RULE

Australian Energy Market Commission

CONSULTATION PAPER

NATIONAL ELECTRICITY AMENDMENT (DELAYED IMPLEMENTATION OF FIVE MINUTE AND GLOBAL SETTLEMENT) RULE 2020

PROPONENT

Australian Energy Market Operator

14 MAY 2020

INQUIRIES

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ABOUT THE AEMC

The AEMC reports to the Council of Australian Governments (COAG) through the COAG Energy Council. We have two functions. We make and amend the national electricity, gas and energy retail rules and conduct independent reviews for the COAG Energy Council.

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1 INTRODUCTION

On 9 April 2020, the Australian Energy Market Operator (AEMO) submitted a rule change request to the Australian Energy Market Commission (AEMC or Commission) seeking to delay the commencement of the *National Electricity Amendment (Five minute settlement) Rule 2017* (5MS rule) and the *National Electricity Amendment (Global settlement and market reconciliation) Rule 2018* (GS rule) by 12 months. AEMO has proposed the delay to allow industry participants to focus on the ongoing supply of energy as an essential service, and support for customers, as they deal with the broader economic and social impacts of COVID-19.

This consultation paper has been prepared to facilitate public consultation on the rule change request and to seek stakeholder submissions.

This paper:

- sets out a summary of, and a background to, the rule change request
- identifies a number of questions and issues to facilitate the consultation on this rule change request
- outlines the process for making submissions.

In submitting its rule change request, AEMO has requested that it be subject to the expedited rule making process on the basis that it is an "urgent rule" as defined in the National Electricity Law (NEL). AEMO states that COVID-19 threatens to materially impede the safety, security and reliability of the power system by restricting the movement of people to attend work, the availability of healthy people to perform tasks and the financial resilience of the energy industry.

1.1 Key dates

The Commission considers that this rule change request is a request for an urgent rule under the NEL, and therefore has decided to use the expedited rule change process for the rule change proposal, provided it does not receive any valid requests not to do so[1]. Under section 96 of the NEL, stakeholders may object to the Commission using the expedited process.

Consistent with the timelines and requirements for an expedited rule change process under the NEL, the key dates for stakeholders in this process are as follows:

- Commencement of the rule change process: **14 May 2020**
- Objections to the Commission's decision that the rule change request is a request for an urgent rule (and be subject to the expedited process) to be received by: **28 May 2020**
- Submissions to the consultation paper to be received by: **11 June 2020**
- Final determination and final rule to be published under an expedited process by: **9 July 2020**.

1 See chapter 6 of this consultation paper for more information on the treatment of this rule change request as urgent.

1.2 Submissions to the consultation paper

The Commission welcomes submissions on the consultation paper and has developed a template for submissions, which is available on the rule change project page (https://www.aemc.gov.au/rule-changes/delayed-implementation-five-minute-and-global-settlement).

The issues for consultation are set out in detail within chapter 4, however the main issues which the Commission is seeking feedback include:

- If there were to be a delay, is 12 months the most optimal period of delay, or is there other length of delay that is more appropriate?
- How has COVID-19 impacted participants financial health, and what would be the impact of a delay on participants' cash flows?
- How would a delay impact the contract market and participant risk management?
- What would be the impact of delaying the benefits of 5MS and GS by 12 months?
- Are there any implications for other parts of the National Electricity Rules or procedures and guidelines managed by AEMO/the Australian Energy Regulator/Information Exchange Committee?

The Commission requests that where possible, evidence should be provided to support stakeholder submissions. Any confidential cost information can be treated as confidential and redacted from submissions published on the AEMC's website. The Commission also welcomes early submissions where possible.

2 DETAILS OF THE RULE CHANGE REQUEST

This chapter outlines the:

- issues raised in the rule change request
- proposed solution
- potential benefits of the proposed rule
- potential drawbacks of the proposed rule
- scope of the rule change request.

2.1 Issues raised in AEMO's rule change request

In its rule change request, AEMO states that as Australia faces the COVID-19 pandemic, the energy industry has been working to prepare and respond, recognising that energy services are critical to the ongoing resilience of the economy. AEMO claims that the scope of the disruptions posed by COVID-19 to the energy industry are complex and broadly relate to the:

- ability of people to attend their places of employment
- ability of people to work (either remotely or at their usual workplace)
- availability of healthy people to perform routine or specialist tasks
- ability of energy industry participants to continue to meet financial commitments as a result of significant revenue uncertainty.[2]

Whilst energy businesses are meeting these core obligations now, AEMO states that there are likely to be ongoing challenges in the coming months. The nature of those challenges will depend on the severity and duration of COVID-19. The costs and resource challenges that participants will face may put pressure on companies' ability to provide a reliable supply of energy and related customer services. Additionally, there is concern that maintenance work needed to ensure the summer readiness of the national electricity market (NEM) generation fleet may be compromised over the coming months.[3]

The implementation of 5MS requires significant effort from network service providers, generators, retailers, meter providers, metering data providers and AEMO, who must all complete their readiness activities within a common timeframe. AEMO suggests that the deferred commencement of 5MS prioritises the short-term safety, reliability and security of supply of electricity and the national electricity system, and the financial resilience of the energy industry due to the constraints and risks posed by COVID-19 over the potential for immediate economic benefits of 5MS.[4]

2.2 Proposed solution

The rule change request from AEMO proposes:

2 AEMO, rule change request, p. 3.
3 Ibid.
4 ibid.

- To delay the commencement date for 5MS by 12 months to 1 July 2022, whilst maintaining the date for 5-minute interval data being provided from the majority of type 4 and type 4A meters at 1 December 2022.
- To delay the commencement date for GS by 12 months to 5 February 2023. The “soft start” for GS, whereby unaccounted for energy (UFE) data would be calculated and published by AEMO, should be delayed until 1 July 2022, to align with the delay in 5MS commencement.
- Any changes to already determined procedures for the sole purpose of deferring the effective date of five minute settlement, or global settlement should not require consultation.[5]

AEMO states that GS implementation should also be delayed to maintain the same policy logic of reducing the combined financial impact of implementing both 5MS and GS. In addition, due to significant synergies between the implementation of GS and 5MS, AEMO has been implementing both rules as a package.[6]

The rule change request also requests that the rule change be considered as an expedited, urgent rule. The Commission's assessment of the request for an expedited urgent rule is set out in chapter 6 of this consultation paper.

The rule change request does not include a proposed rule. A copy of the rule change request may be found on the AEMC website, www.aemc.gov.au.

2.3 Potential benefits of proposed rule

AEMO identified several potential benefits from the proposed rule. The identified potential benefits of a delay include:

- enabling participants to focus on ongoing supply of energy as an essential service
- focussing resources on support for customers, as they deal with the broader economic and social impacts of COVID-19
- reduced reliance on specialist project external resources, which could reduce 5MS project cost pressures for businesses
- more opportunities for participants to negotiate with their 5MS vendors in a less time constrained environment
- deferring industry implementation costs and providing a financial buffer to cater for the uncertainties posed by COVID-19.[7]

AEMO suggests that the proposed rule prioritises the short-term safety, reliability and security of supply of electricity and the national electricity system, and the financial resilience of the energy industry due to the constraints and risks posed by COVID-19 over the potential for immediate economic benefits of 5MS.[8]

5 AEMO, rule change request, p. 2.
6 Ibid, p. 4.
7 AEMO, rule change request, p. 5.
8 AEMO, rule change request, p. 4.

In summary, AEMO suggests that the proposed rule would reduce implementation risk and costs for 5MS and GS, as participants respond to the potential disruptions caused by COVID-19. Scarce resources can then be reallocated to core business functions in a constrained environment. Despite some potential costs, AEMO expects that the net impact of the proposed rule would be significantly positive.[9]

2.4 Potential drawbacks of proposed rule

AEMO identified some potential drawbacks of the proposed rule, including:

- Potential for some implementation cost increases associated with either maintaining some level of project continuity or standing-down and re-initialising the implementation of 5MS and GS.[10]
- Deferral of the potential economic benefits of 5MS and GS. AEMO suggests that, under the circumstances associated with the COVID-19 pandemic, the immediate benefits of 5MS in its first year of operation, in terms of allocation of and investment in resources, may be lower than expected given that activity seeking to capitalise on 5MS may be deferred.[11]

2.5 Scope of rule change request

The rule change request received by AEMO proposes consideration of a delay in the implementation of 5MS and GS due to the inherent uncertainty around the severity and impact of COVID-19. The rule change request does not discuss the merits of 5MS or GS. The Commission reiterates that there was an extensive two-year assessment of the merits of 5MS, and an 8-month assessment of the benefits of GS. As such, the Commission notes that submissions focusing on the merits or otherwise of these rules, or suggesting that 5MS and GS be delayed indefinitely, will be considered out of scope.

