23 October 2017

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Mr John Pierce
Chairman
Australian Energy Market Commission
PO Box A2229
Sydney South NSW1235

Dear Mr Pierce

Submission on the AEMC's Draft Determination – National Electricity Amendment (Five Minute Settlement) Rule

AEMO welcomes the opportunity to provide a submission on the AEMC's Draft Determination on the National Electricity Amendment (Five Minute Settlement) Rule.

As indicated in previous submissions on the topic, AEMO acknowledges the issues raised by the proponent and continues to support the alignment of settlement and dispatch. AEMO considers that the draft determination represents a robust and workable approach to achieving the intent of the original rule change proposal and suggests the following modifications to further enhance the impact. AEMO looks forward to working with the AEMC and the industry to implement five minute settlement in accordance with the timelines set out by the AEMC.

Different types of resources and requirements are needed to meet demand: fast responding, slow responding, contingency reserves and black start reserves. Specifying these requirements becomes more critical when some resources that don't inherently provide all required services enter the market. Optimal outcomes will be delivered when prices accurately value a resource that delivers security and reliability to the system. In our view the shift towards five minute settlement is positive change and allows for more efficient price signals and improved transparency in the market.

We would be pleased to provide further assistance to the AEMC regarding the matters highlighted. If you would like to discuss or have any questions regarding this submission, please do not hesitate to contact myself or Violette Mouchaileh, Group Manager Market Enhancement, on (03) 9609 8551.

Yours sincerely

Peter Geers
Executive General Manager, Markets

Attachments: National Electricity Amendment (Five Minute Settlement) Rule: AEMO Submission to the AEMC Draft Determination

NATIONAL ELECTRICITY AMENDMENT (FIVE MINUTE SETTLEMENT) RULE

SUBMISSION TO AEMC DRAFT DETERMINATION

Published: **October 2017**

AEMO
AUSTRALIAN ENERGY MARKET OPERATOR

1. THE NEED FOR MORE GRANULAR PRICING

AEMO welcomes the opportunity to provide a submission on the AEMC's draft determination paper on the Five Minute Settlement rule change proposal.

As indicated in previous submissions on the topic, AEMO acknowledges the issues raised by the proponent and continues to support the alignment of settlement and dispatch. AEMO considers that the draft determination represents a robust and workable approach to achieving the intent of the original rule change proposal and suggests the following modifications to further enhance the impact. AEMO looks forward to working with the AEMC and the industry to implement five minute settlement in accordance with the timelines set out by the AEMC.

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2. CONTRACT MARKET IMPLICATIONS

AEMO has advised the Commonwealth Government[1] that with the retirement of baseload generation, there is evidence of a reduction in liquidity in the derivative market, which would seem to be at least partly responsible for the recent increase in wholesale prices. There are also specific areas where a lack of liquidity has long been a problem, such as in South Australia. AEMO also noted:

- There is little certainty to be derived from the forward market for investors in new dispatchable generation.
- For gas powered generation, problems are compounded by the absence of a robust forward market and a contract market that is opaque and illiquid.
- A reduction in baseload generation is likely to lead to a reduction in the volume of swaps being offered to the wholesale market and an increase in their price. However changes in load shapes are likely to reduce demand for swaps but increase demand for caps.

Figure 1 shows ASX cleared volumes which show a lower level of trading recently compared to peak volumes in 2010 and 2011.

[1] Available at: http://aemo.com.au/Media-Centre/AEMO-advice-to-the-Commonwealth-government

