Major Energy Users, Inc

The voice of energy consumers

AEMC Reliability Panel
Comprehensive Reliability Review

Review Forum 27 July 2006

Presented by David Headberry, Public Officer, MEU

Major Energy Users Inc
The Voice of energy consumers

The Major Energy Users Inc

- A member driven organization, comprising large energy consumers
- Nearly 30 members with operations NSW, Vic, SA, Tasmania and Queensland
- Industries cover paper and cardboard, aluminium, steel, auto manufacture and suppliers, cement, mining, plastics and chemicals, consumer electronics
- Many members are regionally based such as Whyalla, Mt Gambier, Westernport, north and western Tasmania, Pt Kembla, Newcastle and regional Queensland
- Because of this, members require MEU to ensure that views support regional and residential views as well
- MEU members represent over 7% of all electricity used in the NEM

The NEL Objective

"The national electricity market objective is to promote efficient investment in, and efficient use of, electricity services for the long-term interests of consumers of electricity with respect to price, quality, reliability and security of supply of electricity and the reliability, safety and security of the national electricity system."

The emphasis is intentional and a reminder of the raison d'être for this Reliability Review

What are the problems in the NEM?

- Contract prices too high c/f pool prices
- Competitive contract pricing too short term
- Too much price volatility (0.2% of price periods => 25% of average pool price)
- No forward price security for base and intermediate load generation
- Too much market power of generation
- Vertical re-integration occurring
- Horizontal re-integration occurring
- Too frequent reserve trader action
- Too much inter-regional constraint causing price un-couplings

What are the *alleged* causes of these problems?

- It is caused by state retail price caps
- It is caused by ETEF and BPA
- It is caused by not breaking NSW and Qld generators into more competing units
- It is caused by NEMMCo reserve trader
- It is caused by a constrained market with a fixed cap (VoLL)
- It is caused by too small a secondary market

… but any way there are tools to manage the outcomes of these problems!

But never has it been accepted that it might be a failure of the market itself

Henney and Bidwell on why the energy only market can't work

- They use the work of Boiteux, Steiner, Turvey and others and the models developed from these works
  - The models shows that if generators are paid the SRMC of the load following plant, they will at best receive 80% of capacity cost, ie less than LRMC
  - The balance needed is the carrying cost of a "peaker"
- They refer to Jaskow of MIT who points to the needs of commodity only markets which include (for electricity supply) unattainable attributes such as
  - Instantaneous and locational market clearing prices
  - Every consumer knowing its "VoLL on the margin" at every location at every moment
  - All consumers being able to see their demand and price instantaneously and able to act instantaneously
  - Suppliers receiving instantaneous clearing prices on a locational basis

But what do we see happening?

- The cost of the risk management tools is very high and being driven higher by increasing market power of generators and retailers as they re-aggregate – who are the likely bidders for Ergon and Energex? – the same names come up!
- State retail price caps protect small consumers and are set with "head room" to allow retailers to compete at lesser prices but this is seldom seen
- ETEF and BPA stop the separate but compensating risks between retail and generation being additive – but after all, this is exactly what AGL, TRU, Red and Origin are all doing by vertical re-aggregation
- It is agreed that NSW and Qld generators should be broken into more competing units, but what are the privately owned retailers and incumbent generators doing themselves? – re-aggregating!

… because we must have …

- NEMMCo reserve trader is only an outcome of the failure of the electricity market to ensure there is adequate supply – and this approach is used in most electricity markets including the UK
- Very few electricity markets can afford to have no fixed cap on supply, and where they do, there are other compensating controls
- No secondary market can exist in an environment where there is excessive and unpredictable market movement

Electricity supply is so essential to our modern day life style that we cannot afford for it to fail.

What is agreed

- It is accepted that by and large consumers pay for the all costs of the electricity market
- It is accepted that the electricity market is risky
- Retailers and generators are still in business, so they are profitable - Bardak shows that generators are currently very profitable, and the publicly listed retailers certainly are
- Network owners are profitable (ASX Utilities index has grown at twice the rate of the ASX 200 despite the resources boom)
- There has been much made of the tools available to manage risk but the costs of their provision are high and are borne by consumers

What is missing from responses?

