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Australian Energy Regulator
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Submitted by email to wholesaleperformance@aer.gov.au

Approach to Electricity Wholesale Market Performance monitoring – Discussion Paper

Snowy Hydro Limited welcomes the opportunity to comment on matters raised in the Discussion Paper from the Australian Energy Regulator (the AER) on the approach to electricity wholesale market performance monitoring.

Snowy Hydro Limited is a producer, supplier, trader and retailer of energy in the National Electricity Market ('NEM') and a leading provider of risk management financial hedge contracts.

Executive Summary

Snowy Hydro would be concerned if the AER's new long term market monitoring function makes the AER more intrusive on the commercial decisions of competitive Market Participants.

There is currently no significant evidence that the NEM is failing to deliver sound outcomes. In the NEM the reliability has been essentially met while the price spikes have been an intended feature of the energy-only market design. A mismatch of Commonwealth and state policies and a lack of integration of climate change policies with energy policies has however resulted in increased cost and higher risk for energy users which are challenging the integrity of the NEM. While electricity markets may have some features that are not common to many commodity markets, in practice the NEM operates as any other market within the economy but with generally greater transparency.

Snowy Hydro considers that the AER should make it clear that their focus is on examining the efficiency of the NEM and not an indirect examination of alleged anti-competitive use of market power. The AER in their reporting should be mindful of the limitations generators face due to many factors outside their control such as sporadic demand and binding of constraints on transmission, and hence undertake an assessment period of substantially longer than a single trading interval while also understanding the difficult and complex cost characteristics facing generators.

We believe the AER should only use and rely on the range of public information available through data published by AEMO, the AEMC and jurisdictional regulators. There should be consistency with other publicly available electricity reports although any NEM energy

market only research the AER undertakes needs to be restricted to the NEM as it is a unique market and comparison abroad should be avoided.

Snowy Hydro welcomed the opportunity to participate at the Public Forum on the 6 October 2017. For the AER the objective of the forum was summarized by the following three perspectives. Snowy Hydro provides its feedback on these three issues and expands on them further in the body of the submission.

How should the AER approach its new functions -

The AER should only use publicly available data. The breadth and depth of this public data is sufficiently wide and deep to allow the AER to analyse and make an informed assessment of the state of the NEM. We strongly caution against compelling Participants to divulge confidential data/information which would undermine certainty and confidence in operating in the NEM and hence would deter new investment in the NEM and/or create increased costs for these new investments as investors would incorporate an additional risk premium for investing and operating in an intrusive regulatory environment.

Where can the AER's monitoring add the most value -

As highlighted at the public forum there is already a vast array of reports and analysis undertaken from the three NEM regulatory institutions including the AER. These reports include but are not limited to:

AEMO: Market event reports, market incident reports, Settlement Residue Auction reports, The planning reports such as the ESOO and the NTNDP which has commentary on gaps in network ancillary services.

AEMC: Adhoc reports such as the "Integration of energy and emissions reduction policy" which provided analysis and commentary on the likely effect on emissions reduction policy on the performance of the wholesale electricity markets.

AER: Electricity and gas reports and various pricing reports, the annual state of the energy market report.

The AER should perform a stock of all available reports and identify any gaps in the reports. Where these gaps cannot be filled from the original authors of the report, then the AER could add the most value by analysing and reporting on these gaps in their two yearly report.

What issues, analysis or tools should the AER prioritise -

The AER should only focus on the relevant spot markets in electricity, gas, and frequency control ancillary services.