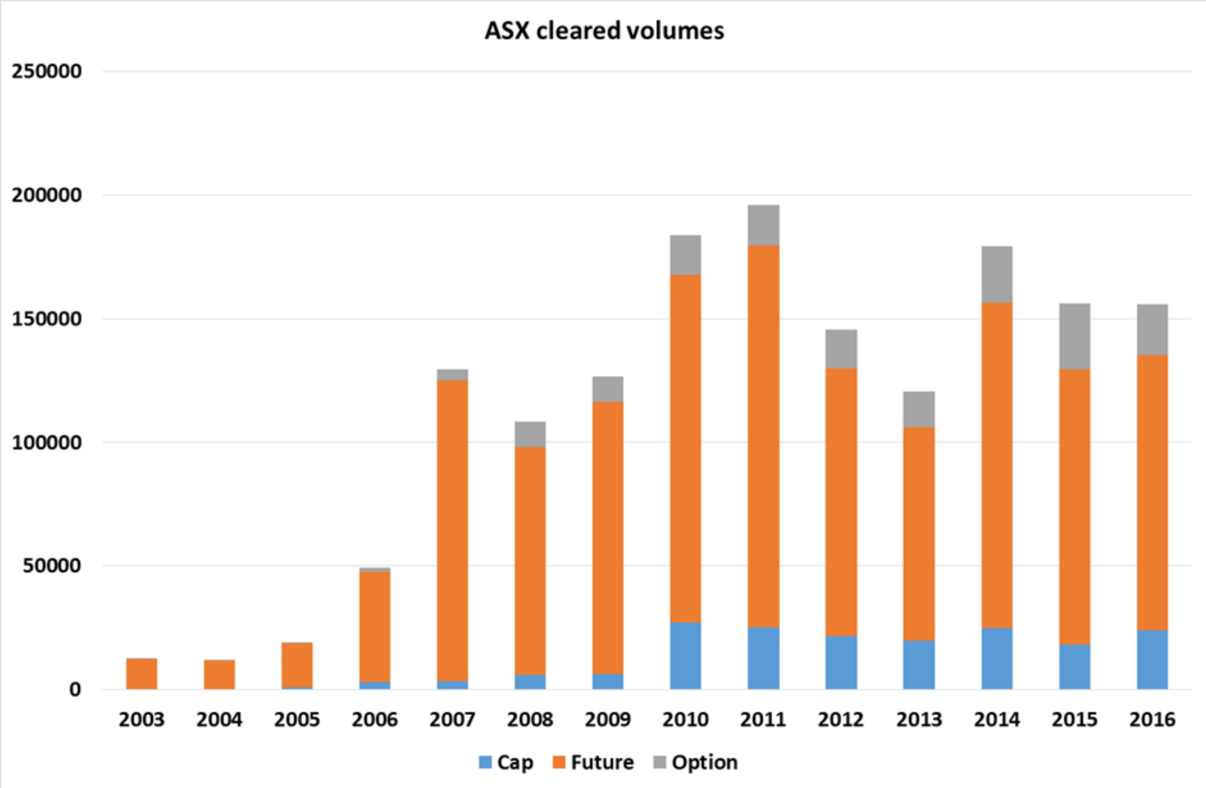

Figure 1 ASX Cleared Volumes 2003-2016

Five minute settlement is expected to have further impacts on the contract market, including the potential for product illiquidity, especially in relation to caps. This may then affect the financial viability of generators that are reliant on the sale of caps, and customers that seek to purchase caps. Furthermore, while contract markets can provide hedges, currently they do not provide the necessary transparency to the system operator to operate a secure and reliable system, while ensuring the optimal amount of reserves are procured. In addition, contract markets will not provide hedging or reliability for spot-price exposed customers.

The Finkel review identified a day-ahead market as a way of providing forward transparency to contribute to short-term reliability. This would help reduce the costs associated with market interventions. Increasing transparency and certainty for the operator has the potential to reduce the margin of error and allow the system to be operated less conservatively.

The Texas market is an energy-only market that uses a day-ahead market (DAM)[2] to provide a platform to hedge congestion costs and instruments to mitigate the risk of price volatility in real-time. It matches willing buyers of sellers whereby energy is co-optimised with ancillary services and congestion rights. The market itself is voluntary, but is financially binding. Ancillary services in Texas cover regulation, non-spinning reserve and responsive reserve, which appears to be broader than the concept of the NEM's market ancillary services.