9 AEMO, rule change request, p. 5.

10 AEMO, rule change request, p. 4.

11 AEMO, rule change request, p. 4.

3 ASSESSMENT FRAMEWORK

This chapter outlines the:

- decision-making framework the Commission must apply to determine whether the rule change request contributes to the national energy objective (NEO)
- proposed assessment framework
- Commission's option to make a more preferable rule
- Commission's option to make a differential rule.

3.1 Achieving the NEO

Under the National Electricity Law (NEL) the Commission may only make a rule if it is satisfied that the rule will, or is likely to, contribute to the achievement of the NEO.[12] This is the decision-making framework that the Commission must apply.

The NEO is:[13]

> to promote efficient investment in, and efficient operation and use of, electricity services for the long term interests of consumers of electricity with respect to -
>
> (a) price, quality, safety, reliability and security of supply of electricity; and
>
> (b) the reliability, safety and security of the national electricity system.

Based on a preliminary assessment of the rule change request, the Commission considers that the most relevant aspects of the NEO are the:

(a) price, safety, reliability and security of the supply of electricity; and

(b) the reliability, safety and security of the national electricity system.

3.2 Proposed assessment framework

To determine whether the rule change request promotes the NEO, the Commission will assess the rule change request against an assessment framework, which includes the following criteria:

- **Deferring industry costs** — whether the rule change proposal would support industry viability by deferring costs for participants to implement the 5MS and GS reforms. This could therefore reduce the potential for participant failure and financial contagion attributable to the impact of COVID-19. The support that may be provided by the financial relief may also support the continuation of a competitive market structure, which in turn will support better pricing outcomes for consumers.
- **Industry capability** — whether a delay in the start of the 5MS and GS reforms is necessary to allow participants to reallocate resources in the short-term to meet core

12 Section 88 of the NEL.

13 Section 7 of the NEL.

energy supply responsibilities because COVID-19 restricts the availability and movement of people to attend work.

- **Contract market implications** — the effect of a delay to the start of 5MS could have flow on impacts for existing and future hedging contracts for energy. This could impact industry risk management capabilities and potentially add costs that could be passed on to consumers.
- **Delayed benefits** — the extent to which a delay to the start date of the 5MS and GS rules would defer the realisation of benefits of 5MS and GS that would flow to consumers.

3.3 Making a more preferable rule

Under s. 91A of the NEL, the Commission may make a rule that is different (including materially different) to a proposed rule (a more preferable rule) if it is satisfied that, having regard to the issue or issues raised in the rule change request, the more preferable rule will, or is likely to, better contribute to the achievement of the NEO.

3.4 Making a differential rule

Under the Northern Territory legislation adopting the NEL, the Commission may make a differential rule if, having regard to any relevant MCE statement of policy principles, a different rule will, or is likely to, better contribute to the achievement of the NEO than a uniform rule. A differential rule is a rule that:

- varies in its term as between:
  - the national electricity system, and
  - one or more, or all, of the local electricity systems, or
- does not have effect with respect to one or more of those systems

but is not a jurisdictional derogation, participant derogation or rule that has effect with respect to an adoptive jurisdiction for the purpose of s. 91(8) of the NEL.

As the proposed rule relates to parts of the NER that apply in the Northern Territory, the Commission has assessed the draft rule against additional elements required by the Northern Territory legislation.[14]

14 From 1 July 2016, the NER, as amended from time to time, apply in the NT, subject to derogations set out in regulations made under the NT legislation adopting the NEL. Under those regulations, only certain parts of the NER have been adopted in the NT. (See the AEMC website for the NER that applies in the NT.) National Electricity (Northern Territory) (National Uniform Legislation) Act 2015.

4 ISSUES FOR CONSULTATION

This chapter describes the key issues relevant to the rule change request, and asks stakeholders to respond to a series of questions. The issues covered are:

- the timing period for delay
- participant costs and capacity
- contract market implications
- delayed benefits
- the implications of delay on rule drafting, procedures and determinations.

Stakeholders can also comment on other aspects of the rule change request or this paper, including the proposed assessment framework.

4.1 Time period for delay

This section discusses timing options to delay the start date of 5MS and GS and the timing to commence specific aspects of the 5MS and GS rules.

Timing options to delay start date of 5MS and GS

AEMO's rule change request proposes a 12-month delay to the commencement of 5MS and GS due to the inherent uncertainty around the severity and impact of the COVID-19 pandemic.[15] The Commission is seeking stakeholder feedback on whether a delay is necessary, and if so, how long the delay should be for. The Commission notes the following regarding alternative delay time periods:

- A six-month delay would mean that 5MS and GS (soft start) commence on 1 January 2022 during the summer period when industry workforce participation is generally low.
- The majority of financial contracts for electricity are traded on quarterly or strip (annual) time horizons. Therefore, it may be preferable to align the commencement of 5MS and GS with the start of a quarterly or annual contract period (for example on 1 April, 1 July or 1 October), as opposed to the start of any other month. The original commencement date for 5MS was partly chosen to align with the financial year to minimise contract market disruptions. If a delay were to occur, that did not align with a financial quarter, it could impact the relative liquidity of contracts.

Timing to commence specific aspects of 5MS and GS rules

The rule change request does not propose any change to the date (1 December 2022) in clause 11.103.5 of the 5MS rule. Under this clause type 4, and 5 meters installed after 1 December 2018, and type 4A meters installed after 1 December 2019 need to record and provide 5-minute interval data. Therefore, if there is a 12-month delay to the start of 5MS, the available period to reconfigure these metering installations would reduce from 17 months to five months. The Commission is seeking stakeholder feedback on whether this shorter delivery timeframe is feasible.

15 AEMO, rule change request, p. 2.

The Commission is also seeking stakeholder feedback on the dates by which AEMO should publish reports and guidelines related to the GS rule, as set out in the question box below.

QUESTION 1: TIME PERIOD FOR DELAY

a) If a delay to the start date of 5MS is necessary, is a 12-month delay appropriate? Alternatively, please explain why another time period is preferable and, if applicable, the implications on cash flow and capacity? Would the rules need to commence at the start of a quarter to align with the contract market, or could 5ms commence mid-quarter? What would be the impact of a mid-quarter commencement?

b) What is the appropriate date for the commencement of the 'soft' and 'hard' starts for global settlement? Should this be a linear move by the number of months of delay, or should the dates change to another timeframe?

c) If there is a 12-month delay to the start date of 5MS and GS, is it still appropriate that all new and replacement meters (other than 4A) installed after 1 December 2018, and type 4A meters installed after 1 December 2019, be required to record and provide 5-minute data by 1 December 2022? If not, why and what time period would be appropriate?

d) If global settlement is delayed, by what date should AEMO prepare and publish the first report on unaccounted for energy required under cl 3.15B(a)?

e) Cl 11.112.6 states that AEMO must make and publish the unaccounted for energy reporting guidelines required under new cl 3.15.5B(d) by 1 December 2022. What is the appropriate date for the publication of these reporting guidelines if there is a delay to global settlement?

4.2 Participant costs and capacity

One of the major concerns raised by AEMO in its rule change request was the impact of the COVID-19 pandemic on industry costs and capacity, and the extent to which that may impact the financial resilience of the NEM and its participants, and the secure and reliable operation of the NEM. This section explores the reasons why industry finances and capacity are under pressure and questions whether a delay in 5MS implementation would relieve cash flow and capacity pressures on participants.

