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Prabpreet Calais  
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Australian Energy Market Commission  
PO Box A2449  
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Dear Mr Calais

**RE: Delayed Implementation of five minute and global settlement**

We welcome the opportunity to provide feedback on the consultation paper on *Delayed implementation of five minute and global settlement*.

Enel X works with commercial and industrial energy users to develop demand-side flexibility and offer it into wholesale capacity, energy and ancillary services markets worldwide, as well as to network businesses. In the NEM, Enel X participates in the energy and frequency control ancillary services (FCAS) markets, offers network support to network service providers, and has developed reserves for the Australian Energy Market Operator (AEMO) under the Reliability and Emergency Reserve Trader framework.

Five Minute Settlement (5MS) is a critical reform that will improve price signals, leading to the more efficient operation of, and investment in, the NEM. 5MS will also remove price distortions associated with generator bidding behaviour that, at the time the rule was made in 2017, were expected to worsen. These benefits, identified by the AEMC in deciding that shifting to 5MS was in the long term interests of consumers, have not changed.

COVID-19 has clearly had a devastating impact across the entire community. We understand that there may be some concerns about smaller retailers' cash flows as a result of some customers not being able to pay their bills, and the potential for financial contagion. However, as state governments are relaxing initial restrictions as a result of the pandemic, this risk is lessening. Further, if the AEMC considers there is a plausible risk of financial contagion, support should be targeted to the industry participants that need it through a more transparent and efficient means than by delaying 5MS, which will impose high opportunity costs on customers, battery storage providers and demand response providers.

The industry was given over three and a half years to prepare for 5MS. We are now two thirds of the way through the transition period and AEMO has indicated it will still meet the original timetable. As of mid-April 2020, most affected businesses reported to AEMO that they were on track according to the original timetable. There is a risk that delaying 5MS now will simply increase implementation costs.

For these reasons, we consider that 5MS should not be delayed. However, if the AEMC considers a delay to be necessary, we consider that it should be for as short a timeframe as possible, such as three months which is consistent with the lockdown period.

We understand that some market participants have also requested the AEMC's Wholesale Demand Response Mechanism (WDRM) be delayed. Enel X agrees with the market bodies' conclusions that WDRM is a reform with relatively low costs to industry and important benefits to customers that should be implemented in October 2021, as per the AEMC's second draft determination. For reasons discussed in this submission, we consider the full benefits of WDRM will not be seen until the market moves to 5MS. Despite this, WDRM will open up new opportunities for investment in demand response that will benefit the NEM even if 5MS starts after the introduction of WDRM.

The remainder of this submission sets out why we consider any delay to the implementation of 5MS is not in the long term interests of consumers, and therefore is not consistent with the achievement of the national electricity objective. Please contact me if you would like to discuss any aspect of this submission.

Regards

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## INTRODUCTION

This submission is structured as follows:

- Section 1 provides comments on the AEMC’s proposed assessment framework.
- Section 2 summarises the benefits of 5MS and why the AEMC considered it was in the long term interests of consumers to shift to 5MS.
- Sections 3 to 7 provide comments on each of the assessment criteria, as modified for reasons set out in section 1.

### 1. ASSESSMENT FRAMEWORK

Enel X has the following comments on the assessment framework that the AEMC intends to use to assess the rule change request:

- **“Delayed benefits” are better characterised as opportunity costs.** The inefficiencies in the market that 5MS is seeking to correct impose a real cost on consumers in the form of inefficient prices. Further, businesses that may need to delay investment as a result of a delay to 5MS will forego revenue that they would otherwise have earned had 5MS been implemented as planned. These are opportunity costs faced by consumers and businesses that impact bills and balance sheets and should be recognised as such.
- **Impact on reliability and security should be added as an assessment criterion.** The effect of a delay to the start date of 5MS will have implications for investment in flexible generation and demand response, which have the capability to respond in under five minutes. This type of resource is becoming increasingly important to support the reliability and security of the system. As such, reliability and security should also be considered in assessing the impact of a delay to 5MS.