Snowy Hydro believes the AER should be mindful of the following issues:

- Timeframes. The Good Faith Rebidding rule change has removed any perceived gaming of the bidding and rebidding process in the 5 minute/dispatch period timeframe. Further to this the AER already has a general Rules monitoring and surveillance role that investigates unusual short term dispatch and pricing outcomes. Hence it would be unproductive for the AER under its new wholesale market performance monitoring role to concentrate on isolated 5 minute pricing outcomes.
- Transient versus substantial market power. It is important for the AER to differentiate between transient and substantial market power. There are well known research that supports the exercise of transient market power in an energy only market. The exercise of substantial market power is tempered by the threat of new entrants. Hence an assessment of the performance of the wholesale market must have regard to whether or not there are barriers to new entry.
- The use of planning inputs such as LRMC for different technologies should only be one of many inputs to determine the performance of wholesale markets. This is because LRMC values do not reflect specific conditions in the NEM for all the different generation mixes. LRMC values for planning purposes cannot and does not take into the opportunity costs of energy limited generation plant such as hydro generation. The opportunity costs of these plant varies all the time and are dependent on sporadic variables such as demand and transmission constraints.

AER reporting should only use publicly available data

Snowy Hydro does not necessarily oppose the concept of undertaking comprehensive wholesale electricity market monitoring. However, we believe this reporting should be done using existing reports already compiled by the AER, AEMO, and the AEMC. The reporting should only use publicly available data. There would be increased cost, substantial administrative burden, and risks if the AER were to impose some form of mandatory reporting/data collection to facilitate the AER's wholesale market performance report.

As Australia's energy system progresses through a structural adjustment towards lower emissions, challenges are arising to balance system security and reliability which are leading to significant reform changes. Snowy Hydro believes an additional layer of mandatory reporting will be onerous on businesses and add further costs as we work through the numerous reform changes progressively being implemented. Such a requirement would also increase the risk of operating in the competitive market and hence new investors would incorporate a higher risk premium for new entrant generation plant.



AEMC Analysis on Potential Generator Market Power in the NEM

In 2013 the AEMC considered for the MEU Potential Generator Market Power in the NEM rule change that the market outcomes in Queensland, New South Wales and Victoria did not support a conclusion that there is or has been substantial market power in those regions of the NEM. In South Australia there was no significant indication whether substantial market power had existed in that region¹. We believe four years later the AEMC would reach the same conclusion.

Defining effective competition and efficiency

Snowy Hydro agrees with the AER that *“analysing the effectiveness of competition and the efficiency of the market is a complex task”*². The current market structure of the Australian energy sector is the result of ongoing National Competition Policy reforms applied across the Australian economy since the early 1990s. Over the past two decades successive federal and state governments have pursued an extensive reform program that dramatically changed the electricity supply model. This reform program included: physical interconnection, structural separation, corporatisation, privatisation, creation of formal physical and financial markets and regulatory frameworks.

The directing principle through this reform has been that the best way to deliver the electricity supply the community expects is by transferring primary responsibility for supply from governments to markets. This has seen decentralised, commercially-driven decision-making by private and corporatised entities replacing the old paradigm of centralised decision-making.

The design features of the NEM’s energy-only market are well-understood. It is a mandatory gross wholesale pool into which generators sell their electricity. Bids are dispatched by AEMO on an economic merit basis (subject to reliability and security constraints), with the price set by the marginal generator. This imposes powerful competitive discipline on generators to bid at, or even below, short-run marginal cost (SRMC) as they must compete with each other through the interconnected system by submitting bids for every five minute dispatch interval.

An integral feature of the market is its ability to experience high-priced events (up to the market price cap which is set at \$14,200/MWh). Although high priced events are relatively rare, they provide the necessary revenue for peak load stations to switch on and enable base-load stations to bid at or below SRMC for much of the time. Most importantly, high prices raise the volume weighted pool price and provide the signal for new investment and new competitors. As such, by design, the energy-only NEM may not a perfectly competitive market but as determined by the AEMC through the MEU Market Power rule change, the practical assessment for the NEM is whether it is “workably competitive”.

¹ AEMC, 2013, “Potential Generator Market Power in the NEM – Final Rule Determination”

² AER, 2017, “Approach to electricity wholesale market performance monitoring – Discussion Paper”, pp 17.

