Updates to the AER's Rebidding and Technical Parameters Guideline

Consultation Paper

March 2026

AUSTRALIAN
ENERGY
REGULATOR

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Introduction

An important part of the Australian Energy Regulator's (AER) work relates to the regulation of the National Electricity Market (NEM), the competitive market for wholesale electricity. The efficient and secure operation of the NEM depends on the ability to instantaneously match the supply and demand of electricity. This is underpinned by the bidding process, where on the supply side, wholesale Market Participants[1] submit bids to the Australian Energy Market Operator (AEMO) for every 5-minute trading interval indicating the capacity of energy and/or Frequency Control Ancillary Services (FCAS) they are willing to provide across 10 price bands. Generators are then dispatched from lowest to highest cost until there is sufficient supply to meet forecast demand. The NEM allows adjustments to bids until gate closure.[2] Clear and sufficient information to AEMO setting out the basis for rebids and changes to technical parameters is required to provide transparency and confidence to the market.

As part of this process, Market Participants:

- are able to adjust their bids or rebids to reflect changing events, or in response to changing market conditions; and

- limit, amend or rebid on the basis of the physical or technical capabilities of their plant (technical parameters), to ensure the plant is operated safely.

The AER is required to publish, and amend from time to time, the Rebidding and Technical Parameters Guideline (Guideline) in accordance with clause 3.8.22(f) of the National Electricity Rules (NER). The purpose of the Guideline is to inform Market Participants of the AER's approach to the relevant obligations, including monitoring and enforcing compliance with the rebidding and technical parameters obligations in the NER.

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[1] The NER defines a 'Market Participant' as a Market Generator, Integrated Resource Provider (other than a Non-Market Integrated Resource Provider), Market Customer, Demand Response Service Provider, or Market Network Service Provider or Voluntarily Scheduled Resource Provider.

[2] Gate closure here refers to the deadline to submit a rebid prior to the beginning of the subsequent dispatch interval.

1 Executive summary

The number and type of Market Participants operating in the NEM has grown significantly over the previous decade. This has included greater participation by loads, from batteries to demand side activities.[3] It has also included the introduction of new and different technology types, which necessitates different approaches to bidding to reflect plant settings.

In December 2024, the Australian Energy Market Commission (AEMC) made a final determination in respect of the [Integrating price-responsive resources into the NEM](#) rule change (IPRR rule change). The IPRR rule change, among other things, allows aggregated consumer energy resources (CER), distributed energy resources (DER) and price-responsive load to be scheduled and dispatchable in the NEM. The first schedule of the IPRR rule change came into effect on 19 December 2024, with 4 other schedules commencing operation across 2026 and 2027. Dispatch mode will commence full operation on 23 May 2027.

In accordance with the IPRR rule change the AER is required to review, and where necessary or desirable, amend this Guideline to take into account the IPRR rule change by 30 September 2026.[4] This Consultation Paper initiates the AER's review of the Guideline in accordance with the IPRR rule change. The review will also consider market developments and emerging risks that have arisen since our previous substantive review of the Guideline in 2019 (which was largely related to accommodating the AEMC's Five Minute Settlement rule change).

1.1 Scope of review

We consider that the amendments to the NER, resulting from the IPRR rule change, will require updates to the Guideline to ensure that the introduction of dispatch mode for Voluntary Scheduled Resources (VSRs) is appropriately addressed.[5]

Beyond this, we are seeking stakeholder views on market developments and emerging risks including:

- failures for VSRs to meet dispatch instructions as a result of passive load and whether this could be considered non-compliance related to an "abnormal plant condition or other abnormal operating requirements" (NER, clause 3.8.19(a));
- ramp rate rebidding and the minimum safe operating level (MSOL) of a plant (including addressing concerns around rebidding of ramp rates below minimum allowable levels during periods where units may need to be dispatched out of merit order to manage network or other operating constraints); and
- expectations for Auto-bidding, otherwise known as the use of a computer algorithm by Market Participants to submit bids and rebids automatically with limited or no

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[3] This includes things such as customer load reductions or generation from customers' embedded generators.

[4] NER, clause 11.180.2(a)(2).