### 2. BENEFITS OF 5MS

Enel X agrees that in considering whether to delay 5MS, the merits of the reform itself should not be re-prosecuted. However, it is worth recalling the reasons why the AEMC considered that that moving to 5MS was in the long term interests of consumers. In summary, this was on the basis that 5MS would:

- Improve price signals for more efficient generation and use of electricity.
- Improve price signals for more efficient investment in capacity and demand response technologies to balance supply and demand – promoting an efficient mix of generation assets and demand side technologies, leading to lower supply costs.
- Improve bidding incentives – the AEMC noted increasing evidence of price distortions across the NEM, and an expectation that these would continue to worsen without a shift to 5MS.

These benefits have not changed. Delaying 5MS by a year will simply delay these important improvements to the NEM.

### 3. DEFERRING INDUSTRY COSTS

There are two scenarios where deferring industry costs could be in the long term interests of consumers:

- There is a plausible risk of cascading business failures if costs are not deferred.
- Deferring costs could result in cheaper overall implementation.

#### Risk of cascading business failures

It appears that a core concern for the AEMC in considering delaying 5MS is the financial resilience of the industry. In its consultation paper, the AEMC has considered potential drivers of a loss of revenue for retailers, generators and network businesses, which could impact financial resilience. In response, we note the following:

- **Both AGL and Origin have indicated to their shareholders that their financial position is stable,** despite COVID-19. For example, in early May AGL stated it “has a strong balance sheet and significant liquidity”.<sup>1</sup> Similarly, in early April, Origin stated “While there is some uncertainty about the extent of the short-term impact on Energy Markets, Origin is in a resilient financial position, with a sound balance sheet and a competitive cost position.”<sup>2</sup>
- **Hedging is widespread, and an important element of Corporate governance.** Most generators will have already set their hedge position for 2020 prior to any impact from COVID-19, and retailers mostly have fixed-price contracts for both the C&I and residential market, which is a form of physical hedge. For this reason, energy utilities are much better-placed than many other industries during this COVID-19 crisis.

The Enel Group is a major electricity supplier in Spain and Italy, two countries which are significantly more affected by the crisis than Australia. Similar to incumbent gentailers in Australia, the CEO of Enel Group has not indicated a substantially detrimental position due to hedging positions.

- **To date COVID-19 has not caused a substantial drop in demand.** The AER noted in its most recent Wholesale Markets Quarterly report that demand was low across most regions of the NEM in Q1 2020, primarily as a result of a mild summer and increased contribution from rooftop solar.<sup>3</sup> The AEMC states in an online article that “despite the hype about COVID-19, it is not a major driver of falling demand”.<sup>4</sup> Further, lower consumption by businesses in April and May could be offset to some extent by an increase in residential consumption, noting that residential customers are typically charged a higher per unit price than businesses. Finally, many businesses are now starting to re-open as restrictions loosen, so it is likely any dampening effect of COVID-19 restrictions on energy use will reduce.

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<sup>1</sup> AGL, COVID-19 response and business update, 5 May 2020, slide 7. Available at <https://www.agl.com.au/-/media/aglmedia/documents/about-agl/investors/webcasts-and-presentations/2020/response-and-business-update-presentation-brett-050520.pdf>. Accessed on 26 May 2020.

<sup>2</sup> Origin, Operational and financial update, 6 April 2020, available at [https://www.originenergy.com.au/about/investors-media/media-centre/operational\\_and\\_financial\\_update.html](https://www.originenergy.com.au/about/investors-media/media-centre/operational_and_financial_update.html). Accessed on 26 May 2020.

<sup>3</sup> AER, Wholesale Markets Quarterly – Q1 2020, May 2020, p11.

<sup>4</sup> AEMC, What’s happening with wholesale prices? Available at <https://www.aemc.gov.au/news-centre/economists-corner/whats-happening-wholesale-prices>. Accessed on 26 May 2020.