4.2.1 Participant costs

The Commission acknowledges that the COVID-19 pandemic could adversely impact the cash flows of market participants. In particular:

- Retailer revenues are at risk from:
  - Increased average customer debt, which could occur due to increased unemployment, a decline in total wages paid to employees and/or increased household electricity consumption and costs as more people work from home. The AER's *Statement of Expectations of energy businesses: protecting consumers and the*

energy market during COVID-19 states that the AER expects that retailers not disconnect any residential or small businesses customers who may be in financial stress.[16]

- Lower consumption from small business, and commercial and industrial customers who have closed or scaled down during lock down.
- Increased costs related to expanding their call centre capacity to deal with increased customer interactions.
- Changes in retail load shape and size which is impact revenue depending on the type and degree of hedging they have in place.

- Generators may be facing lower revenue resulting from a fall in consumption (down four per cent from Q1 2019) and lower wholesale prices (down 49 per cent from Q1 2019).[17]
- Networks may be impacted by lower demand and volumetric revenue.

The Commission is interested in understanding the extent to which COVID-19 has impacted participant cash flows.

The Commission is also interested to know if a delay to the commencement of 5MS and GS would provide a cash flow benefit to participants. The Commission notes that one of the objectives of the rule change request is to support the financial resilience of the energy industry, and this could be done by deferring costs and expenditure-related to system upgrades for 5MS and GS implementation. The Commission acknowledges that the impact of a delay would impact each participant differently, depending on a range of factors such as:

- the extent to which their systems are impacted by 5MS and GS
- how progressed the participant is on upgrades
- how they have structured their IT upgrade contracts with IT system vendors.

For example, hypothetically, a delay has the potential to:

- **decrease overall costs**—given a longer time period a participant may be able to restructure its IT upgrade implementation to decrease the overall costs
- **reduce initial costs, while increasing overall costs**—a delay in implementation timing may facilitate a participant deferring current costs with immediate cash flow benefits even though this may result in higher costs overall due to the delayed implementation
- **increase overall costs, with no immediate cash flow benefits**—a participant may elect to continue on its current implementation timing and a delay may result in additional costs as resources are required to test systems and support the delayed commencement.

In considering the cost impacts of a delay in implementation, participants should consider and comment on how their costs will be affected if AEMO is able to provide participants with

16 AER, Statement of expectations of energy businesses, 27 March 2020, available at: https://www.aer.gov.au/system/files/AER%20-%20Statement%20of%20Expectations%20-%209%20April%202020.pdf

17 AEMO, Quarterly Energy Dynamics: Q1 2020, pp. 8-9.

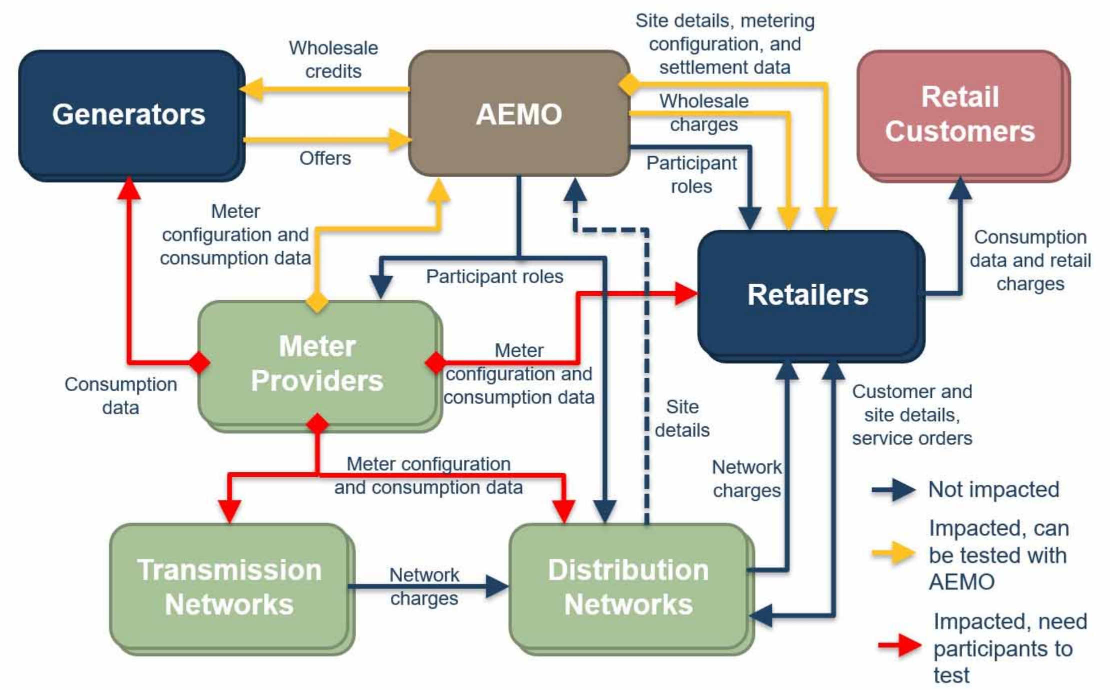
options to develop and test their systems in multiple trials during a potential delay. If AEMO can offer this flexibility, participants could either:

- **continue as planned** — proceed on the original testing schedule if the participant considers that delaying 5MS and GS implementation would increase their costs
- **go slow** — proceed on a slower testing schedule if the participant would benefit from deferring cash flows and/or incurring lower costs associated with their 5MS and GS implementation.

One potential issue with this approach is the extent to which participants rely on other participants' data inputs to test their systems. Figure 4.1 below illustrates the data flows impacted by 5MS and GS, with the impacted data flows that feed into AEMO's systems in yellow, and the data streams that feed into other participant systems in red. The Commission is interested in views on if there was a delay, to what extent can participants upgrade their systems along the original timeframe and whether they will be able to test their business-to-business (B2B) data flows with a subset of market participants. To assist stakeholders in understanding the system implications of a potential delay, in its Readiness Working Group, AEMO developed a hypothetical scenario illustrating how IT systems interacting with AEMO might respond to a 12-month delay.[18] This can be referenced by stakeholders in their submissions.

18 The slides from the working group are available here. Slides 35-44 outline how a delay could be implemented.

Figure 4.1: Industry data flows impacted by 5MS and GS



Source: Adapted from AEMO five minute settlement High level design.
Note: The illustration above is simplified and stylised, and may not be a truly accurate representation of data flows.

QUESTION 2: PARTICIPANT COSTS

a) What is the expected impact of COVID-19 on participant cash flows? How material is this impact? How long are these cash flow impacts expected to last?

b) For participants that are required to implement changes to IT systems and procedures for 5MS and GS, how would the proposed 12 month delay impact your implementation costs? Please quantify and provide evidence where possible. Any confidential cost information will be treated as confidential and redacted from submissions published on the AEMC's website.

c) To what extent can additional market testing periods run by AEMO minimise costs associated with the delayed commencement of 5MS and GS? To what extent do participants rely on B2B data flows for 5MS and GS testing?

4.2.2 Participant capacity

Beyond potential cash flow impacts created by COVID-19, the pandemic might also impact participants' capacity to deliver the reforms by 1 July 2021. Government responses to COVID-19 has resulted in lock downs across the country and limitations on international travel. The

Commission is interested in understanding how these measures have impacted the implementation of 5MS and GS.

For example, as participants have been largely working from home this may or may not affect the productivity of IT system development, depending on the business. It is also possible that IT resources are still productive, but have been re-deployed to support other business areas under pressure, such as supporting payment plans, billing or other customer support. The productivity of international vendors may also have been affected if foreign nationals went back to their respective countries when international travel restrictions came into force.

> QUESTION 3: PARTICIPANT CAPACITY
>
> a) To what extent has COVID-19 affected participants' ability to implement the necessary changes for 5MS and GS by 1 July 2021?

