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Dear Commissioners

Consultation Paper – Five Minute Settlement

1. Introduction

EnergyAustralia welcomes the opportunity to comment on the Australian Energy Market Commission's (the Commission) Consultation Paper for a rule change request by Sun Metals to address the mismatch between the time intervals for operational dispatch and financial settlement in the National Electricity Market.

We are one of Australia's largest energy companies, with over 2.5 million household and business customer accounts in NSW, Victoria, Queensland, South Australia and the Australian Capital Territory. We also own and operate a multi-billion dollar portfolio of energy generation facilities across Australia, including coal, gas and wind assets with control of over 4,500MW of generation in the National Electricity Market.

Alignment of dispatch and settlement is worthy of consideration but EnergyAustralia does not see a compelling case for the proposed rule change at this time.

This is particularly the case given:

- the difficulties implementing a working market-based solution to a proposal that allows 5-minute settlement for the demand side to be optional, and therefore potentially highly dynamic in nature;
- associated increases in settlement residues that may dilute pricing signals;
- we see no fundamental reason why NEMMCO/AEMO's finding in 2002 would be different now – where the cost benefit analysis undertaken for the preferred solution highlighted the costs of implementing the 5-minute dispatch/simulated 5-minute settlement option exceeded the efficiency benefits by a considerable margin;

- that regardless of whether settlement and dispatch are aligned, with the increase in flexible, fast moving supply and demand participation, there will always be some ability for strategic bidding to influence price outcomes;
- the lack of existing revenue metering at 5-minute resolution; and
- other market reforms currently underway, notably bidding in good faith provisions, which take effect from 01Jul16, and the consideration of how non-scheduled generators and load are treated in central dispatch.

We do acknowledge that the current mismatch between dispatch and settlement intervals can exacerbate the incentives on some generators to engage in strategic late rebidding, and can disadvantage highly responsive plant, however on the balance of evidence we do not consider the proposed rule or variations are likely to promote the national electricity objective.

2. Outcomes under five minute settlement

Sun Metals suggests that the difference between dispatch and settlement creates perverse incentives and favours some market participants, while disadvantaging others. We support market arrangements and reforms that produce prices that reflect the marginal cost of supply and value of its use, promoting efficient outcomes as far as possible.

One concern with Sun Metals' proposal is its failure to demonstrate the extent of strategic late bidding by generators and market manipulation attributable to the withdrawal of generation; this is the stated rationale for the rule change proposal.[1] Furthermore, it is not clear to us that strategic bidding behaviour to influence the 30 minute settlement price would solely be a function of current arrangements for dispatch and settlement. The behaviour to which Sun Metals refers could be attributed to the concentration of ownership and characteristics of the current generation mix across the National Electricity Market, exacerbated by the mismatch between dispatch and settlement timeframes.

This suggests it is unlikely the proposed rule change, which involves significant amendments to key elements of market design and operation, would in itself achieve the outcome that Sun Metals expects and more significantly, generate a net benefit.

Market participants may respond to revised dispatch and settlement timeframes in a variety of ways. The current arrangements for settlement and dispatch have been in place for many years and market participants have invested considerable resources to develop trading and hedging strategies, and to tailor their systems to these arrangements, with the latter including metering and demand response capabilities. In theory, market participants with rapid response capability – which includes flexibility of workplace practices and processes – can adjust to price spikes, leaving other load to potentially absorb the higher price. On the other hand, actual response may be limited. Even for large industrial consumers, production processes and workplace practices are not often sufficiently flexible to facilitate rapid response to high prices of relatively short duration even if they have the metering and technical capacity, and have the option of settling every 5 minutes.

1 Sun Metals (2015), *Proposed rule change: To have 5 minutes settlement pricing instead of 30 minute average settlement pricing*, available at www.aemc.gov.au

This means it is difficult to predict how the market will respond in the event of a significant change to settlement timeframes, how that response might evolve over time, and the distributional impact of the change.

