Lantau Pique

In This Edition

In this issue of Lantau Pique, TLG senior advisor Greg Denton takes a look at the proposed good faith bidding rule and finds little to get excited about. Why not tackle the real problem and align dispatch and settlement interval pricing?

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Good Faith or Better Markets?

The Australian Energy Market Commission (AEMC) is considering a proposed change to the National Electricity Market (NEM) rules that is entitled "good faith bidding"[1]. The NEM operates as a continuous series of auctions, where the market operator seeks to select the lowest-cost available generation in each 5-minute period. According to the proposed change, at issue is the timing and quality of information provided by market participants in advance of each auction, and whether this information is accurate and can be relied upon.

"When the facts change, I change my mind. What do you do, sir?"[2]

Most auctions have no requirement for accurate and timely bids and offers. Participants are typically free to bid (or not) and offer (or not) as they see fit, with no need to consider the consequences of their actions on other participants. In most auctions, as in most markets, participants are expected to act purely in their own profit-maximising self-interest.

Electricity markets auctions are different only because of the underlying physical nature of electricity, and the need to reliably maintain continuous electricity supply. To paraphrase the objectives of the NEM, participants in the market are expected to profit maximize but must only do so in a way that does not threaten the security and reliability of electricity supply.

The embedded assumption here is that prices in the NEM will be regulated by competition among electricity suppliers, and that free and fair competition will result in the lowest cost, reliable supply of electricity to consumers over time.

1 See: AEMC Draft Rule Determination, National Electricity Amendment (Bidding in Good Faith) Rule 2015, Rule Proponent: Minister for Mineral Resources and Energy (South Australia), 16 April 2015. Hereinafter, the "Draft Determination". A copy can be found at www.lantaugroup.com/files/aemc.pdf.

2 At this point it is not clear that this quote (or a close copy) can be pinned authoritatively on Winston Churchill or John Maynard Keynes -- two who are commonly cited. For our purposes, we are happy to rely on Paul Samuelson, 1970 Winner of the Nobel Memorial Prize in Economics, who happened to ascribed it to Keynes in a 2009 New Yorker article at www.newyorker.com/news/john-cassidy/postscript-paul-samuelson.

As a result of a rule change in 2002, the National Electricity Rules ("the Rules") require participants to bid and offer in good faith (clause 3.8.22A). For every bid or offer, a participant must have a genuine intention of honouring it, if the material conditions and circumstances remain unchanged. In the thirteen years since this clause was introduced (and the prior four years of operation), there has not been a single incident where reliable electricity supply was interrupted or placed at risk due to the bid and offer strategies of participants.

So the question becomes – *what is the problem that needs solving?* The importance of this question is revealed by the AEMC in its draft determination document. AEMC states that the good faith bidding provisions were introduced in 2002 due to concerns of the jurisdictional ministers that wholesale price outcomes were being manipulated[3]. The proponent of the rule change to modify the good faith bidding provisions (the South Australian Minister for Mineral Resources and Energy) is concerned that the outcome of a Federal Court decision in 2011 *"introduced uncertainty around the operation of the bidding in good faith provisions and highlighted issues in relation to the implementation of the original policy intent."*[4] Said another way, the South Australian Minister is not concerned about the security and reliability of electricity supply, but rather the possible manipulation of wholesale price outcomes.

The rule change has been proposed with the objective of regulating prices.

To answer whether prices need to be regulated through a restriction on bidding behaviour, the following questions need to be considered:

1. How material is the issue?
2. What circumstances and/or conditions motivated the request to regulate prices through the good faith bidding rules?
3. Is there a better way to address the concern?

Materiality

The AEMC commissioned analysis to determine the materiality of the need to regulate prices. The analysis supports the conclusion that as a result of late bidding practices, price spikes have occurred in South Australia and Queensland in the last year. It is reasonable to conclude that late bidding practices probably resulted in price spikes in other areas at other times as well. *However, with average prices in the NEM well below all reasonable estimates of the price needed to justify building a new generator, it is also reasonable to conclude that the transient pricing power caused by late bidding does not occur frequently enough nor with sufficient financial impact to suggest that there is a need to regulate prices.*

This issue fails the materiality test.

Ordinarily, the AEMC stated that it would reach this conclusion.[5] However in this case, the AEMC concluded that because new fast-response generation or load activities could not respond to the price signal created through late rebidding, there might still be a need to regulate bidding activity.[6] Rather than dismissing the need for a rule change because it lacked materiality, the AEMC asserted that competition cannot take place – an assertion which does not appear to be borne out by the facts.

This review is being considered in an environment where market prices are being manipulated at a macro scale by extraordinary policy shifts and technology forcing subsidies. Policy makers' concern over a few, infrequent, short-term, and broadly immaterial price spikes in limited geographic areas is misplaced.

Motivation

The motivation to regulate bidding behaviour appears to be the desire of the proponent and the AEMC to avoid explaining price spikes enabled by the market design, even in an environment where prices are below their long run expectations.

