potential for large losses in covering derivative contract positions after a generation unit fails. This means that a generator will have regard to its generation availability performance in assessing the extent and risks of its contracted position. A prudent generator will be less willing to take the risk of a large long position, if the generator is not able to dispatch sufficient electricity to cover or minimise that position.

63. It is for this reason, that I consider that by investing further in the maintenance and availability of Bayswater, which in turn is very likely to increase the availability performance of Bayswater, AGL will take on less risk, in offering derivative contracts.

64. Thus, in my view, all else being equal, higher and more reliable EAF is likely to result in increased volumes of derivatives and hedging arrangements being sold or offered for sale by AGL.

65. At Eraring Energy, in the period in which I was Chairman, there was a general approach to managing hedging risk on the basis that of the 4 units at Eraring, we would have 3 of them fully contracted, but 1 exposed to the NEM spot price. This was a reasonably aggressive position to take, as the forced outage of one unit would result in Eraring having to generate at full capacity from the remaining 3 units to physically cover its hedge position. This was possible only because of the high EAF which was being achieved at Eraring at the time, consistently in excess of 90%. There were times when Eraring had two units down, but these were planned shutdowns, and the hedge book was managed accordingly for those periods. If the management of Eraring had had less confidence in the performance and reliability of the Eraring generation units, we would not have been prudently capable of offering hedge positions over the full output of 3 generation units.

Liddell

66. Many of the benefits likely to flow from increased investment in the maintenance and availability of Bayswater are also likely to occur at Liddell. However, the different current and projected role for Liddell, as an intermediate (rather than baseload) generator, means that its future role will be as a backup to the Bayswater baseload operations and, as reliability at Bayswater improves, offering increased derivative contracts to the market. Thus, improvements in the availability and reliability of Liddell from the current position, will have some of the broader benefits attributable to Bayswater

Impact on local community

67. AGL's proposed investment of an additional $345 million in maintenance and capital expenditure over the next 20 years is likely to have a significant and enduringly positive effect in the Hunter region. This impact is likely to be seen principally in employment, both continued and new (including the training of apprentices at

Bayswater) and a strong local contractor base as AGL undertakes the maintenance and other work implicit in that additional investment.

Sworn by the deponent)
at Sydney)
in New South Wales)
on 25 March 2014)
Before me:)

Signature of deponent

Signature of witness

WILLIAM OWEN REID
SOLICITOR, NSW