- **Bad debts may not be as high as originally anticipated.** As noted by the AEMC, State Governments are providing small customers with significant financial support to help them pay their energy bills. The AER's expectation that retailers will not disconnect or seek debt repayments from small customers in financial stress is time limited, to 31 July 2020 (noting this could be extended). Further, the AER has submitted a rule change request that, if made, would provide an extended due date for retailers to pay electricity network charges in respect of electricity hardship customers and customers on other forms of deferred payment arrangements, helping retailers manage their cash flows.<sup>5</sup>
- **Wholesale prices are lower, but not as a result of COVID-19.** The AEMC has conducted analysis that suggests that wholesale prices were falling before the impacts of COVID-19 were felt. The AEMC has stated that "over the past six months, Victoria flat swaps for calendar year 2021 have fallen from around \$82 per MWh to \$55 per MWh – a decline of 33 per cent. We have also seen large declines in other regions. This decline was already underway prior to the COVID-19 restrictions".<sup>6</sup> In parallel, significant declines in energy commodity markets have also fallen, which are inputs into the energy market.

In other words, falling wholesale prices are a result of market dynamics, not COVID-19 restrictions. We also note that wholesale spot prices are still above the prices seen in 2010. Further, while lower wholesale prices may reduce generator revenues, they should also reduce costs to both retailers and customers.

If there is a plausible risk of cascading business failures, then the underlying cause of this is related to the economic downturn as a result of COVID-19 and market dynamics, not the implementation of 5MS. If there is a need to financially support the industry at this time, we consider this should be done transparently and using more efficient and targeted mechanisms to those participants that need it, such as through the rule change being pursued by the AER, rather than delaying this critical reform.

However, if the AEMC decides that delaying 5MS is an appropriate response, then it will need to demonstrate that: (1) without a delay to 5MS there is a plausible risk of participant failure and financial contagion; and (2) delaying 5MS will prevent this from occurring.

### **Overall cost of implementation**

In theory, deferring costs could result in cheaper overall implementation which, in turn, should flow through to lower costs for consumers. However, any potential cost savings must be weighed against the opportunity costs to consumers associated with the delay.

Further, AEMO notes in its rule change request that there is a potential for some implementation costs to actually increase as a result of any delay.<sup>7</sup> To the extent that businesses have already set up project teams, there will be costs associated with redeploying or standing the team down and then re-initialising the project.

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<sup>5</sup> AER, Request for rule change – extension of time for retailers to pay networks, 6 May 2020.

<sup>6</sup> Ibid.

<sup>7</sup> AEMO, Rule change request – delay start date of five minute settlement and global settlement, 9 April 2020, p5.

#### 4. INDUSTRY CAPABILITY

The 5MS rule change was finalised two and a half years ago in November 2017. AEMO has been working closely with industry since then, ensuring all market participants will be ready by 1 July 2021. We are now over two thirds of the way through the implementation period. It is difficult to believe that affected businesses have not already put in place processes and budgeted funds for this project.

Indeed, on 14 May 2020 AEMO reported to its Readiness Working Group that the “[m]ajority of participants have secured project funding, established project plans and project governance, and have on-boarded project teams”.<sup>8</sup> Further, AEMO’s presentation suggests that overall industry progress and status remains on track, and that progress against specific readiness criteria is also generally reported as on track. This was based on a survey of affected businesses that commenced on 14 April 2020, with responses received by 23 April 2020 – a few weeks after the COVID-19 restrictions were imposed.

AEMO has indicated that it will continue to work to the initial timeframe for implementing 5MS, despite operating under the same conditions as other businesses. It is not obvious why AEMO would have the capability to continue to implement 5MS under restricted working conditions while other industry participants do not. Further, since this rule change request was submitted, restrictions on movement have begun to lift.

Finally, the AEMC notes concerns about affected market participants’ ability to develop the necessary IT systems due to a combination of working from home and resourcing, particularly where international vendors are involved. In response we note:

- It is not clear why AEMO’s IT systems can continue to be developed and deployed while affected market participants’ IT systems cannot.
- To the extent that affected market participants already have contracts in place with vendors, the ability for those vendors to complete the necessary work is a contractual issue that market participants should take up with their vendor.
- To the extent that much of the necessary work can be completed at home, it is not clear why that work could not equally be completed overseas “if foreign nationals went back to their respective countries when international travel restrictions came into force”.<sup>9</sup>
- It seems odd that IT specialists would be redeployed to assist with “supporting payment plans, billing or other customer support”,<sup>10</sup> given these presumably require quite different skill sets.