[5] Under the IPRR rule change, unscheduled price-responsive resources (which includes smaller generation and storage assets such as rooftop solar or community batteries, and flexible demand such as smart appliances) can be voluntarily scheduled and dispatchable in the NEM as a VSR, either in aggregations or individually.

human intervention (including the utilisation of third-party providers), and the rebidding of batteries.

We are also seeking views from stakeholders in relation to the use of Artificial Intelligence (AI) in the bidding process, with a view to building understanding of emerging opportunities and risks. Specifically, we are seeking views on:

- the benefits and risks relating to the use of Auto-bidding and asset optimisation technologies in the bidding process; and
- potential mechanisms to ensure sufficient transparency, performance and accountability to maintain market integrity in relation to the utilisation of these technologies.

The increase in the usage and sophistication of AI is a broad issue which will impact all parts of the energy sector. Determining the appropriate regulatory response is a complex issue and will require significant consultation between market bodies and participants. Given the nexus between rebidding and technical parameters and the use of AI, we consider there are efficiencies to begin seeking this information as part of this process.

1.2 Consultation Questions

Question 1.

Are there any other items related to the IPRR rule change that may need to be addressed in the Guideline outside of those set out in sections 2.1.1 and 2.1.2, and if so, what are they?

Question 2.

Given the policy intent and broader benefits of the IPRR rule change, do you consider that it would be appropriate for the 'other abnormal operating requirement' categorisation to be used for VSRs in circumstances where the dispatch mode mechanism does not allow the accurate offering of VSR capacity during certain conditions (such as during a supply scarcity event)? Why?

Question 3.

Do you have any views on other ways in which this passive load issue could be addressed, for example, by rebidding a unit's ramp rate down to zero if required?

Question 4.

Does the Guideline need to provide greater detail in relation to establishing the MSOL of a unit, and if so, what further detail is required? What criteria should be used to evaluate a unit's MSOL?

Question 5.

Would further specificity regarding the MSOL in specific conditions (for example, any time that a unit may need to be dispatched out of merit order to manage network constraints) be useful? If so, what specific guidance would be of use?

Question 6.

What additional guidance on ramp rates would be of use? Do you think the Guideline clearly explains that ramp rates should not be utilised to manage the commercial impacts of network constraints?

Question 7.

What guidance (outside of reference to the ST PASA Procedures) would be beneficial in relation to the ST PASA Recall Period?

Question 8.

Do you consider additional guidance relating to the expectations for Market Participants utilising Auto-bidding software (including third party software) and for the third party-providers would be useful? If so, what guidance would be of assistance?

Question 9.

Do you consider there would be any benefit from adding additional transparency on the utilisation of Auto-bidding in a rebid reason? Why?

Question 10.

Explain whether the proposed methodology for receiving this information listed above would be effective in providing market transparency.

Question 11.

How could the volume of battery rebids (particularly when we are seeing numerous rebids within the same dispatch interval) be reduced, whilst maintaining the necessary market integrity?

Question 12.

Do you consider there are any changes to the requirements for the recording of contemporaneous notes for battery rebids that could be implemented to help to reduce regulatory burden whilst still providing necessary integrity?

Question 13.

What are your views regarding the utilisation of AI in Auto-bidding technology? What do you consider the potential benefits and harms as this technology becomes more utilised and sophisticated?

Question 14.

How can the AER ensure sufficient transparency and accountability of technology being utilised for bidding and rebidding?

Question 15.

What, if any, amendments to the NER are required to address the utilisation of AI in the bidding process?

Question 16.

Do you consider there are AI issues that are directly relevant to the Guideline which require it to be amended? If so, how?

1.3 Consultation process and next steps

The AER must review and, if necessary or desirable, amend the Guideline by 30 September 2026.

The review of the Guideline will be conducted in accordance with the standard rules consultation procedure in the NER,[6] and will involve 3 stages of engagement:

- Stage 1: **Initial consultation**. This Consultation Paper includes an explanatory statement that sets out particulars of the proposed amendment, the issues involved and options to address them, if applicable.