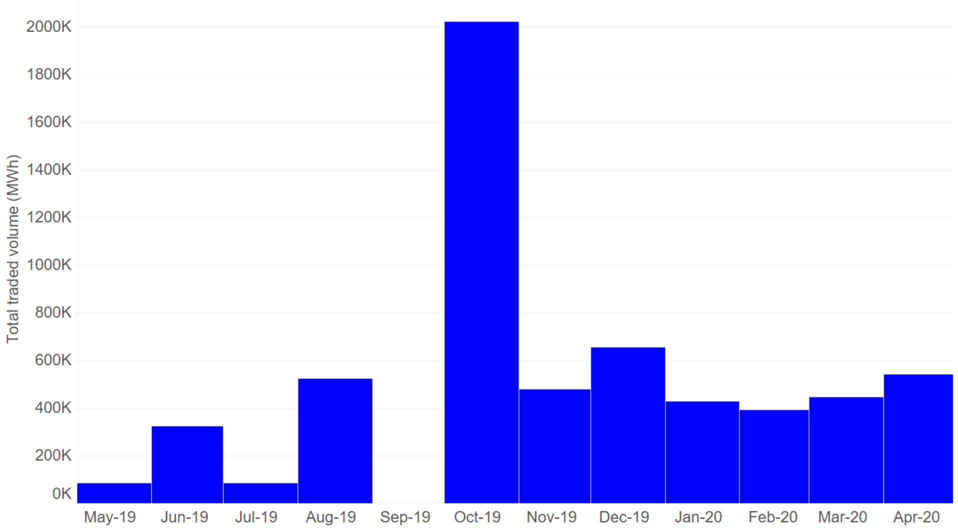
4.3 Electricity contract market implications

If the start date of 5MS is delayed, it may have implications for the contract market. As one of the primary methods for risk management in the NEM, the electricity contract market enables participants to hedge against the cash flow risk associated with volatile spot prices. A high-level explanation of the contract market is presented in appendix c.

The impact of 5MS on the contract market was identified and explored in the final determination for the 5MS rule, with particular consideration applied to cap products. Under 5MS, cap products have been redesigned to pay-out when the 5-minute price exceeds the strike price, instead of the 30-minute price exceeding the strike price.

Since the rule was made, swap products have been trading on both ASX and OTC beyond financial year (FY) 2021-22 (and hence the scheduled commencement fo 5MS on 1 July 2021). This is illustrated by the ASX trades in Figure 4.2 below. However, there has been little trading in 5- minute cap products. The ASX is yet to list a 5- minute cap product, and 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.

Figure 4.2: ASX traded swaps in NSW for FY2021-22



Source: AEMC analysis of ASX data.
Note: The chart shows the volume of swaps traded on the ASX in NSW for the period after 5MS is scheduled to start.

A delay to the commencement of 5MS could impact the contracts that have already begun trading for FY 2021-22. For example, a 5-minute cap product would not be as valuable under 30 minute settlement as it would be under 5MS. Some contracts include clauses that trigger renegotiation or become void in the case of a 'market disruption event', while others have similar clauses in case of changes to government legislation. If a contract does not have such clauses that would trigger a renegotiation, participants may be stranded with a product of varied value if a delay is determined.

Discussion on the potential interaction between the contract market and the time period for delay is covered in section 5.4.

QUESTION 4: ELECTRICITY CONTRACT MARKET

a) To what extent have you purchased 5-minute cap products for FY 2021-22? What would the impact of a delay be to the value of those 5-minute cap products as risk management products for your business?

b) Would a delay to commencement of 5MS impact swap, captions or any other financial hedging products trading for FY2021-22 and beyond? If so, how?

4.4 Delayed benefits

The 5MS and GS rules will deliver a number of benefits that are explained in detail in the final determinations for those rules.[19] A brief summary of these benefits, and potential effects of AEMO's rule change proposal to delay those benefits, is set out below.

Delayed benefits of five minute settlement

Aligning dispatch and settlement at five minutes would have the following significant enduring benefits, relative to the current arrangements including improved:

1. price signals for more efficient generation and use of electricity
2. price signals for more efficient investment in capacity and demand response technologies to better balance supply and demand
3. bidding incentives.

The proposal to delay the start date of 5MS by 12 months will defer the realisation of market benefits for the industry as a whole. It could have positive or negative effects on individual participants, depending on the type and portfolio of assets owned by each participant, competitive dynamics and other factors. For example, a participant invests in technologies that were capable of responding to a five-minute price signal (e.g. batteries or a fast start generator), and this investment was contingent on the 5MS rule commencing on 1 July 2021. A delay in the start of 5MS could delay some benefits for that participant and have some impact on their expected return on investment. The relative effect of such an impact will vary depending on the life of the assets involved.

Delayed benefits of global settlement

The introduction of GS will result in three key benefits:

1. improved transparency, leading to fewer settlement disputes between retailers and lower levels of unaccounted for energy (UFE) over time
2. competition on equal terms between retailers
3. improved risk allocation where all retailers have an incentive to, where possible, reduce UFE because reductions in UFE result in reductions in the risk borne by all retailers.

The proposal to delay the start of GS by 12 months will defer the realisation of benefits for the industry and may have positive or negative effects on individual participants. A delay would extend the time in which the current 'settlement by difference' arrangements remain in place. Here the local retailer bears the risk of all UFE in its area and all independent retailers face a disincentive to reduce UFE because the local retailer – the independent retailers' competitor – is bearing the risk of UFE. This is despite independent retailers having some ability to reduce UFE at their customers' connection points, for example, by installing advanced metering with tampering detection.

19 For more information, refer to AEMC, *National Electricity Amendment (Five minute settlement) 2017 Rule*, Chapter 3, 26 November 2017 and AEMC, *National Electricity Amendment (Global settlement and market reconciliation) Rule 2018*, 6 December 2018.

QUESTION 5: DELAYED BENEFITS

a) To what extent were investments that have been made, or are planned to be made, in technologies that are capable of responding to a five-minute price signal, dependent on the 5MS rule commencing on 1 July 2021, as opposed to other factors? What effect would a 12-month delay have on the expected return on investment for these assets? Please quantify and provide evidence, noting that submissions can be treated as confidential if requested, or confidential information can be redacted from submissions published on the AEMC's website.

b) To what extent would a 12-month delay to the start of 5MS and/or GS delay the realisation of other benefits for individual participants and/or the industry as a whole? Please quantify and provide evidence, noting that submissions can be treated as confidential if requested, or confidential information can be redacted from submissions published on the AEMC's website.

4.5 Implications of delay on rule drafting, procedures and determinations

A potential delay to the commencement of 5MS and GS would have also have implications for the commencement of schedules to a number of rules where the substantive schedules have commenced, but other schedules were due to commence immediately after the 5MS rule on 1 July 2021. Changes may also need to be made to AEMO procedures and AER procedures and determinations. A high-level description of a potential rule is set out in appendix a.

4.5.1 National Electricity Rule implications

A delay to the commencement of the 5MS and GS rules, if made, will have consequential implications for several other rules. The Commission has identified seven rule amendments that have schedules that would be impacted by a delay, including:

- *National Electricity Amendment (Five minute settlement and global settlement implementation amendments) Rule 2019*
- *National Electricity Amendment (Transmission loss factors) Rule 2020*
- *National Electricity Amendment (Intervention compensation and settlement processes) Rule 2019*
- *National Electricity Amendment (Application of the regional reference node test to the RERT) Rule 2019*
- *National Electricity Amendment (Application of compensation in relation to AEMO interventions) Rule 2019*
- *National Electricity Amendment (Participant compensation following market suspension) Rule 2019*
- *National Electricity Amendment (Minor rule change) Rule 2020.*

These rules contain schedules that commence immediately after the 5MS rule on 1 July 2021 to ensure the frameworks introduced by the rules continue to operate as intended after the

5MS framework is introduced. The commencement of the schedules under each of these rules operates with a domino-like effect –i.e. the 5MS Rule commences on 1 July 2021, which then immediately triggers the commencement of a schedule in another rule. The drafting aligns the commencement times to ensure each framework operates uninterrupted post 1 July 2021.

A delay in the commencement of the 5MS rule would mean that the commencement of these schedules would also need to be delayed. This is a drafting, rather than policy, issue. The Commission is interested in feedback on the high level description of the rule in appendix a, and any other interactions with any other electricity rules or schedules.