The AEMC state that its consultants found that *"late rebidding often has a role to play in responding to forecast price spikes and reducing anticipated market volatility"* with the implication that this was a "good" outcome.[7] It also found that late bids *"in Queensland has resulted in price spikes"*, with the implication that this was a "bad" outcome. The NEM is designed to be a volatile market when necessary and participants have the tools to manage the associated risks. This volatility contributes to overall pricing which signals the need for new entry; and the type of volatility highlights the type of new entry required. This short time frame volatility merely highlights the value of a faster response plant. Given this, the AEMC has not articulated why price spikes that result from late stage bidding responses are inconsistent with its stated objective to *"allow the market to trend towards a longer-term equilibrium"*.[8]

Is the solution really to impose a greater administrative burden on participants in the industry through the information requirements and complexity of the good faith bidding rule changes, or can we do better?

The More Important Issue

The proposed good faith bidding provisions are intended to address the inability of market participants to respond to bids and offers made immediately before a dispatch interval. However this inability is a function of:

3 Draft Determination, Pg 1.

4 Ibid.

5 Ibid., 25

6 Ibid.

7 Ibid., iii.

8 Ibid., ii.

1. The physical limitations of plant (both generation and loads) to respond to a modified price signal within 5-minutes;

2. The physical limitations of the transmission network and how it is represented in the NEM algorithms to allow competition across locations; and

3. A peculiarity in the NEM Rules that averages the 5-minute dispatch interval price outcomes into a half-hourly trading interval price.

The AEMC considers that the physical limitations (1 and 2) favor generators that are online and regularly being dispatched. In some time periods, these generators can re-price their offering just before a dispatch period with only limited risk that their volume outcome will be lower because of the reduced competitive threat caused by the physical limitations.

The averaging of price outcomes into half-hour trading intervals (3) distorts this further. Bidding behaviour that modifies a price outcome in a single dispatch period impacts the volume in the other five dispatch periods of that trading interval. A price spike in the last dispatch period will increase the price received for electricity volume in the five previous dispatch periods, effectively on an ex-post basis. Conversely, a price spice in the first dispatch period will carry over into the following five dispatch periods, artificially motivating additional supply.

At its forum on good faith bidding in Brisbane, the AEMC heard how Sun Metals lost a month of production because, although it can respond to a 5-minute price signal, it could not risk being exposed to the ex-post recalculation of trading interval prices during the volatile summer period. The averaging of the 5-minute price across the previous five dispatch periods means that even if an end user is able to completely avoid consuming electricity during, say, the last of the six, five-minute price intervals that are averaged to form the NEM's 30-minute settlement prices, a price spike in that last five minute interval will spillover—through the averaging process—causing prices in the other 25 minutes to be higher. Clearly, this sort of averaging greatly reduces the incentive to develop the sort of demand-response capability that is a natural competitive counterbalance to late-stage supply rebidding. Why does this market peculiarity still exist?

Rather than introduce a confusing layer of faith-based regulation that risks ensnaring both legitimate responses to changing market conditions and the occasional sneaky bidder, why not tackle the underlying problem by increasing the effectiveness of competition instead?

These are clearly issues worthy of being addressed, and should not be hidden underneath a restriction on legitimate bidding competition between market participants.

- To address the physical limitations, the AEMC should investigate ways that network constraints are managed and represented in the NEM to reduce the number of time periods when the market is geographically sub-divided. Improvements in accuracy and a more dynamic representation of transmission constraints will enable competition to regulate prices.

- Removing the averaging of prices across trading intervals will de-leverage late bids. It promises to simplify the market and improve its pricing transparency.

The AEMC acknowledges that late bidding provides a useful role in price discovery process. However we need to be careful not to judge its value through quantifying the direction or volatility of prices in any limited period or geography.

Late bidding allows market participants to absorb, consider, and respond to all information, limited only by the constraints of 5-minute market auction process, the need for electricity supply to be reliable, and the real physical constraints of the participant's assets.

Equally important, aligning prices to their underlying cause clarifies the value of fast response.

It is not hard to imagine improved generation and demand-side response if the identified market flaws are addressed. The dynamic response in the medium term might involve new technologies. This is how markets work.

Conclusion

The AEMC is incorrect to consider regulating bidding activity to address issues in the market design.

Late stage bidding is a necessary adjunct to the longer-term support of faster demand and supply response – a good outcome in the long-term, as it aligns with the increasing importance of faster response capability in markets with greater generation supply intermittency.

However, such responsiveness is limited by price distortions resulting from the 30-minute averaging of dispatch interval prices.

Moving to five-minute pricing, fully, would reduce incentives for manipulative activity as well as enhance incentives for faster demand response.

The AEMC should shift focus to this much more important problem.

About the Author

Greg Denton

Greg has nearly 20 years of experience in the electricity and gas industries in a variety of consulting, trading and strategy roles, both in Australia and internationally. Most recently he held a number of executive positions with WorleyParsons. He was involved in the implementation of the market and regulatory structures for electricity and gas in South Australia and Western Australia, established an energy market trading organization, and has led the delivery of infrastructure projects. Greg was formerly the Chairman of the Australian Sustainable Energy Association. He holds an MBA with distinction from Wake Forest University, and Bachelor of Arts (economics & politics) and Commerce (finance) degrees from the University of Otago (NZ).

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