Price spikes are essential in an energy-only market to support sufficient generation capacity, including at the extreme peaks of demand, and to enable more regularly dispatched generators to earn sufficient revenue to cover their fixed costs, which can be a significant proportion of their total costs. Generation dispatched to meet occasional peaks in demand may not be required for the majority of the year and must be able to earn sufficient revenue when it does run to contribute to its year round fixed costs.

The best market design is a perennial question around electricity policy. However, the effects of the lack of a national and integrated approach to climate change policy, as state based renewable energy targets put the stability and security of the electricity power system at risk, and clouds any proper assessment on the market competitiveness at the current time.

What framework to use?

A key feature of a competitive market is the threat of new entry. If there are any market participants exercising market power, by sustainably raising price above long-run marginal cost, they will face competition from new entrants provided there are no significant barriers to entry.

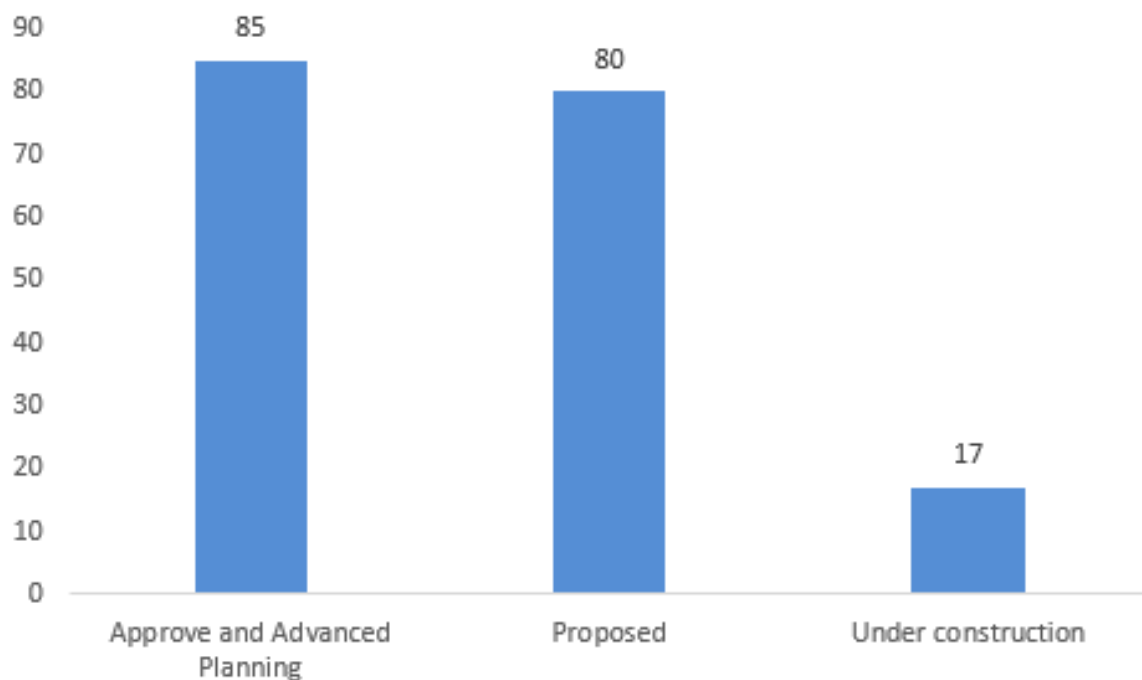
The key barriers to generator entry in the NEM relate to the need to incur high fixed costs that become sunk after entry and the lead-time for investment. Combined with the discreteness or “lumpiness” of generation capacity, this means that investors will not seek to develop new generators unless they have a reasonable level of confidence that average wholesale prices will remain sufficiently attractive post-entry that they will be able to earn a normal profit on their investment over time. This is consistent with the proposed temporal dimension of the market as encompassing the time period over which generators base their entry decisions. Nevertheless, the history of generation investment in the NEM indicates that the barriers to entry are relatively low.

