AUSTRALIAN ENERGY REGULATOR

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Ms Naomi Bleeser
Committee Secretary
Select Committee on Fuel and Energy
Parliament House
CANBERRA ACT 2600

Dear Ms Bleeser

Thank you for the opportunity to appear before the Senate Select Committee on Fuel and Energy public hearing on 25 September 2009.

This letter provides further information on the two questions that the Australian Energy Regulator (AER) took on notice, from Senators Hutchins and Bushby. These questions related to investment outcomes in the National Electricity Market and the causes of transmission equipment failures in Victoria in early 2009.

Investment outcomes

From the inception of the National Electricity Market (NEM) in 1999 to July 2009, new investment added almost 10 300 MW of registered generation capacity, with around 2500 MW occurring in 2008–09. There has been strong investment in Queensland and South Australia in the early years of the current decade in response to high wholesale electricity prices. Queensland investment was mainly in baseload generation, whereas South Australian investment was mostly in intermediate and peaking generation. There was also some peaking investment in Victoria.

There has been continuing new investment in Queensland and in gas fired plant in New South Wales in 2008–09. South Australia has recorded strong growth in wind capacity over the past few years.

The first table below highlights the new generation capacity that was constructed during 2008-2009. The second table shows the projects that were 'committed' as at June 2009.

These two tables show that investment is still occurring in the market, despite any uncertainty that exists regarding the future price of carbon. The strong investment outcomes over the past decade have kept pace with rising demand (both actual and forecast levels), and has provided a safety margin of capacity to maintain the reliability of

the power system. The Australian Energy Market Operator (AEMO) is responsible for analysing the supply-demand balance and forecasting shortfalls. Each year it releases a Statement of Opportunities, which forecasts the supply-demand balance several years ahead.

Generation investment in the National Electricity Market, 2008–09 (excluding wind)

Region	Power Station	Date Commissioned	Technology	Capacity	Owner
Qld	Braemar 2	Apr-Jun 09	OCGT[1]	462	ERM and Arrow Pty Ltd
NSW	Colongra (unit 1)	Jun 09*	OCGT	157	Delta Electricity
NSW	Tallawarra	Feb 09	CCGT[2]	435	TRUenergy
NSW	Uranquinty	Oct 08- Jan 09	OCGT	648	Origin Energy
SA	Quarantine	Mar 09	OCGT	128	Origin Energy
TAS	Tamar Valley Peaking	Apr 09	OCGT	58	Aurora Energy
TOTAL				**1,888MW**	

Committed investment projects in the National Electricity Market, June 2009

Region	Power Station	Planned Date	Technology	Capacity	Owner
Qld	Condamine	2009-2010	CCGT	135	Queensland Gas Company
Qld	Darling Downs	2010	CCGT	605	Origin Energy
Qld	Mt Stuart (extension)	2009	OCGT	127	Origin Energy
Qld	Yarwun Cogen	2010	Gas	152	Rio Tinto
NSW	Eraring (extension)	2010-2011	Coal	120	Eraring Energy
NSW	Colongra (units 2-4)	2010-2011	OCGT	471	Delta Electricity
Vic	Bogong	2009-2010	Hydro	140	AGL Energy
Vic	Mortlake	2010	OCGT	518	Origin Energy
Vic	Portland wind farm	2009-2010	Wind	164	Pacific Hydro
SA	Port Lincoln	2010	OCGT	25	International Power
Tas	Tamar Valley, CCGT	2009	CCGT	196	Tasmanian Government
TOTAL				**2,653MW**	

Transmission equipment failure

On 30 January 2009, a combination of two unplanned transmission outages resulted in a large disruption to customers in western Victoria. Senator Bushby has asked whether these outages were primarily because the infrastructure was old and in need of replacement.

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[1] OCGT – Open Cycle Gas Turbine – gas fired open cycle (peaking plant)
[2] CCGT – Combined Cycle Gas Turbine - gas fired combined cycle (intermediate/baseload plant)

The nature of electricity supply equipment means that it is not possible to provide 100 per cent reliability all of the time, without consumers paying extremely large network charges for the necessary investment. The AER notes that while newer modern equipment may have improved the durability of the transmission system in the face of extreme weather events, any improvement through these types of measures may not have been substantial.

An important consideration is how well network operators manage and maintain their equipment. Existing equipment has known capabilities and constraints which are managed by the network owners and are advised to the AEMO. So long as the network operator effectively maintains its equipment and AEMO operates the system in line with these known equipment constraints the system should be able to accommodate even relatively severe weather events with only modest levels of disruption.

Another important factor which has some bearing on transmission performance is problems arising from vegetation management and bushfires. It has been noted that some transmission lines are placed relatively close to each other, presumably because of cost, convenience and planning considerations when the lines were built. However, this creates a degree of vulnerability to severe fire and storm events. If the backup line is very near the main load carrying line then a severe weather or fire event can cause both the main line and its backup to be lost simultaneously. Whilst it would be theoretically more desirable to geographically separate major transmission lines, the likely cost to consumers would be prohibitive.

The committee also asked questions in relation to the ability of the national transmission network to import power into Victoria. It may be worthwhile the committee seeking advice directly from AEMO, as market and system operator. Nominally, the interconnector from New South Wales into Victoria is capable of transferring around 1500MW. This, however, depends on there being no output from Snowy Hydro. When Snowy Hydro plant operates at its maximum, very little electricity from New South Wales and Queensland can be used to meet Victorian demand. In addition, the Basslink interconnector can nominally provide up to 590MW into Victoria from Tasmania. South Australia can import up to 500MW from Victoria. However, the capacity of these transmission links varies depending on the operation of the system (in particular it depends on which generators are operating), the need to maintain safety margins, and the weather conditions in which transmission equipment is operating.

Further information

If the committee would like further information on either of these areas, or on any other issue, please do not hesitate to contact me on [redacted]

Again, thank you for the opportunity to provide this evidence to the committee.

Yours sincerely

Chris Pattas /
Acting Chief Executive Officer