

Mr John Pierce
Chairman
Australian Energy Market Commission
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Sydney South NSW 1235

Submitted via www.aemc.gov.au

11 June 2015

Dear Mr Pierce,

Submission on bidding in good faith draft determination (ERC0166)

EnerNOC is grateful for the opportunity to comment further on the important issues raised in this rule change process.

We think that the Commission has done a good job of investigating the issues. We are glad that the Commission agrees that the price signals resulting from the troublesome late rebidding behaviour are not efficient, that the 5m/30m issue exacerbates the problem, and that the issues are material.

We believe that these two issues – 5m/30m and late rebidding – must both be addressed. There would be a good case for addressing each of them alone. However, the combination of the two issues is particularly damaging, in that it strongly discourages consumer participation in the wholesale market.

There has been ample evidence presented by energy consumers that these issues are serious and must be addressed.¹ Leaving these issues unresolved would undermine many of the recent and current reforms which are intended to promote demand-side participation.

In this submission, we address the two issues in turn, examine some of the arguments that have been raised by parties opposing reform, and then make recommendations.

1 5-minute/30-minute issue

It was gratifying to see the widespread agreement at the public forum on 18 May 2015 that the discrepancy between 5-minute dispatch periods and 30-minute trading periods is a big problem that should be fixed.

¹ e.g. Sun Metals at the 18 May 2015 public forum, and Visy at the 5 May 2014 public forum and in their submissions.

The 5m/30m issue is an unjustifiable anachronism, dating back to 1996.² The reason for its inclusion appears to have been to reduce the amount of data needed for settlement, so as to reduce data communications, processing, and storage costs. Settling on a 30-minute basis, rather than a 5-minute basis, reduces some data requirements by a factor of six. However, in the intervening period of around 20 years since this decision was made:³

- Commonly available network bandwidth has increased by a factor of around 2,500.
- Computing power of typical microprocessors has increased by a factor of around 10,000.
- Hard disk storage has fallen in price per unit of data stored by a factor of around 10,000.

To introduce all the previously-discussed distortions associated with the 5m/30m issue in order to reduce these costs by a factor of six may have been a justifiable trade-off when the decision was originally taken, but cannot possibly be so now that the costs have fallen so far.

As explained in the draft decision, the 5m/30m issue greatly exacerbates the effect of late rebidding. However, even if we had hard gate closure – so that late rebidding would be completely eliminated – the 5m/30m issue would still be damaging, due to its distorting effects on price signals when there is an unexpected upset in the supply:demand balance.

If the effect could no longer be deliberately exploited, it should occur less frequently. Nevertheless, it would continue to cause three problems:

- Even consumers who can respond instantly to high spot prices by completely curtailing their consumption are unable to avoid exposure to those high prices if they occur late in a trading interval, because they occur retroactively. This discourages spot price exposure, and hence discourages participation.
- This non-causal pricing behaviour also affects the sale of caps by fast-starting peaking generators: even if they respond perfectly and instantly to price signals, their spot market revenues will not cover their hedge payouts when a price spike hits late in a trading interval. They therefore need to build an additional risk margin into their hedge prices to cover this exposure.⁴
- Where a high price occurs early in a trading interval, there is an incentive for exposed loads to continue to curtail and generators to continue to

² As part of VicPool III, a predecessor to the NEM – see e.g. Frank A. Wolak, *Market Design and Price Behavior in Restructured Electricity Markets: An International Comparison*, in Ito et al., *Deregulation and Interdependence in the Asia-Pacific Region*, 2000, p. 101.

³ Per Nielsen's Law, Moore's Law, and US price data available here: <http://www.jcmit.com/disk2015.htm>

⁴ Demand Response Aggregators under the proposed Demand Response Mechanism would be in the same position as peaking generators.

increase output for the remainder of the trading interval, even after the required correction has been overshoot.

The first problem impairs price discovery and reduces competition. The second problem raises the price of caps, which flows through into retail prices. The third distortion results in inefficient dispatch of high-cost resources ahead of lower cost ones.

The 5m/30m issue has been explored before. In particular, NEMMCO ran a process in 2001-03. This examined a range of options to fix the problem. However, we understand that it was undermined at a late stage by retailers submitting fanciful implementation cost estimates.⁵ (A tactic they may well use again.)

It is worth noting that the majority of submissions were highly critical of the modelling of benefits and the gross overestimation of costs, and disagreed with NEMMCO's recommendation that no further action should be taken.⁶ We therefore recommend that NEMMCO's previous conclusions be discounted, and the issue examined afresh, with rigour.

2 Late rebidding

We agree with the Commission that the problem to be solved is the ability to make rebids which are timed such that other parties cannot respond. We agree that it does not make sense to try to distinguish between "good rebids" and "bad rebids" on the basis of their effect on price.

We also agree that the fundamental problem is that the rules allow for such behaviour: it would be necessary to fix this even if participants had not shown the willingness and ability to exploit it.