According to the Australian Energy Council’s and Energy Networks Australia Electricity Gas Australia 2017 report, in the NEM there are currently 1,612 MW of generation projects under construction, 16,480 MW at advanced planning stage, and 16,310 MW proposed. While not all of these power stations will ultimately be commissioned, reflecting different commercial and policy drivers, this investment activity gives an indication of the success of the NEM in encouraging new entry and disciplining market power³.

³ Australian Energy Council and Energy Networks Australia, 2017 Electricity Gas Australia



Figure 1: NEM Number of Proposed, Approved and Under Construction projects⁴



The future investment environment for the NEM is being impacted by the current uncertainty on greenhouse policy. Competitive pressures on generators both from competitive bidding and new entry exists throughout the NEM given its interconnection.

How does the AER develop their approach?

The NEM is a competitive market although the unique characteristics of power with the instantaneous supply and demand balance requirements in the market make it difficult to assess.

The cost characteristics of generators are significant and vary depending on generator and transmission availability due to temperature and other weather related impacts as well as rapid demand changes. Generators incur the following costs:

- Depending on the technology generators face substantial sunk costs. Significant costs that has already been incurred.
- Large fixed and sunk costs suggest price oscillations may be substantial and prolonged.
- Capacity is installed in increments greater than necessary to meet demand in the year capacity is added, lead time for entry – which does not match the planned lead time, long lived assets
- Generation plant type mix may not be optimal at any particular point in time.

⁴ Australian Energy Council and Energy Networks Australia, 2017 Electricity Gas Australia

The disequilibrium either a surplus or deficit of generation compared with demand can change. Price variations are inevitable in the immediate and long term if supply and demand is to be kept in balance. The time to achieve equilibrium may be lengthy if new capacity is required.

The economic conditions underpinning the NEM may not be those of a perfectly competitive market but a workably competitive market. The AER should take care in undertaking simple models of pricing behavior that are not applicable to fixed and sunk costs which can result in prolonged periods of prices being above and below the notional long-run price.

Market definition should be undertaken with a view to capturing all relevant factors that are likely to constrain the pricing and output decision of the electricity generator(s) in question. Snowy Hydro believes the process should consider all the factors likely to constrain those generators whether it be pricing and output decisions, including the extent to which they are likely to do so.

The geographic and temporal dimensions of the market are less obvious. The interconnected nature of the NEM means that the geographic dimension should be national rather than state-based, and should include interconnected participants in Queensland, New South Wales, the ACT, Victoria, South Australia and Tasmania. The interconnected nature of the NEM indicates that generators from across these jurisdictions are able to supply consumers in any one of those jurisdictions. This means that generators across the NEM can constrain, at least to some degree, the prices bid by any given generator.

Snowy Hydro notes the ability of electricity generators in one NEM region to supply consumers in another region can be limited at particular times due to the binding of constraints on transmission interconnectors. These limitations should be taken into account by the AER when assessing the extent to which generators throughout the NEM are likely to constrain the pricing and output decisions of individual generators.

Snowy Hydro believes the period of time relevant for the assessment should be substantially longer than a single trading interval. One approach to narrowly define the market at the level of a 30-minute trading interval would be misleading as it would not reflect the basis on which generators operate their businesses. Generators make their business and investment decisions having regard to their ability to earn a commercial return over the life of their investment and do not enter or exit the market on the basis of the price they receive for their output in a particular trading interval. This suggests that the appropriate temporal dimension of the market should be substantially long such as over a three period.



Snowy Hydro appreciates the opportunity to respond to the Discussion Paper. Any questions about this submission should be addressed to Panos Priftakis, Regulation Manager, by e-mail to panos.priftakis@snowyhydro.com.au.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'K Ly', with a horizontal line underneath.

Kevin Ly
Head of Wholesale Regulation
Snowy Hydro