- No submission other than MEU addresses the costs to consumers of the risks in the NEM and the costs of the risk management tools?
- Other than MEU, no one points to the increasing market power held by generators and retailers who are vertically and horizontally integrating
- Other than MEU only one (NewGen) discusses the needs of new entrant generators which certainly do not support relying on such a volatile market
- There are but passing references to the potential of increasing interconnection to improve reliability
- The “true believers” all state that DSR is part of the solution – but why should it be? – after all every consumer seeks to use electricity for a very good reason, whether to increase the national wealth or to be comfortable

The MEU approach

- We refer to the recent Bardak work extensively, not so much for the proposed solutions, but as a source of market data. Bardak clearly demonstrates that market reintegration is occurring, probably as a direct result of the risks faced by participants.
- We sourced feedback on overseas markets and found that except perhaps in UK every electricity market (including Oz) has a backstop by allowing "intervention"
- We researched to find if the energy only market gives adequate and timely signals for new investment and Henney and Bidwell demonstrate that it can't
- We looked for alternatives to the capacity market which is alleged to have as many problems as the energy only market,

… and we believe there might be a solution

What are the options to increase reliability?

- DSR – why should it be, how timely is it?
- Secondary markets – how to get one?
- New generation – needs certainty of return and time to build
- Peaking generation – low capital cost, high fuel cost – mainly a physical hedge for retailers
- Self generation – high cost, market constraints

"Short termism" is a major problem – the NEM is all about the short term; be it volatility, forward contracts, or prices being excessively high only for a few minutes to a few hours

… but it takes 3-4 years to build a base load power station

The issues the Reliability Panel should look at:-

- Should DSR be factored into the reliability calculation? No! – it should be used only as a back stop
- There is near unanimity that USE is appropriate as a target for consumer supply
- There is no reason not to treat reliability for all consumers on an equal footing
- A change to USE must look at the costs and benefits to consumers at the supply point
- USE and 10%PoE give SoO, and reserve trader trigger
- CPT protects retailers and generators
- Investment needs fear of being caught out (=> peaking plant) or certainty of reward ***and the time to act***