With 30 minute settlement, we may observe a significant response to a price spike on both the demand and supply side and from a larger number of market participants than would be the case under 5 minute settlement. Response is not necessarily limited to those who can quickly ramp generation or consumption either up or down, or generators that can synchronise with the system within a very short space of time. At this point in time, the extent of this very rapid response capability on either side of the market – but particularly the demand side – remains quite small.

Under the current arrangements, a high dispatch price will ensure an overall high settlement price for that 30 minute interval. This means that the higher guaranteed revenue for energy in the remaining settlement period following the price spike encourages additional generation to be available. This can act to limit consecutive dispatch intervals with very high prices. On the other hand, 5 minute settlement may not elicit the same response as the ability to capture value from a short event is reduced. In some cases this will result in more volatility.

Disruption to existing operations

Market participants have developed strategies to manage pricing risks that reflect their individual characteristics (such as risk appetite, degree of vertical integration and customer load profiles) in addition to current market and institutional arrangements. This includes trading and hedging strategies that involve forward contracts, willingness to absorb some exposure to spot market prices and a broad range of other demand response mechanisms. The market is central to business to business interactions, an upheaval of these fundamental arrangements risks disrupting liquid markets and long-established contract terms.

Substantial amendments to market design without sufficient notice will disadvantage some market participants on both the supply and demand side who have structured their operations and entered into contracts on the basis of current arrangements (and the expectation that they would continue). As the Commission notes, a further aspect of the rule change proposal is the cost to market participants of revising strategies and operations – such as existing contracts between market participants, metering, settlement, IT systems – that reflected previous market arrangements.[2]

The Commission correctly notes that the proposal would create grounds to unwind current contracts. New products will need to emerge – such as a standard 5 minute hedging product – but the precise form of those contracts and the development of a liquid market for new financial products are highly uncertain, particularly in light of the differentiated approach to settlement across the market.

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2 Australian Energy Market Commission (2016), *Consultation Paper, National Electricity Amendment (Five Minute Settlement) Rule 2016*

Furthermore, AEMO and other market participants would incur significant costs in order to make substantial system changes to implement new arrangements. These costs are driven by changes to the following:

- billing systems;
- data management;
- energy trading and sales and marketing systems;
- forecasting and market modelling systems; and
- settlement systems.

We also have reservations about the use of supervisory control and data acquisition (SCADA) data as a basis for calculating 5 minute settlement. The Commission notes its lower accuracy and potential differences in basis for measurement between power stations. We are also concerned about the extent of missing data and how that might be accounted for in settlement calculations. These issues would need to be resolved before any rule change proceeds.

Therefore, we are not convinced that a movement to 5 minute settlement for some market participants would generate a net benefit or achieve the result that Sun Metals expects as it depends on the extent of rapid response capacity in the wholesale market at a particular time and how it evolves. The precise impact of a move to 5 minute settlement – in terms of price outcomes and wealth transfers between market participants – is hard to predict.

Other regulatory initiatives

We also note the recent implementation of significant amendments to the National Electricity Rules to address strategic bidding behaviour, namely:

- A prohibition against making false or misleading offers.
- Requirement that variations to offers will need to be made as soon as practicable.
- A requirement to preserve a contemporaneous record of the circumstances surrounding late rebids will be introduced.

EnergyAustralia notes that the Commission recommended these significant amendments following detailed analysis of market outcomes, extensive stakeholder consultation and cost-benefit analysis. These rule changes seek to target the behaviour that Sun Metals refers to in its rule change proposal. As a consequence, we believe the Commission should delay consideration of further (costly) rule changes until it has had sufficient time to evaluate the effect of the Bidding in Good Faith rules. Only at this point will the Commission be able to evaluate the effectiveness of these rule changes and identify the nature and extent of any ongoing issue that the misalignment of dispatch and settlement creates.

In the meantime, the Commission is also considering other aspects of the operation of the wholesale market through rule change proposals to create a demand response mechanism and to reduce the threshold at which non-intermittent generators must be scheduled in the wholesale electricity market. These processes provide further opportunities for the Commission to review wholesale market outcomes and to quantify the costs and benefits of these (and related) measures.