The "protection racket" characterisation is apt: the ability to rebid in this way allows a class of participants (generators who are already generating) to cause price spikes at will, imposing costs on everyone who is buying from the spot market. Consumers can either just keep on paying out, hoping that it won't happen too often, or buy insurance in the form of caps or swaps. However, the only class of participants that can sell insurance against these events cost-effectively (i.e. other than by simply taking on the risks themselves, with no physical hedge) is that same group which causes the events in the first place.⁷

⁵ The proposed reforms had the biggest impact on NEMMCO's market systems and on generators (since they are the ones which would be required to move to 5-minute settlement). However, taking retailers' cost estimates at face value, NEMMCO concluded that retailers would incur 96% of the total up-front implementation costs, and 99% of the total ongoing costs. See NEMMCO, *5 Minute Dispatch and 30 Minute Settlement Issue: Draft Final Report*, June 2002, p. 57. (The full details were not included in NEMMCO's final report.)

⁶ NEMMCO, *5/30 Issue: Final Report*, February 2003, p. 7. These dissenting submissions were made by Hazelwood Power (now GDF Suez), Hydro Tasmania, National Generators Forum (now ESAA), Snowy Hydro, Southern Hydro (now Meridian), TransÉnergie Australia, and TXU (now EnergyAustralia).

⁷ Late rebidding causes unforecastable price spikes at times spot prices would otherwise be low, and hence peaking generators – who are usually the marginal suppliers of caps – are not running. Peakers will therefore have no spot price revenue to cover any cap payouts.

Fixing the 5m/30m issue will greatly reduce the impact of late rebids on those customers and peaking generators who are able to react immediately to price excursions, as they will then be able to respond effectively to late rebids.

However, late rebids would still be a problem, as they would still allow scheduled generators (even those with very slow ramp rates) to create from nowhere a huge disturbance in the market which requires instant response. A natural reaction would be for peaking generators and loads to invest to reduce their response times. With the 5m/30m issue fixed, this would be partly effective in constraining late rebids, by making them less profitable. However, as identified in the draft determination,⁸ such investment would not be efficient, as there is no actual physical problem driving a need for fast response: the apparent investment signal is spurious.

We agree with the approach of reframing offers as a continuing representation of willingness to supply on those terms.

We also agree with the chosen timeframe for gate closure. 15 minutes before the beginning of the trading interval is appropriate while we have 30-minute trading intervals. If the 5m/30m issue is resolved by a move to 5-minute settlement, this could probably be reduced to 5 or 10 minutes.

The Commission's proposed very soft gate closure – through additional reporting requirements – is a step in the right direction. It definitely does not seem like a step too far, despite the inevitable protests of the generator lobby: requiring more rigour around last-minute rebidding decisions is surely no bad thing.

However, we are skeptical that reporting requirements, combined with the potential for the AER to take action, would be sufficient to change behaviour. Rather than relying on the threat of enforcement of fuzzy behavioural rules, surely a more effective approach would be to adapt the design of the market to remove the opportunity for the undesirable behaviour?

We believe that the problems of gate closure have been greatly overstated: pretty much every electricity market in the world (including the other energy-only ones) has some form of gate closure: it is not unworkable, and they do not seem to suffer the huge inefficiencies that have been postulated here. We would therefore favour a harder gate closure – for example one in which later rebids are only allowed for bona fide physical reasons, and only to the extent necessitated by those physical events. We are familiar with this approach from the New Zealand market, where it works. Investigating whether a physical event occurred, and even why it occurred, should be much more straightforward than trying to carry out enforcement on the basis of inference about the beliefs of traders.

⁸ Draft determination, pp. 21, 25-26.

3 Bogus argument against reform

We note that the generator lobby continues to argue that, so long as spot prices are on average below the long-run marginal costs of a new entrant, the market must be working fine, so no reform can be justified.⁹ We agree with the Commission that this consideration is irrelevant.¹⁰ In a truly competitive market, significant oversupply will lead to very low prices. This benefits consumers, and may provide an effective price signal for supply-side retirements. If suppliers are able to play games to push prices up above where they would be if the market were properly competitive, this harms consumers – even if suppliers do not manage to push prices up as far as the LRMC.

4 Conclusion

In our view, the 5m/30m issue is probably the more important of the two issues, However, we believe that both issues should be addressed.

We think it would be better to prevent strategic late rebidding by removing the opportunity to exploit it, rather than relying on behavioural rules. However, if that is not achievable, then we support the Commission's proposed rule: it may be effective, and it is surely not overly burdensome.

While we welcome the renewed attention to the 5m/30m issue, we are concerned that the emphasis recently placed on it by some stakeholders may stem largely from a desire to draw attention away from other issues.

If the Commission feels unable to address the 5m/30m issue as part of this rule change, it should make a clear statement that it believes that it should be addressed, with some ideas as to how, so that a proponent would be encouraged to put forward a corresponding rule change.

I would be happy to provide further detail on these comments, if that would be helpful.

Yours sincerely,



Dr Paul Troughton
Senior Director of Regulatory Affairs

⁹ Used in submissions from the ESAA, GDF Suez, InterGen, National Generators Forum, Origin, and Stanwell, as well as at the 18 May 2015 public forum.

¹⁰ Draft determination, pp. 25-26.