Additionally, the Commission is separately considering a rule change proposal to introduce a wholesale demand response mechanism.[20] There are drafting implications if this rule and the wholesale demand mechanism rule are made.

4.5.2 AEMO and IEC procedure implications

The 5MS rule required AEMO to update at least 14 of its procedures, and undergo a full rules consultation process on these updates. Since the rule was made, AEMO identified and has made changes to approximately 70 procedures, policies and guides affected by the 5MS rule across metering, settlement, dispatch and operations.[21] Additionally, changes have been made by the Information Exchange Committee (IEC) to procedures governing B2B data flows and interactions.

If the commencement of 5MS and GS is delayed, then there may be consequential implications for these procedures that have been updated as well. In the rule change request, AEMO proposed that "any changes to already-determined procedures for the sole purpose of deferring the effective date of 5MS or GS should not require consultation".[22]

4.5.3 AER procedure and determinations implications

Similarly, the AER was also required to review a number of its procedures after the 5MS final rule was made. This review found that there were few, if any, changes required to accommodate the move to 5MS. However, there could potentially be implications for distribution network service provider (DNSP) revenue determinations and the default market offer (DMO) determination.

DNSP revenue determinations

The AER is currently in the process of assessing the regulated revenue determinations of the Victorian DNSPs for the period 2021-26. The delay to 5MS and GS commencement has the potential to impact the incremental operational expenditure allowed in the determination. The final decision on the revenue determinations is likely to be published towards the end of April 2021, and therefore should be able to account for the outcome of this rule change.

20 For more information, see: https://www.aemc.gov.au/rule-changes/wholesale-demand-response-mechanism.

21 https://www.aemo.com.au/initiatives/major-programs/nem-five-minute-settlement-program-and-global-settlement/procedures-workstream.

22 AEMO, rule change request, p. 2.

There could also be implications for revenue proposals due to the AER towards the end of 2020.

Default Market Offer

The AER published its *Determination of default market offer prices* 2020-2021, in April 2020.[23] The implications of a potential delay to 5MS and GS could be incorporated in the next DMO determination for the period 2021-22.

QUESTION 6: DRAFTING AND PROCEDURE IMPLICATIONS OF DELAY

a) Is there any feedback on the high-level description of a potential rule presented in Appendix A? Are there any other interactions with affected rules and schedules that have not been identified?

b) Should AEMO, the AER and the IEC be required to review and if necessary, amend their relevant procedures to take into account a delay to five minute and global settlement?

c) In its rule change request, AEMO proposes that there should be no consultation on any changes to its procedures if those changes are solely related to a delay to five minute and global settlement. Are there any reasons that this could be an issue?

23 Available at: https://www.aer.gov.au/retail-markets/retail-guidelines-reviews/retail-electricity-prices-review-determination-of-default-market-offer-prices.

5 PROCESS FOR THIS RULE CHANGE

This chapter outlines:

- the treatment of this rule change request as an urgent rule
- key dates.

5.1 Treatment as an urgent rule

AEMO proposed the rule change request be treated as an urgent rule in accordance with section 96 of the NEL so that it could be processed on an expedited basis. This request has been made on the basis that, if the rule change is not made as a matter of urgency, "the result may be imminent prejudice or threat to the effective operation and administration of the wholesale electricity market or the safety, security or reliability of the interconnected electricity system".[24] AEMO considers that COVID-19 threatens to materially impede the safety, security and reliability of the power system by:

- restricting the movement of people to attend work
- reducing the availability of healthy people to perform tasks
- threatening the financial resilience of the energy industry.

The Commission considers that the rule change request should be subject to the expedited rule making process under section 96 of the NEL on the grounds that it considers the rule change request to be a request for an urgent rule.[25]

More specifically, the Commission considers that if the rule change is not progressed as a matter of urgency under an expedited timeframe, this will result in a threat to the effective operation or administration of the wholesale electricity market. This is because the economic impact of COVID-19 threatens the financial viability of many participants and potentially in turn the financial resilience of the energy industry, as outlined below, and there is evidence that this impact could be reduced if the implementation of five minute settlement and global settlement is deferred as soon as possible:

- **The COVID-19 pandemic has caused a severe economic downturn.** The Reserve Bank of Australia (RBA) notes that the global economy is experiencing a severe downturn as countries seek to contain the coronavirus and the Australian economy is going through a very difficult period.[26]
- **There has been a material decrease in Australian total wages and employment.** The Australian Bureau of Statistics (ABS) showed that between 14 March and 18 April 2020:[27]

24 AEMO, rule change request, pp.2-3.

25 An "urgent rule" is defined in section 87 of the NEL as "a rule relating to any matter or thing that, if not made as a matter of urgency, will result in that matter or thing imminently prejudicing or threatening (a)the effective operation or administration of the wholesale exchange operated and administered by AEMO; or (b) the safety, security or reliability of the national electricity system".

26 Reserve Bank of Australia, *Statement by Philip Lowe, Governor: Monetary Policy Decision,* 5 May 2020, Media Release.

27 Australian Bureau of Statistics, *6160.0.55.001 - Weekly Payroll jobs and wages in Australia*, *week ending 18 April 2020,* 5 May 2020. https://www.abs.gov.au/ausstats/abs@.nsf/mf/6160.0.55.001

- employee jobs decreased by 7.5% in Australia
- total wages paid decreased by 8.2% in Australia.

The RBA's baseline scenario is for the Australian unemployment rate to peak at around 10 per cent over the coming months and remain above seven per cent at the end of 2021.[28] These adverse economic conditions are likely to reduce the ability of households and businesses to pay their bills, including for electricity, as explained further below.

- **Government and industry consensus over the economic impact of COVID-19 has resulted in a range of measures to support people, businesses and the energy sector.** These measures include (but are not limited to):
  - The Commonwealth Government's *JobKeeper scheme*, which is designed to support businesses and workers significantly affected by COVID-19.[29]
  - COAG Energy Council agreed that governments and industry would work together in a number of key areas. This includes the establishment of the *National Coordination Mechanism* to ensure the energy sector continues to support the economy and community. Ministers encouraged energy generators, retailers and networks to consider support measures for customers experiencing difficult circumstances as a result of COVID-19.[30]
  - The AER released a *Statement of Expectations* for energy businesses to protect consumers and the market during COVID-19.[31]
  - A range of state and territory-based schemes that provide financial support for residential and business customers to help pay their utility bills due to COVID-19, including (but not limited to):
    - The Queensland Government is providing households with a $200 utility payment to assist with electricity and water bills in 2020 and a $100 million Power Bill Relief package for small and medium business enterprises, with a $500 rebate off energy bills.[32]
    - The New South Wales Government has increase the Energy Accounts Payment Assistance (EAPA) Scheme by $30 million to provide access to additional financial support for households struggling to pay their energy bills during COVID-19.[33]
    - The Victorian Government has launched the $500 million Business Support Fund to support small businesses in the sectors hit hardest by COVID-19 so they can survive and keep people in work. Eligible businesses can apply for a one-off $10,000 grant which can be used to pay utility and other costs.[34]

28 Reserve Bank of Australia, *Statement by Philip Lowe, Governor: Monetary Policy Decision,* 5 May 2020, Media Release.

29 Australian Government, *Economic Response to the Coronavirus, JobKeeper payment: Supporting businesses to retain jobs,* Fact sheet, 25 April 2020.

30 Australian Government, *Government responses to COVID-19 in the energy sector*, website viewed 7 May 2020.

31 Australian Energy Regulator, *Statement of Expectations of energy businesses: Protecting consumers and the market during COVID-19*, 9 April 2020.

32 Queensland Government, *Electricity Relief for Households and Businesses Q & A*, 24 March 2020.

33 New South Wales Government, *NSW Government bill relief for energy customers*, 27 April 2020.

34 Victorian Government, *Coronavirus (COVID-19) business support, Business Support Fund Grants*, website viewed 8 May 2020.