- Stage 2: **Consultation on draft amended Guideline**. This involves publishing the draft amended Guideline no later than 50 business days after the due date for submissions on the initial consultation, with an invitation for written submissions, allowing no less than 20 business days for stakeholder submissions.

- Stage 3: **Publication of final amended Guideline**. This must occur no later than 50 business days after the due date for submissions on the draft decision.

Our indicative timing for this consultation process is outlined in **Table 1**.[7]

Table 1: Indicative timeline for Guideline review

Milestone	Indicative Date
AER consultation paper published	3 March 2026
Submissions close for our Consultation Paper	31 March 2026
Draft Guideline	10 June 2026
Submissions close for our Draft Guideline	8 July 2026
Final Decision	16 September 2026

We are committed to undertaking meaningful stakeholder engagement regarding amendments to the Guideline and encourage stakeholders to make a submission. The AER is also open to further engagement and will hold stakeholder forums as necessary to ensure that the full range of views are captured. Details and invitations of any such engagement will be published as a Communications Notice on our website.

1.4 Request for submissions

Interested parties are invited to make submissions to the AER regarding this consultation paper by close of business 31 March 2026.

Submissions should be emailed to aercompliance@aer.gov.au.

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[6] The standard rules consultation procedure is set out in clause 8.9.2 of the NER.

[7] In accordance with clause 8.9.2(d) and (e) of the NER, the AER may under specific circumstances, extend the time limit for publishing the consultation on the draft amended Guideline or the final amended Guideline.

Alternatively, stakeholders can mail submissions to:

> Rebecca Holland
> A/g General Manager, Compliance & Enforcement
> Australian Energy Regulator
> GPO Box 520
> Melbourne, VIC, 3001

The AER prefers that all submissions be publicly available to facilitate an informed and transparent consultation process. Submissions will be treated as public documents unless otherwise requested. All non-confidential submissions will be placed on the AER's website.

Parties wishing to submit confidential information are requested to:
- clearly identify the information that is the subject of the confidentiality claim; and
- provide a non-confidential version of the submission in a form suitable for publication.

For further information regarding our use and disclosure of information provided to us, see the ACCC/AER Information Policy.

If you have enquiries about this paper or lodging a submission, or would like to meet with us to discuss issues raised in this paper, please contact the AER Wholesale Compliance team at aercompliance@aer.gov.au

2 Key issues for feedback

2.1 Amendments related to IPRR rule change

The IPRR rule change allows aggregated CER to be scheduled and dispatchable in the NEM. The rule change introduces a 'dispatch mode' framework, which allows aggregated small and medium size price-responsive resources (including VSRs[8]) to participate in the wholesale electricity spot market for the first time. Aggregated price-responsive small resources can be bid into the spot market, set prices, receive and follow dispatch instructions and access ancillary service markets that require scheduling (e.g. FCAS). This is a voluntary framework, with the participant nominating and aggregating small resources to participate in dispatch as VSRs.

In line with the IPRR rule change, the AER is proposing to make several amendments to the Guideline to ensure that it:

- appropriately addresses the introduction of dispatch mode; and

- provides information for VSRs in relation to rebidding and related technical parameters.

> **Question 1.**
>
> Are there any other items related to the IPRR rule change that may need to be addressed in the Guideline outside of those set out in sections 2.1.1 and 2.1.2, and if so, what are they?

2.1.1 Standard amendments

The AER intends to update the Guideline content relating to ramp rates and late rebids to reflect the changes to clauses 3.8.3A and 3.8.22A(e)(2) of the NER as part of the IPRR rule change. The amendments to the Guideline will involve the inclusion of VSRs (as well as to address other minor amendments to relevant clauses covered by the Guideline).

The guidance to VSRs will be consistent with the general approach for existing Market Participants.

2.1.2 VSR passive load and compliance with dispatch instructions

The AEMO raised concerns with the potential for VSRs to be unable to meet dispatch instructions as the result of passive load during supply scarcity events.[9] The NER requires the total load of a VSR to be offered into the market even though only a portion of the load is price responsive – the remainder (the passive load) is not responsive. This is because the metering of consumption does not separate the responsive load from the passive load.