#### 5. CONTRACT MARKET IMPLICATIONS

The AEMC notes in its consultation paper that “there has been little trading in 5-minute cap products” and that “while the Australian Financial Markets Association (AFMA) finalised a standard OTC contract for 5 minute caps in October 2019 the anecdotal evidence is that there have been few trades of these products to date”.<sup>11</sup> The AEMC goes on to acknowledge that if a financial contract does not have a

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<sup>8</sup> AEMO, 5MS & GS Readiness Working Group #11, Thursday 14<sup>th</sup> May 2020, slide 11. Available at <https://aemo.com.au/-/media/files/electricity/nem/5ms/readiness-workstream/rwg/rwg-11-meeting-pack-14-may-20.pdf?la=en&hash=5A6BF6FF9BB7DC73F34F098431A74C5B>

<sup>9</sup> AEMC, Delayed implementation of five minute and global settlement, Consultation paper, 14 May 2020, p.13.

<sup>10</sup> Ibid.

<sup>11</sup> Ibid.

clause that triggers either renegotiation or the contract becoming void under circumstances that include a delay to 5MS, then participants could be “stranded with a product of varied value”.

Irrespective of how many contracts have been traded, making a determination that potentially reduces their worth sets a concerning precedent and creates regulatory uncertainty in financial markets.

## 6. OPPORTUNITY COST OF DELAY

There are a number of costs in delaying implementation of 5MS that will ultimately result in customers paying higher prices than necessary for at least as long as 5MS is delayed, and will also result in some businesses losing revenue that they otherwise would have earned. It is difficult to put a figure on the total opportunity costs that would accrue across relevant parties, and we note that the AEMC did not conduct a cost benefit analysis in determining that 5MS was in the long term interests of consumers.

However, in its final determination for 5MS, the AEMC stated that:<sup>12</sup>

*“Given the size of annual NEM transactions and the enduring nature of the benefits of adopting five minute settlement, only minor operational and investment changes arising from the improved price signal is required to outweigh the implementation costs... **If improved price signals resulted in as little as a \$0.50/MWh reduction in average wholesale prices, this would represent a nearly \$100 million per year saving in energy costs, resulting in lower retail prices for consumers.**” [Emphasis added.]*

This calculation was based on the 2016-17 financial year, when 196.5TWh of electricity was traded in the NEM. Using this same approach, even if electricity demand dropped in 2021-21 to levels not seen since 2000-01 (172.5TWh)<sup>13</sup>, and using the same token assumed price reduction, this would imply an opportunity cost to customers of at least \$86.2m. Added to this is the lost revenue that fast response technology providers would not be able to earn as a result of having to delay investment, as discussed further below.

The energy cost savings that will reduce costs to customers once 5MS is implemented come from more efficient generation and use of electricity, more efficient investment in capacity and demand response technologies to balance supply and demand and improved bidding incentives. Of these, Enel X is particularly concerned about the opportunity costs associated with delaying improvements to price signals to encourage efficient investment, particularly in the context of Liddell’s impending retirement.

### **Delaying 5MS by a year delays critical price signals for encouraging efficient investment, including to replace Liddell**

In deciding to implement 5MS, the AEMC noted one of the benefits of more granular price signals is more efficient investment in generation capacity, particularly flexible generation capacity that can respond within 5 minutes, and demand response technologies.<sup>14</sup> Given that Liddell is retiring in less than three years, it is critical that more efficient price signals are in place as soon as possible to ensure Liddell is replaced with an efficient mix of technologies.

The business case for batteries has already been adversely impacted by the introduction of mandatory primary frequency response. This market intervention will have the effect of increasing the availability of FCAS, with a resulting decrease in prices. FCAS is currently a critical source of revenue to support

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<sup>12</sup> AEMC, Five Minute Settlement, final determination, 28 November 2017, Sydney, p.129.