Day-ahead markets also have the potential to promote demand side participation. By making system requirements more transparent, customers have more time to prepare and put alternative arrangements in place.

It is thus important that these market solutions are reviewed and developed together with the implementation of five minute settlement. As part of the orderly transition review process, AEMO

[2] ERCOT. *Day-Ahead Market.* http://www.ercot.com/mktinfo/dam

recommends that actions to improve the efficiency, reliability and liquidity in the market including the design and implementation of the day-ahead market and improved markets for demand response, as well as consideration of better markets for fast frequency regulation and load following be pursued in a time frame that further ensures the success of the five minute settlement.

3. TRANSITION ARRANGEMENTS

The transition to five minute settlement is a critical component of the rule change. Participant experiences in respect of transitioning over to the new approach are likely to shape their initial views of the rule change. A smooth and effective transition is therefore essential in shaping the overall success of this rule in achieving its intent, and avoiding the risk of market disruption.

Transition management in respect of this rule change will incorporate several streams including systems, metering and hardware, contracts, market and contracts. In this respect it is not only the overall timeline and period for implementation that is relevant but also the specific approach to shifting and 'cutting over' to new systems and rules.

In respect of the cutover approach, we note that the Commission's position appears to be skewed in favour of a hard cutover to the new systems. In our view this presents greater risks to the implementation as it provides less flexibility for staging and testing of separate modules and components of the implementation in order to ensure readiness. As indicated in the draft determination, AEMO is likely to undertake market trials and readiness activities in order to manage this risk.

AEMO considers that a staged 'soft cutover' approach may allow for better management of readiness activities. AEMO proposes a transition approach based on a soft cutover of metering and bidding systems. This could involve:

- *Metering cutover* – For a specified period prior to 'go-live', metering data providers being able to provide 5-minute metering data to AEMO with AEMO aggregating this into 30-minute data.
- *Bidding system cutover* – During a specified period (of around 3-6 months), participants being able to bid either 5-minute or 30-minute granularity, and AEMO providing the necessary translation – this could be allowed for a period of time prior to or following go-live.

In our view a soft cutover approach will mitigate against some of the risks of transition and allow for better and more effective response to any issues that may arise during the changeover period. AEMO looks forward to working with the AEMC to further develop this approach for cutover.

4. METERING CAPABILITY

AEMO continues to support the application of five minute settlement across both the demand and supply side of the market. This approach recognises the importance of the demand side resources in managing the operation of the market and the network. Thus, effective facilitation of demand side resources via the five-minute settlements is important in achieving the intent of the rule change. The approach to engaging and enabling those resources is thus important.

In terms of implementation however, there is an order-of-magnitude difference between the scale of implementation across large metering installations (Type 1, 2 and 3) and mass-market metering installations (Type 4, 4A, 5 and 6) given the number of meters and customers impacted. The AEMC draft determination sets out an approach that aims to balance the need to implement five minute settlement across the market but takes account of the scale of implementation required to roll out metering installations across the mass market.

Overall, we consider that the AEMC's approach manages these tradeoffs and objectives in a robust and practical manner. As such we agree with the proposed approach but suggest a modification to the treatment of mass market meters which may smooth the implementation and allow participants to better test new business models and pilot implementations for small consumers.

The AEMC draft determination requires that from 1 December 2018 all new and replacement Type 4 meters will need to record, store and deliver five-minute metering data. This approach will require all retailers and all competitive metering coordinators, metering providers and metering data providers to operate five-minute metering data and settlement processes once the rule commences on 1 July 2021, with systems established prior to the commencement date, regardless of their immediate interest or their costs associated with doing so.