3. Differentiated settlement

For us, the most problematic element of Sun Metals' proposal is that it will create a situation where some market participants will need to transact with counterparties who settle every 5 minutes while other counterparties settle every 30 minutes. Risk management becomes particularly challenging for vertically integrated businesses such as ours, placing such businesses at a cost disadvantage and undermining effective competition in the wholesale market.

There is significant pricing risk if generators are settled on a 5 minute interval while a customer is settled on a 30 minute interval, and can choose to move back and forth between 5- and 30-minute settlements at its discretion. The mismatch in time periods may reduce the accuracy in calculating or forecasting shape premiums as there is added complexity when usage by the customers of that generator can vary within the half hour.

This is further compounded when some proportion of customers settle on 5 minute intervals. Different customers face different incentives across a thirty minute period depending on their choice about settlement and their capability and willingness to respond to observed prices. This makes it very hard for retailers and generators who contract with both types of customers to understand, manage and price their risk exposure. Shape premiums are based on historical data and we expect it will take some time before a sufficiently reliable data set develops. The Commission should take this into account as it considers the costs of the rule change proposal.

Therefore, our strong preference and recommendation to the Commission is to maintain consistent settlement periods for all market participants; a differentiated approach will impose risks on some market participants that are extremely difficult to manage but not impose those risks on others. Combined with the uncertain impact on market conduct on both the demand and supply side, there appears little reason to conclude that the proposed rule change will generate a net benefit.

A further issue is the lack of clarity about how the voluntary framework might evolve in line with market development. Market customers who have the option of 5 or 30 minute settlement will choose the option that best suits their individual circumstances. However, those circumstances will change over time and (we assume) these participants would also be able to alter their choice in line with those changes. This adds a further layer of market uncertainty for counterparties who are compelled to settle every 5 minutes and who transact with market participants who have a choice about their settlement.

We expect the take-up of 5 minute settlement by those who have the choice will be relatively small in the short term due to the additional transaction and metering costs and the current extent of rapid response capability across the market. This implies the magnitude of the incremental market risk associated with differentiated settlement and any wealth transfer between market participants could be quite small initially (putting aside the additional administrative and system costs that a differentiated model creates).

However, this could change in line with technological change and changes to production and workplace processes (for example) that enable more participants to respond quickly to prices. This would further increase the risks for vertically integrated businesses and other market participants.

In this context, it is not clear how the Sun Metals proposal would account for this development; for example, whether the market would transition to mandatory 5 minute settlement for all market participants after some period of time or on the basis of observed market outcomes. We seek the Commission’s clarification of how it would account for the longer term impact of the rule change proposal.

4. Conclusion

As we have noted, we do not see a strong case for the Sun Metals rule change at this time. Its impact is highly uncertain so it is difficult to quantify its benefits. At the same time, it will impose significant costs, most notably due to the need for AEMO and market participants to amend their current systems and risk management strategies. The voluntary nature of Sun Metals’ proposal is very problematic. Specific market participants, such as large vertically integrated businesses, will bear significantly greater risks and forward markets have not developed to a point where these risks can be easily managed.

We have also mentioned recent and ongoing regulatory processes to analyse specific rule change proposals and aspects of the wholesale market, with the recent bidding in good faith rule changes specifically focused on the behaviour to which Sun Metals refers. The fragmented nature of these processes is challenging for market participants and also for the Commission. Our preference is for the Commission to delay consideration of further (costly) rule changes until it has had sufficient time to evaluate the effect of recent rule changes and complete further analysis of wholesale market outcomes through other rule change proposals.

We also anticipate that the case for 5 minute settlement could become more obvious over time, offering benefits to the market as a whole rather than a very limited number of market participants. In particular, we expect the market will develop more cost effective demand response capability that is available to a broader range of market participants. We view the current level of demand response as efficient and reflective of prevailing technologies (e.g. metering) and current work practices among energy consumers but this will increase in scale and as the range of available and affordable mechanisms for demand response grows.

Should you require further information regarding this submission please call me on 03 8628 1242 or Geoff Hargreaves on (03) 8628 1479.

Yours sincerely

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