<sup>13</sup> AER, Wholesale statistics, accessed on 26 May 2020 at <https://www.aer.gov.au/wholesale-markets/wholesale-statistics/annual-electricity-consumption-nem>

<sup>14</sup> AEMC, Five Minute Settlement, final determination, 28 November 2017, Sydney, p.15.

investment in battery storage, so a reduction in FCAS prices impacts the viability of battery storage. Delaying 5MS by a year will have a further detrimental impact on investment in battery storage and other fast responding technologies, including demand response.

Delaying the implementation of 5MS until 1 July 2022 would only provide 9 months lead time before Liddell's retirement. This is not enough time for investors in technologies such as batteries and demand response to understand and evaluate the behavioural and pricing implications of 5MS. While investment in these technologies will still occur, it is unlikely to happen at a significant level until around 12-18 months after 5MS is implemented for the following reasons:

- 5MS represents a fundamental change in how market participants will bid into the spot market and how they will hedge, so it is unclear how different elements of the wholesale and contract markets will behave after 5 minute trading commences.
- Financial derivatives, particularly caps and other OTC products for Q1, are important price discovery mechanisms to support an investment case for batteries, including providing access to debt markets. Effective price discovery requires liquidity, which is likely to develop after the above changes have been observed for some time.
- The optimal configuration for battery storage is based on the value stack (applications) available to that battery, including FCAS and financial products such as caps, and the merchant curves of each of these applications.
- How price formation is affected by 5MS will need to be observed for some time to establish the optimal configuration of a battery and the returns associated with that configuration, and so the business case.
- Compounded with inevitable procurement and construction delays, it's likely that development of batteries will increase materially 18+ months after 5MS is implemented.

Further, investment in new batteries results in much more capital at risk for the same given capacity than other types of capacity. Fossil-fuel generation, especially OCGT and reciprocating diesel, have significantly lower capital at risk but much higher operating costs. Generation capacity development has also historically been dominated by gentailers, who can underwrite investment based on internal hedging needs for their own retail portfolio. Where the closure of Liddell requires new capacity to meet reliability and portfolio requirements, the composition of this capacity will be overwhelmingly dominated by new gas operated by incumbent gentailers because the delay in effective price discovery for batteries will favour development of cheaper-build plant.

As such, a delay in 5MS advantages capacity operated by incumbent gentailers, predominantly gas. Energy costs over the medium-long term must be consequently higher due to the effect of market concentration, and more volatile as a consequence of correlation to international gas prices and the boom-bust of capacity withdrawals and additions. This also means that emissions overall will be higher, due to higher dependence on OCGT gas.

## **7. RELIABILITY AND SECURITY**

The AEMC identified a benefit of 5MS as providing more efficient signals of the value of generation and demand side flexibility to balance supply and demand. Noting the increased penetration of renewable

generation and distributed energy resources, the AEMC stated that “[e]nsuring the electricity market signals the need for and rewards the provision of flexible technology is of paramount importance”.<sup>15</sup>

As noted above, delaying 5MS by a year will have a detrimental impact on investment in battery storage, at a time when governments, policy makers and AEMO are looking to batteries to help resolve multiple market issues, including reliability and security issues.

Baseload generators are experiencing increased frequency of outages as the plants age and become less reliable. In its latest Quarterly Energy Dynamics report AEMO observes there was a decline in black coal-fired generation compared to the same time last year driven in part by a “comparatively high number of unit outages in February and March”.<sup>16</sup>

Efficient price signals need to be in place as soon as possible to ensure these aging and increasingly unreliable generators are replaced by an efficient mix of resources, including fast start technologies that can help support grid reliability and security.

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<sup>15</sup> AEMC, Five Minute Settlement, final determination, 28 November 2017, Sydney, p.15.

<sup>16</sup> AEMO, Quarterly Energy Dynamics Q1 2020, 23 April 2020, p.13.