AEMO considers it preferable for the rule to require Type 4 meters to be capable of recording, storing and delivering five-minute metering data at all new and replacement metering installations, with the decision to implement five-minute processes left to the retailers and their customers, and the decision to offer five-minute services, left to metering coordinators and their providers. AEMO believes that this alternate approach would better facilitate:

- *Reduced technology and implementation costs* – as most, if not all, modern metering devices that are suitable for use in the NEM at Type 4 metering installations are capable of recording and storing five-minute data, a mandate to include this capability if unlikely to add additional costs to the provision of metering services to customers. Requiring the delivery and management of five-minute data requires establishment of systems and processes across all affected participants, the costs of which are likely to feed through to customers, regardless of whether they use, or benefit from access to five-minute data during their tenure at any given connection point.
- *Customer choice* – Once the capability to deliver five-minute data is established, competitive metering coordinators may offer five-minute services to retailers and in turn, retailers and customers may adopt those services once they have identified a benefit in doing so. Customers who do not choose to take up five-minute services are therefore unlikely to be negatively impacted.
- *Identification of five-minute capability* – As several hundred-thousand Type 4 metering installations that are five-minute capable will be competitively installed prior to the proposed rule coming into effect, these can be identified in market systems in the same way as any new or replacement metering installation following implementation, simplifying identification of capability for all parties able to access NMI standing data.
- *Competition amongst data providers* – As all new and replacement metering installations will be provided competitively at the time the rule is implemented, AEMO considers that the provision of metering data services will benefit from differentiation amongst providers, where five-minute data services will have to compete on the basis of quality, service and cost with thirty-minute data services providers and vice versa.

AEMO will work with the AEMC and industry to discuss this alternative policy position in order to clarify and develop this approach further for the benefit of the AEMC's deliberation.

5. OPPORTUNITIES TO ADDRESS ISSUES WITH SETTLEMENT BY DIFFERENCE

As highlighted in the AEMO High Level Design document, published alongside the AEMC draft rule and determination for five-minute settlement, AEMO considers that the current settlement-by-differencing framework established in Chapter 3 of the NER, whilst effective in enabling the commencement of retail competition, is no longer suitable for use in a market where customer switching is well established. To support greater levels of competition and the introduction of new services, AEMO consider that a global settlement framework should be considered for implementation alongside a change to five-minute settlements.

AEMO looks forward to continuing to work closely with the AEMC on the progress of the rule for five-minute settlements and to review the broader framework and operation of energy settlement in due course.

6. THRESHOLD FOR INTERVENTION COMPENSATION

AEMO notes that the draft rule includes a change of threshold from $5,000 to $1,000 in relation to intervention compensation in four specific rule clauses. AEMO considers that the change proposed may not be the most appropriate way of reflecting the change to five-minute trading intervals.

Specifically with respect to clause 3.15.7B(a4), AEMO considers that the threshold in this clause should be applied to the entire period of the direction to which the claim relates, consistent with the construction of a single claim in 3.15.7B(a). This has also been identified in recent reports made by the independent experts in respect to directions on 1 December 2016 [3] and 28-29 March 2017[4]. Although this matter is not directly related to the introduction of five-minute settlement, the change to define a trading interval as a five-minute period will exacerbate the existing issue, and further complicate the interpretation of the relevant clauses in the application of additional claims for compensation.

For clauses clause 3.12.2(b), (d)(1) and (i), AEMO considers there may also be a case for simplifying the threshold to be on a per-event basis, over which the existing threshold of $5,000 would continue to apply. Although AEMO does not have specific advice in relation to the application of the existing per-interval threshold, it is liksely that similar issues will arise as identified above with 3.15.7B(a4).

[3] Refer to page 16, Final Report on additional compensation claims arising from AEMO directions on 1 December 2016, Synergies Economic Consulting, http://aemo.com.au/-/media/Files/Electricity/NEM/Market_Notices_and_Events/Market_Event_Reports/2017/Final-Determination_Additional-comp-claims_01-Dec-2016-Direction.pdf

[4] Refer to page 2, Compensation for Directions in Queensland on 28 and 29 March 2017, Harding Katz Pty Ltd, http://aemo.com.au/-/media/Files/Electricity/NEM/Market_Notices_and_Events/Market_Event_Reports/2017/Final-report---Compensation-for-Directions-in-Queensland-on-28-and-29-March-2017.pdf