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[8] VSRs can include virtual power plants combining household batteries, community batteries, backup generators, and large energy users managing their consumption.

[9] Voluntarily Scheduled Resource Guidelines: Final Report – Standard consultation for the National Electricity Market, p.35.

Passive load is unable to be reduced, and there is no mechanism to account for this distinction (unless a secondary settlement point was to be utilised).[10]

The existence of passive load is largely due to the likelihood that there would be households within any given VSR that are unable to control portions of their load (e.g. because of use of household appliances that remain on at all times). If a VSR was dispatched to consume less than its passive load, this could lead to Voluntarily Scheduled Resource Providers (VSRPs) breaching their obligations under clause 4.9.8 of the NER. The AEMC specifically flagged in its Final Determination that VSRPs participating in dispatch mode are not exempt from obligations such as submitting bids and following dispatch instructions.[11]

The AEMC also flagged in its Final Determination that AEMO should consult with industry on how best to achieve the appropriate treatment of VSRs during supply scarcity events in its systems.[12] AEMO noted in its 'Voluntarily Scheduled Resource Guidelines – Second draft report' (Second Draft Report) that it understands that a VSR's failure to follow dispatch instructions "would be contrary to the AEMC's policy intent and represent a barrier to entry" for VSRPs. The Second Draft Report also notes that AEMO are "of the view that the most efficient way to implement this change would be via using NER 3.8.19 – Dispatch inflexibilities".[13]

Clause 3.8.19(a) of the NER provides that, if a Market Participant reasonably expects one or more of its scheduled resources (other than semi-scheduled generating units) to be unable to operate in accordance with dispatch instructions in any trading interval, due to abnormal plant conditions or other abnormal operating requirements in respect of the relevant scheduled resources, it must:

- Advise AEMO through the Projected Assessment of System Adequacy (PASA) or in its dispatch bid in respect of that scheduled resource that the relevant scheduled resource is inflexible in that trading interval; and

- Specify a fixed loading level at which the relevant scheduled resource is to be operated in that trading interval.

Section 2.2.2 of the Guideline, as currently drafted, notes the AER's view that 'abnormal plant or operating requirements' are conditions related directly to the internal operation of the relevant plant, with the only exception to this principle being where another law or licensing requirement requires that plant be operated in a certain manner.

The circumstance created by the IPRR rule change does not relate to an abnormality of the internal operation of a plant, but rather the dispatch mode mechanism does not allow the accurate offering of VSR capacity - it assumes that the passive load can be offered at the market price cap (MPC). This mechanism fails when there is scarcity and price reaches the MPC. For this reason, the AER is considering amending the Guideline to note that a VSR

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[10] Rule Determination - National Electricity Amendment (Integrating price-responsive resources into the NEM) Rule 2024, p.4.

[11] Rule Determination - National Electricity Amendment (Integrating price-responsive resources into the NEM) Rule 2024, p.59.

[12] Ibid.

[13] Second Draft Report, p.45.

experiencing specific conditions (i.e. supply scarcity meaning it is unable to comply with dispatch instructions related to its passive load) would fall under the definition of 'other abnormal operating requirements', which would allow VSRPs to bid inflexibly to avoid breaching their obligations under 4.9.8 of the NER.

Question 2.

Given the policy intent and broader benefits of the IPRR rule change, do you consider that it would be appropriate for the 'other abnormal operating requirement' categorisation to be used for VSRs in circumstances where the dispatch mode mechanism does not allow the accurate offering of VSR capacity during certain conditions (such as during a supply scarcity event)? Why?

Question 3.

Do you have any views on other ways in which this passive load issue could be addressed, for example, by rebidding a unit's ramp rate down to zero if required?

2.2 Updates responding to key market changes and emerging risks

2.2.1 Ramp rate rebidding and the minimum safe operating level

The ramp rate or rate of change is the speed (in MW/min) that a Market Participant is able to increase or decrease its power output or consumption. This is critical information required by AEMO to ensure that it is able to effectively balance supply and demand in the power system. A Market Participant is able to set its ramp rate in its bids and rebids, subject to requirements set out in the NER related to minimum and maximum ramp rates. Section 2.1.4 of the Guideline, as drafted, refers to the MSOL, as to be the level below which the unit would become unstable and could not safely follow a dispatch instruction to vary its output downwards.