— The South Australian Government has provided a one-off boost of $500 for households that receive the Centrelink JobSeeker Payment, as part of the 2020/21 Cost of Living Concession.[35]

— The Tasmanian Government announced that energy prices will also be capped for 12 months for all regulated electricity customers, and small business customers and community service organisations will have their next quarterly energy bill waived due to the impact that COVID-19.[36]

— The Australian Capital Territory (ACT) Government announced that households receiving the Utilities Concession Rebate will receive a one-off additional $200 rebate off their electricity bill and small businesses will receive a one-off $750 electricity rebate.[37]

- **The potential for a material reduction in revenues may cause financial stress for retailers and financial contagion in the energy sector.**
  - The AER notes that many people are or will be affected by the dramatic changes to their lives, businesses, income and working arrangements and that customer's ability to pay their bills may in turn be affected."[38]
  - Electricity retailers have relatively low margins (NEM average earnings before interest, depreciation and amortisation (EBITDA) was four per cent in 2018-19 or $66 per residential customer)[39] meaning they have a narrow financial buffer to manage the risks and wholesale volatility of the industry. Additionally, smaller retailers that play an important role in keeping the market competitive have high 'costs to serve' (65 percent higher than Tier 1 retailers) and 'costs to acquire and retain' customers (93 per cent higher than Tier 1 retailers) than larger retailers making them vulnerable to material increases in customer non-payment of bills, which reduces revenues and negatively impacts cash flows.[40]
  - The AER has proposed a rule change to allow retailers to defer payments to network businesses. This proposal recognises that retailers carry the cash flow and credit risk for the energy industry value chain. As a reference, in November 2019 the ACCC found that for every $100 received by or owed to retailers from customers, $43 is payable to networks, $33 for wholesale electricity costs, and $8 to environmental scheme costs. Of the remainder, $11 covers retailer costs, leaving $4 of retail margin.[41] Given this, a relatively small increase in customer non-payment can result in retailers experiencing negative cash flows, which may threaten their viability and have consequent financial impacts across the industry value chain. The rule change aims to share some cash flow burden across the industry.[42]

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35 South Australian Government, *Cost of Living Concession*, website viewed 8 May 2020.

36 Tasmanian Government, *Energy cost relief for Tasmanians*, Media release 1 April 2020.

37 ActewAGL, Additional Concession Utilities Rebate (COVID-19), website viewed 8 May 2020.

38 AER *Statement of Expectations of energy businesses: Protecting consumers and the market during COVID-19*, 9 April 2020.

39 ACCC, *Inquiry into the National Electricity Market*, November 2019 report, pp. 4-6.

40 ACCC, *Inquiry into the National Electricity Market,* November 2019 report, pp.73, 77.

41 ACCC, *Inquiry into the National Electricity Market*, November 2019, p. 30.

42 For more information see: https://www.aemc.gov.au/rule-changes/deferral-network-charges.

The rule change proposal to delay the major industry reforms of 5MS and GS may defer implementation costs for some participants at a time when all cash flow is needed to deal with the impacts of COVID-19.[43] It may therefore support the viability of market participants and reduce the potential for financial contagion across the industry.

Rule change requests that are considered to be a request for an urgent rule may be processed under an expedited (faster) process. Under this process there is only one round of consultation and the AEMC is required to publish its final rule determination within eight weeks of commencing the rule change process.[44]

The Commission has decided to use an expedited process to consider this rule change request provided that it does not receive any valid requests not to use the expedited process by 28 May 2020. To be valid, an objection should set out the reasons why the AEMC should not make a rule in accordance with an expedited process, and accordingly, that the rule change request is not an "urgent rule" as defined in section 87 of the NEL. Objections on the basis of supporting or not supporting the changes proposed in the rule change proposal itself, will not be valid.

5.2 Key dates

Given the tightly defined nature of the issue, and the background information provided in the rule change request, this consultation paper is brief. Nevertheless, submissions are invited in relation to the matters identified above, and any other relevant issue.

The key dates for stakeholders in this process are as follows:

- commencement of this rule change process: 14 May 2020
- objections to an expedited process would need to be received by: 28 May 2020
- submissions to the proposal to be received by: 11 June 2020
- final decision to be published under an expedited process by: 9 July 2020

A template for submissions is available on the project page: https://www.aemc.gov.au/rule-changes/delayed-implementation-five-minute-and-global-settlement.

43 AEMO, rule change request, p. 5.

44 The AEMC has published a notice under ss. 95 and 96 of the National Electricity Law to commence and assess this rule change request as an urgent rule.

6 LODGING A SUBMISSION

The Commission invites requests not to make a rule under the expedited process and written submissions on this rule change proposal.

All enquiries on this project should be addressed to Prabpreet Calais at Prabpreet.Calais@aemc.gov.au or Andrew Pirie at Andrew.Pirie@aemc.gov.au.

6.1 Lodging a request not to make a rule under an expedited process

Written requests not to make a rule under the expedited process in s. 96 of the NEL must include reasons for the request, and must be lodged with the Commission by 28 May 2020 online in accordance with the process specified below.

6.2 Lodging a submission to this rule change request

Written submissions on the rule change request must be lodged with Commission by 11 June 2020 online in accordance with the process specified below.

Where practicable, submissions should be prepared in accordance with the Commission's guidelines for making written submissions on rule change requests.[45] The Commission publishes all submissions on its website, subject to a claim of confidentiality.

6.3 Lodging online

Submissions, or requests not to make a rule under the expedited process, must be lodged online via the Commission's website, www.aemc.gov.au, using the "lodge a submission" function and selecting the project reference code ERC0298.

The request or submission must be on letterhead (if submitted on behalf of an organisation), signed and dated.

45 This guideline is available on the Commission's website www.aemc.gov.au.

ABBREVIATIONS

5MS	Five minute settlement
AEMC	Australian Energy Market Commission
AEMO	Australian Energy Market Operator
AER	Australian Energy Regulator
AFMA	Australian Financial Markets Association
ASX	Australian Securities Exchange
B2B	Business to business
Commission	See AEMC
DMO	Default Market Offer
DNSP	Distribution Network Service Provider
EBITDA	Earnings before interest, tax, depreciation and amortisation
GS	Global settlement
IEC	Information Exchange Committee
MCE	Ministerial Council of Energy
NEL	National Electricity Law
NEM	National Electricity Market
NEO	National electricity objective
OTC	Over the counter
UFE	Unaccounted for energy

A DESCRIPTION OF A POTENTIAL RULE AND DRAFTING CONSIDERATIONS

AEMO's rule change request does not contain legal drafting for a proposed rule. Therefore, in order to facilitate consultation, this section sets out a high level description of indicative changes to the NER to implement a delay to 5MS and GS. Consequential changes to delay schedules in other rules that were made following the 5MS rule are also discussed.

A.1 Key features of indicative rule

The rule, if made, would:

1. Delay the commencement date for Schedules 1 to 6 of the *National Electricity Amendment (Five Minute Settlement) Rule 2017* until 1 July 2022 or some other date to be determined by the Commission as part of the rule change process.
2. Schedules 1 to 4 of the *National Electricity Amendment (Global settlement and market reconciliation) Rule 2018* until 6 February 2022 or some other date to be determined by the Commission as part of the rule change process.

A.2 Consequential changes to rules that have been made or are about to be made

Delaying the commencement of 5MS and GS rules will also impact the commencement of schedules in the seven other rules listed below that have already been made (and for which the substantive schedules have already commenced).

These rules have already introduced changes to frameworks in the NER. They also contain separate schedules that commence immediately after the *National Electricity Amendment (Five Minute Settlement) Rule 2017* on 1 July 2021 to ensure those frameworks continue to operate as intended after the five minute framework is introduced. The commencement of the schedules under each of these rules has been drafted such that they operate with a domino-like effect — i.e. the five minute settlement rule commences on 1 July 2021, which then immediately triggers the commencement of a schedule in another rule, which then immediately triggers the commencement of a schedule in another rule and so on. This is to ensure each framework operates uninterrupted post 1 July 2021. The affected rules are:

- *National Electricity Amendment (Five minute settlement and global settlement implementation amendments) Rule 2019*
- *National Electricity Amendment (Transmission loss factors) Rule 2020*
- *National Electricity Amendment (Intervention compensation and settlement processes) Rule 2019*
- *National Electricity Amendment (Application of the regional reference node test to the RERT) Rule 2019*
- *National Electricity Amendment (Application of compensation in relation to AEMO interventions) Rule 2019*

- *National Electricity Amendment (Participant compensation following market suspension) Rule 2019*
- *National Electricity Amendment (Minor rule change) Rule 2020.*

If there is a delay to the commencement of five minute settlement, the commencement date of these schedules will also need to be delayed. In the case of the *National Electricity Amendment (Five minute settlement and global settlement implementation amendments) Rule 2019*, one schedule will need to be delayed to align with the commencement of five minute settlement, and two schedules related to global settlement will need to be delayed to align with the new commencement date for global settlement.