The issues the Reliability Panel should look at:-

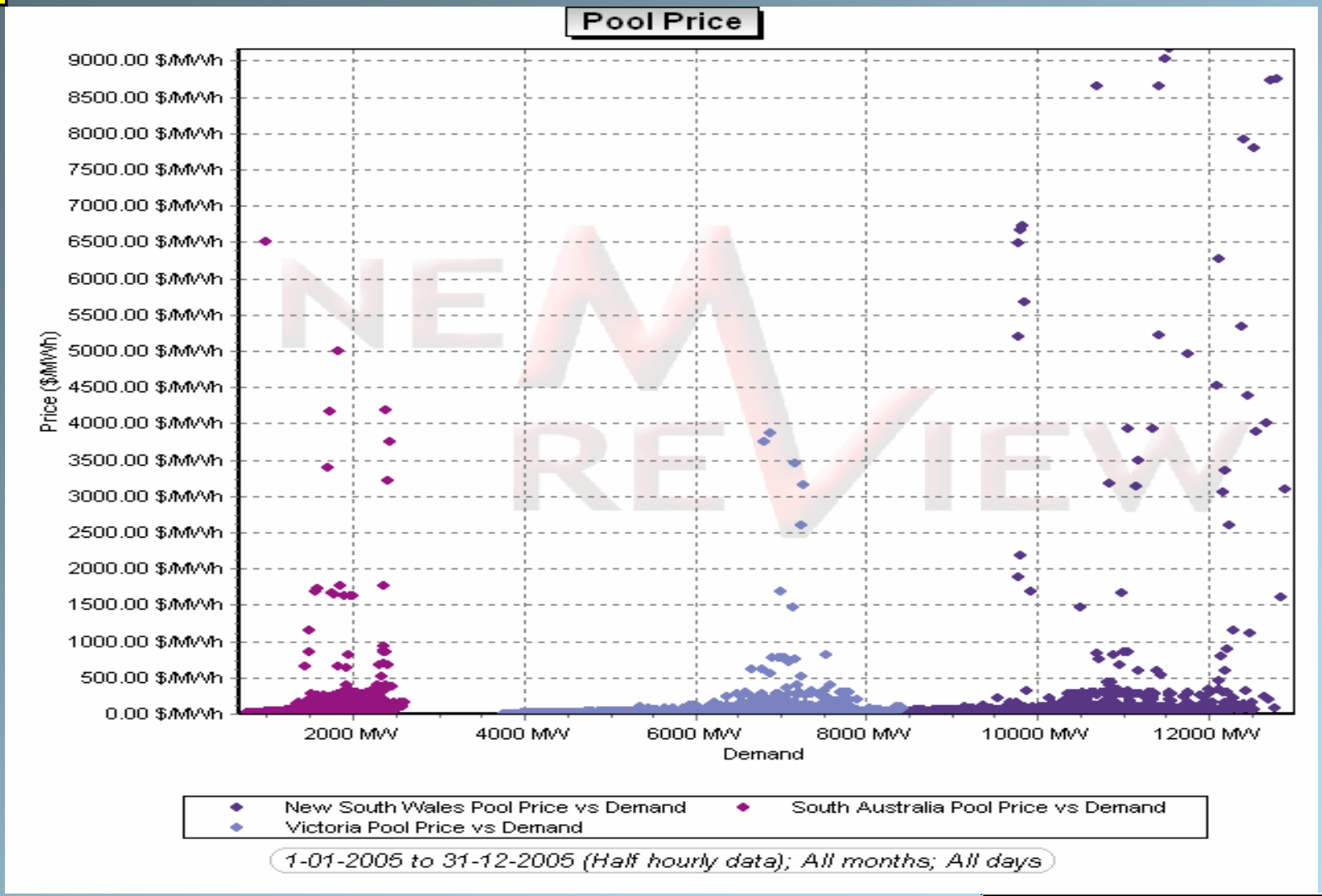
In the absence of intervention or change, VoLL is the only tool available to the RP for impacting reliability in an energy only market.

- **There is no proof that:-**
  - **Increasing VoLL to $10,000/MWh has incentivised sufficient additional investment, as reserve trader powers have been used more since the increase**
  - **increasing VoLL will incentivise timely investment**
  - **The costs of the VoLL approach are less than the benefits**
- **Henney and Bidwell demonstrate that these three assumptions have an extremely doubtful basis**
- **Therefore, another approach is needed**

Why not another approach?

- VoLL is too high now, causes high costs to consumers for risk management, and cannot be proven to enhance reliability
- If an energy-only market does not deliver then we need another approach
- Energy-only supporters say a capacity market is more flawed that an energy-only market
- Therefore fix the detriments of the capacity market
- MEU suggests a deeper examination of the Reliability Options and the FERC approved Forward Capacity Market approaches
- MEU supports the principle of a capacity market coupled with a major reduction in VoLL

What the NEM pricing looks like when the prices below $300/MWh are excluded …



… and the impact of the 128 dots (a mere 0.2% of all half hourly periods)

States	Qld	NSW	Vic	SA	NEM (excl Tas and Snowy)
% of average annual volume weighted price caused by >$300 price spikes	19.6%	36.6%	7.6%	10.1%	24.6%
Av annual time weighted regional price $/MWh	25.17	35.83	26.29	33.60	30.22
Av annual volume weighted regional price $/MWh	27.12	40.84	27.83	36.76	33.44
# price spikes >$300/MWh in 2005	26	67	24	35	128

Source data: NEMMCo and NEM Review

A comparison of volatilities source Bardak

Fig 5.9 Comparison of Volatilities