As set out in the Guideline, it is the AER's view that any unit that has rebid its ramp rate below the minimum allowable on the basis of having reached its MSOL will have met the carve out to the minimum ramp rate requirements set out in clause 3.8A(c) of the NER.[14] Participants who have reached their MSOL can "submit a zero down ramp rate to AEMO, as long as the zero ramp rate can be justified on the basis of a technical limitation."

The Guideline, as drafted, provides further guidance in relation to what constitutes the MSOL of a unit – in particular, it notes that the MSOL is the "level below which the unit would become unstable, after other technical responses have been exhausted (for example,

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[14] Clause 3.8.3A(c) of the NER (as amended by the IPRR rule change) sets out that a Market Participant may provide a ramp rate to AEMO for its scheduled resource that is less than the minimum ramp rate if the ramp rate is affected by an event or other occurrence that:

    1) physically prevents the relevant scheduled resource from attaining a ramp rate of at least the minimum ramp rate; or

    2) makes it unsafe for the relevant scheduled resource to operate at a ramp rate of at least the minimum ramp rate,

for the period of time in which the ramp rate is so affected by that event or other occurrence.

auxiliary firing). The MSOL reflects technical and plant safety considerations, not commercial conditions."

The AER is examining this issue in light of potential concerns regarding Market Participants rebidding their ramp rate to zero during any period when units need to be dispatched out of merit order to manage network constraints.

The AER also holds concerns regarding the potential for Market Participants to utilise zero ramp rate rebid for commercial purposes to prevent them from being dispatched to a lower level of output when they would prefer higher targets.

The AER considers that these concerns could be addressed by amending the Guideline to provide further clarity in respect of what constitutes a unit's MSOL, and how this can be evaluated. For example, this could involve the provision of a technical or engineering report substantiating a plant's MSOL, across all relevant operating conditions.

Question 4.

Does the Guideline need to provide greater detail in relation to establishing the MSOL of a unit, and if so, what further detail is required? What criteria should be used to evaluate a unit's MSOL?

Question 5.

Would further specificity regarding the MSOL in specific conditions (for example, any time that a unit may need to be dispatched out of merit order to manage network constraints) be useful? If so, what specific guidance would be of use?

Question 6.

What additional guidance on ramp rates would be of use? Do you think the Guideline clearly explains that ramp rates should not be utilised to manage the commercial impacts of network constraints?

2.2.2 Information in relation to ST PASA Recall Period

In accordance with the [Updating Short Term PASA rule change](#), AEMO published its Short Term PASA Procedures (ST PASA Procedures) on 28 November 2025. The ST PASA Procedures set out, among other things, requirements for bids and rebids in relation to the recall period for a unit.

Given that a Market Participant is now required to include information related to recall period in a bid or rebid, the AER considers that the Guideline will need amending to provide guidance in relation to recall periods. Amendments to the Guideline will be consistent with the AEMO's ST PASA procedures and the AER's existing Compliance Bulletin and will provide a more complete Guideline.[15]

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[15] See the AER's [Projected Assessment of System Adequacy Compliance Bulletin](#).

> **Question 7.**
>
> What guidance (outside of reference to the ST PASA Procedures) would be beneficial in relation to the ST PASA Recall Period?

2.2.3 Utilisation of Auto-bidding

Auto-bidding, or the use of a computer algorithm by Market Participants to submit bids and rebids automatically, has become increasingly common. These tools are typically utilising five-minute pre-dispatch and dispatch data for decision-making.

The AER considers that there are significant differences between typical algorithmic Auto-bidding and AI utilisation in Auto-bidding technology. We generally consider there to be benefits to the market and individual participants related to the utilisation of automation for ensuring bids accurately reflect plant capabilities at all times.