In addition, schedules in the *Draft National Electricity Amendment (Wholesale demand response mechanism) Rule 2020* **(DRM Rule)***,* due to be published on 11 June 2020, is likely to (if made) commence before or on 24 October 2021.

That DRM rule has been drafted based on a version of the NER as amended by the 5MS Rule. Therefore, the *Delayed Implementation to five minute and global settlement rule* would need to contain schedules to address this:

- one amending relevant clauses in the DRM rule to reinstate a non five minute settlement version of the demand response mechanism framework commencing on 1 July 2021; and
- a second one reinstating the post five minute version of the demand response mechanism framework commencing on the same date as five minute settlement.

A.3 Transitional provisions in affected rules that have commenced

Transitional provisions in the following rules have already commenced:

- Schedule 7 of the *National Electricity Amendment (Five minute settlement) Rule 2017 (commenced 19 December 2017)*
- Schedule 5 of the *National Electricity Amendment (Global settlement and market reconciliation) Rule 2018 (commenced 13 December 2018)*
- Schedules 1 and 6 of the *National Electricity Amendment (Five minute settlement and global settlement implementation amendments) Rule 2019 (commenced 12 August 2019).*

These provisions are in Chapter 11 of the NER. The following consequential amendments would need to be made to some of these provisions.

Procedures relevant to five minute settlement

1. Cl 1103.2(a) required AEMO by 1 December 2019 to review and where necessary amend a number of procedures to take effect the commencement of five minute settlement.
2. Cl 11.103.2(b) required the Information Exchange Committee by 1 July 2019 to change the B2B procedures to take into account the five minute settlement rule.
3. Cl 11.102(d) required the AER by 1 December 2019 to review and where necessary amend a number of procedures to take effect the commencement of five minute settlement.

There may need to be a requirement for these procedures to be reviewed and if necessary, amended again, as a result of delay. In addition:

1. Cl 11.1.3.6 required AEMO by 1 December 2019 to establish and publish the procedure required by new clause 7.8.2(a2) in respect of exemptions from data storage requirements. The Commission is considering whether AEMO should be required to review and amend this procedure as a result of delay, and whether there should be any changes to the exemptions criteria as a result of delay.

Metering installations

1. Clause 1103.3 provides that all metering installations (other than excluded metering installations that were installed prior to 1 December 2018; and type 4A metering installations installed prior to 1 December 2019) do not have to be capable of recording and providing, or configured to record and provide, trading interval energy data until they are replaced. The Commission is considering if this is still appropriate given the delay.
2. Cl 11.103.5 states that metering installations (other than excluded metering installations) do not have to be configured to record and provide trading interval energy data prior to 1 December 2022. The Commission is considering if the date for this exemption is still appropriate given the delay.

Global settlement transitional provisions

1. Cl 1112.2 required AEMO by 1 December 2019 to review and where necessary amend a number of procedures to take effect 6 February 2022. There may need to be a requirement for AEMO to review and amend these procedures again.
2. Clause 11.113 states that by 1 March 2022 AEMO must prepare and publish the first report on unaccounted for energy required under cl 3.15.5B(a). The Commission is considering the appropriate date for this report to be provided if there is a delay to global settlement.
3. Clause 11.112.5(a) states that for each trading interval from 1 July 2021 until 6 February 2022, AEMO must determine unaccounted for energy for each local area and publish those amounts together with information to enable Market Customers in that local area to determine the unaccounted for energy that would be allocated to them under the global settlement rules. This is the soft start for global settlement. The Commission will need to consider what dates are appropriate for a soft start to global settlement if there is a delay to the commencement of global settlement.
4. Cl 11.112.6 states that AEMO must make and publish the unaccounted for energy reporting guidelines required under new cl 3.15.5B(d) by 1 December 2022. The Commission needs to consider what the appropriate date is for this obligation to commence if global settlement is delayed.

B BACKGROUND TO THE RULE CHANGE

This appendix outlines a:

- brief explanation of five minute settlement
- brief explanation of global settlement
- summary of the five minute and global settlement rule change process and implementation to date

B.1 Five minute settlement

In December 2015, the AEMC received a proposal from Sun Metals (a large zinc refinery in Queensland) to align the financial settlement of the electricity market with the operational dispatch of the market at five minutes. This represents a change from the current 30-minute settlement which is calculated by the average of the six, five-minute dispatch intervals.

The current 30-minute settlement interval reflects the limitations in metering, data collection and IT systems that existed at the beginning of the NEM in 1998. Twenty years on we have access to far more sophisticated equipment, systems and energy services which have the capability to support financial settlement of the market every 5 minutes. While this change seems relatively small and straightforward, numerous processes—including financial transactions, data collection and IT systems—have all been designed around the traditional 30-minute settlement period.

The change to the market rules will impact existing operational behaviour, IT systems and investment incentives for the industry, which means implementation has considerable costs. However, these costs are balanced with significant, long-term benefits for the transitioning energy sector. It was a change that could invigorate the NEM, and prepare it for a more dynamic and agile future.

Similar changes to the settlement period were considered in international markets such as New Zealand and some US markets and it took considerable time to work through the issues associated with such a change.

Benefits of five minute settlement rule change

The Commission considered that aligning dispatch and settlement at five-minutes would have the following significant enduring benefits, relative to the current arrangements, including improved:[46]

- price signals for more efficient generation and use of electricity
- price signals for more efficient investment in capacity and demand response technologies to balance supply and demand
- bidding incentives.

Implementation of five minute settlement rule change

46 AEMC, Five minute settlement, Final determination, 28 November 2017, p.ii.

The five minute settlement rule allows for an implementation period of three years and seven months, meaning the rule will currently commence on 1 July 2021. Implementation of five minute settlement requires AEMO and NEM participants to make changes prior to the commencement date. These changes include:

- upgrading metering to provide five-minute granularity data (where required)
- updating IT systems to store and process five-minute granularity data
- reviewing and where necessary updating existing contract terms and conditions.

B.2 Global settlement

On 6 December 2018, the Commission made a rule to introduce a 'global settlement' framework for settlement of the demand side of the wholesale electricity market. The global settlement rule moves away from the current 'settlement by difference' approach. The rule was made in respect of a rule change request received from AEMO on 16 March 2018.[47] While independent of five minute settlement, both global and five minute settlement have synergies in implementation, particularly with regards to meter data system and file changes.

Background on settlements, 'settlements by difference' and 'global settlements'

The NEM is a gross electricity pool market operated by AEMO. All electricity supplied to the market and consumed by end users is transacted at the spot price for each trading interval in each region. The market settlement process requires that generators are paid for the energy they provide to the NEM and market customers pay for the energy they use. Market customers are primarily electricity retailers who purchase wholesale electricity to on-sell to their retail customers, but also include some large industrial customers.[48]

Under the previous market settlement framework, known as 'settlement by difference', electricity supplied to a distribution area was billed to the incumbent retailer known as the local retailer, except for the loss-adjusted metered electricity that is consumed by the customers of independent retailers within that area. That meant that the local retailer for an area wore the risk of all residual electricity losses in that area - known as UFE. UFE previously included unaccounted for technical losses, commercial losses and errors in estimating the half-hourly consumption of basic metering installations which does not keep track of how electricity usage varies throughout the day.[49]

Under the global settlement framework, every retailer is billed for the loss-adjusted metered electricity that is consumed by their customers within the area. UFE is allocated to market customers in a local area, prorated based on their 'accounted-for' energy.[50]

Benefits of global settlement

The key benefits of moving to a global settlements framework include:

47 The final rule was a more preferable rule. It is generally consistent with AEMO's rule change request but varies in some specific design elements of global settlements. AEMC, Global Settlement and Market Reconciliation, Rule determination, 6 December2018, p. i.

48 AEMC, Global Settlement and Market Reconciliation, Rule determination, 6 December 2018, p.i.

49 AEMC, Global Settlement and Market Reconciliation, Rule determination, 6 December 2018, p.i.

50 AEMC, Global Settlement and Market Reconciliation, Rule determination, 6 December 2018, p.i.

- improved transparency, leading to fewer settlement disputes between retailers and lower levels of UFE over time
- competition on equal terms between the local retailer and other retailers
- improved risk allocation, so that risks are allocated to those parties that are best placed to manage them.

B.3 Five minute and global settlement rule change process and implementation

Rule change process

As noted above, the AEMC received the original 5MS rule change request from Sun Metals in December 2015, and went through an extensive assessment of the merits of the rule change. This included:

- three formal rounds of consultation
- two technical working group meetings
- over 110 stakeholder meetings
- a public forum with close to 100 stakeholders
- considering 114 written submissions.

In November 2017, the Commission determined to make the rule, allowing for a three and a half year transition period to balance the implementation costs of transition with the longer term benefits of the change.

On 6 December 2018, the Commission made the global settlements rule, after a standard rule change process. Under the final rule, AEMO is scheduled to start publishing UFE from 1 July 2021 to align with the start of 5MS, and to start financial settlement of GS on 6 February 2022.

AEMO's implementation of the rules

AEMO formally started its consultation process on the implementation for 5MS in July 2018. AEMO established three dedicated five minute settlement working groups to engage with industry and market bodies on procedure updates, system updates and industry readiness.

The three working groups are:

1. **Procedures** — working with industry to review and where required implement changes to around 70 procedures, policies and guides
2. **Systems** — responsible for the design, development, testing and implementation of IT and metering systems to support the changes
3. **Readiness** — responsible for ensuring all participants are prepared for the transition and commencement of the rule.

In addition to the three dedicated working groups, AEMO has established several focus groups and forums that meet regularly (mostly monthly) throughout the year.

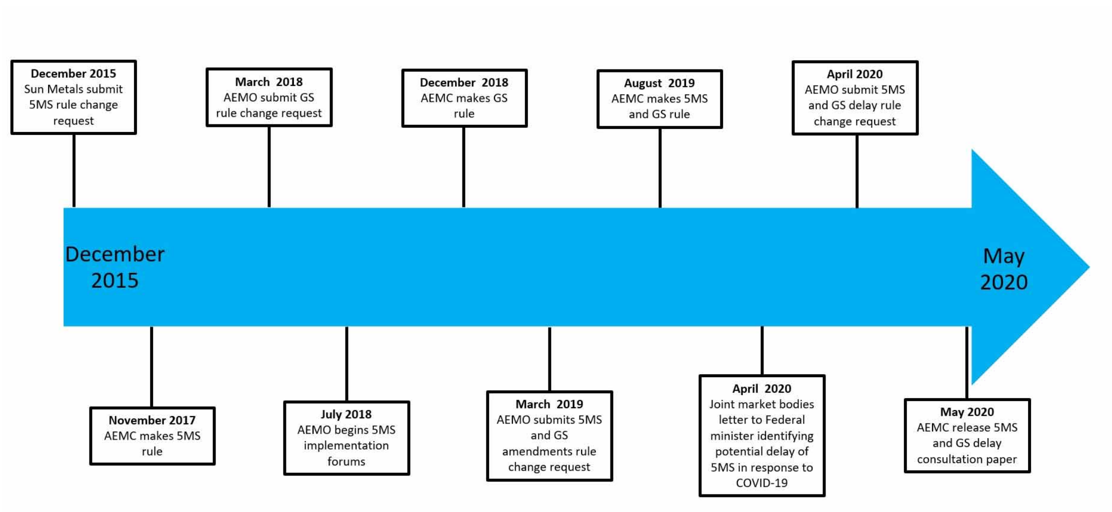
Through AEMO's work program it identified some technical issues with the 5MS and GS rules, and submitted a rule change request in March 2019. This rule change sought to make some amendments to help the market efficiently and effectively implement five minute settlement and global settlement. On 8 August 2019, the Commission made a final rule to amend the 5MS[51] and GS[52] rules. The final rules improve wholesale market operations under five minute settlement, clarify global settlement arrangements and improves information provision requirements.

COVID-19 impact on the energy market

In early 2020, the COVID-19 pandemic began to impact the Australian society and economy. With strict lock downs and limits on international travel, the serious economic impact of the pandemic became evident. In response to the potential economic pressures the pandemic could have on the energy market, the market bodies conducted an initial assessment of reforms, to identify if any concessions could be made to relieve pressure on the sector. The outcome of that work was a letter to the Hon Angus Taylor MP, Minister for Energy and Emissions Reductions, which identified 5MS as a potential reform that could be delayed to maintain the financial resilience of the energy market.[53] Following that letter, AEMO submitted the rule change proposal which is being considered by the Commission.

Figure B.1 below illustrates the process from the 5MS rule change proposal to the release of this consultation paper.

Figure B.1: Timeline of regulatory changes from 5MS and GS



51 National Electricity Amendment (Five minute settlement) Rule 2017 No. 15.

52 National Electricity Amendment (Global settlement and market reconciliation) Rule 2018 No. 14.

53 A copy of the letter is available here: https://www.aemc.gov.au/sites/default/files/2020-04/Letter%20from%20AEMC%20AER%20AEMO%20-%20Prioritising%20implementation%20timeframes_a%20more%20detailed%20view%20-%209%20April%202020.pdf.

C OVERVIEW OF ELECTRICITY HEDGING MARKETS

This Appendix provides a high level overview of electricity hedging markets.

The NEM operates as a gross pool market, where generators bid in different quantities of generation at different prices. As demand and supply vary continuously throughout the day, so does the electricity price. The fluctuations between the market floor price (-$1,000/MWh) and the market price cap ($14,700/MWh) create cash flow risks for wholesale and retail participants. Electricity hedging contracts are commonly used to manage the impact of this volatility on participants. Electricity hedge contracts allow counterparties to agree to a fixed price for a financial transaction in the future based on the price of an underlying asset or commodity, such as the NEM spot price. There are broadly two markets for electricity hedge contracts:

- The **Australian Securities Exchange (ASX)—**Contracts traded on the ASX are standardised, anonymous, and all prices and quantities are publicly available. According to the Australian Financial Markets Association (AFMA) derivatives survey, in 2018-19 the ASX contributed around 82 per cent of electricity market turnover (MWh).
- **Over-the-counter (OTC)—**OTC contracts are generally bi-lateral, more bespoke and negotiated between the parties. Most OTC contracts are based on the standard terms established in the International Swaps and Derivatives Association (ISDA) electricity addendum. In 2018-19, the OTC market contributed around 18 per cent of total electricity market turnover (MWh).

The most common type of electricity hedge contracts are swaps (or 'futures') and caps.

- **Swap—**A swap contract trades a given volume of energy during a fixed period for a fixed price (the strike price). The variable wholesale market spot price is, in effect, swapped for the fixed strike price. The contract is settled through payment between the counter-parties based on the difference between the spot price and the strike price. The natural seller of a swap is a baseload generator whereas the natural buyer is a retailer. For both parties, the swap is a hedge against spot price volatility. Retailers typically use swaps to hedge the average component of their customer load profile.
- **Cap**—A cap contract trades a fixed volume of energy for a fixed price when the spot price exceeds a specified price, which is typically $300/MWh. It provides the buyer of the contract with insurance against high prices. The seller of a cap is required to pay to the buyer the difference between the spot price and $300/MWh every time the spot price exceeds $300/MWh. The natural sellers of caps are peaking generators whereas the natural buyers of caps are retailers and large energy users. Caps are most suitable to hedge load that is variable or less certain.