> **Auto-bidding v Artificial Intelligence (AI) System**
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> For the purpose of this consultation paper, the term '*Auto-bidding'* is used to describe the use of a computer algorithm with a pre-defined set of instructions or rules which automatically determines, with little or no human interventions, one or more parameters of a bid such as whether to initiate a bid, timing, price, capacity or how to manage the bid after submission to market.
>
> *An Artificial Intelligence system*, or *AI System* is used to describe the use of a machine based system that, for explicit or implicit objectives, infers, from the input it receives, how to generate outputs, such as bidding in the market and asset optimisation.
>
> Depending on the nature of a Market Participants technology, Auto-bidding may be influenced by the output of one or more AI Systems.

While the AER is aware of some level of complex AI utilisation in existing Auto-bidding technology, we foresee an increase in the usage and sophistication of this technology in the future. Advanced machine learning driven algorithms have the ability to fundamentally change the nature of bidding in the NEM (and potentially leading to shift in market prices as a result). We consider the future of the regulatory approach surrounding the utilisation of AI, particularly generative AI, in Auto-bidding technology separately in section 3 below. This section however focuses on potential changes to the Guideline to address concerns surrounding the current use of Auto-bidding in the NEM.

The AER considers that utilising Auto-bidding software without appropriate safeguards in place may give rise to a risk of non-compliance with the NER and otherwise potentially create undesirable outcomes in the market. On this basis, we consider that it would be appropriate to make clear in the Guideline that:

- non-compliance which results from a Market Participant's utilisation of Auto-bidding (whether directly or through a third-party service) will still be considered a breach by the relevant Market Participant submitting the bid or rebid;

- a third-party provider may be liable for any breach which results from the utilisation of their services by a Market Participant, if they are directly or indirectly concerned in or a party to the commission of that breach;[16]
- where using third party Auto-bidding services, Market Participants must maintain appropriate oversight. We consider any approach where automated bids are sent directly to AEMO by a third party, without the ability for the Market Participant to verify or adjust the bid, to be high risk; and
- Market Participants need to ensure they have appropriate risk mitigation and management processes in place to ensure any utilisation of Auto-bidding is compliant with all legislative obligations.

Beyond this, the AER considers that there could be benefit to the market from providing greater transparency in relation to whether submitted rebids have been made by an Auto-bidder. To minimise system changes by participants and AEMO we consider that this could be an additional inclusion in the 'category' of the rebid. For instance, a bid that has been made through an auto-bidder would include AB after the existing category code (e.g. P-AB for a rebid based on a plant of physical change made by an auto-bidder, or A-AB for a rebid based on an AEMO forecast or dispatch change made through an auto-bidder). We consider this change would require minimal additional work for Market Participants, while providing far greater transparency to the market surrounding the utilisation of auto-bidders.

> **Question 8.**
>
> Do you consider additional guidance relating to the expectations for Market Participants utilising Auto-bidding software (including third party software), and for the third party-providers would be useful? If so, what guidance would be of assistance?
>
> **Question 9.**
>
> Do you consider there would be any benefit from adding additional transparency on the utilisation of Auto-bidding in a rebid reason? Why?
>
> **Question 10.**
>
> Explain whether the proposed methodology for receiving this information listed above would be effective in providing market transparency.

2.2.4 Rebidding of batteries

Batteries are characterised by their ability to both generate and consume electricity, as well as very fast rates of charge and discharge. As a result, the physical capabilities of batteries, as reflected in their bid, change more frequently compared to other types of generation. As a battery's state of charge changes, this may lead to a change in the value of the remaining state of charge. Accordingly, batteries frequently amend their bids to reflect changes to availability associated with state of charge, more than for commercial and technical factors. Batteries, as a fast-responding and flexible technology, can provide benefits to the market.

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[16] See National Electricity (South Australia) Act 1996, Sch 2, Pt 8, s 40.

The AER notes that the sheer volume of rebids that are being submitted by batteries (particularly when we are seeing a significant volume of rebids within a single dispatch interval), increases the risks to the market.[17] We note that this may also lead to more significant burden for a Market Participant in terms of recording contemporaneous notes for each of these rebids. The AER is interested in the views of stakeholders as to how these issues could be addressed.

> **Question 11.**
>
> How could the volume of battery rebids (particularly when we are seeing numerous rebids within the same dispatch interval) be reduced, whilst maintaining the necessary market integrity?
>
> **Question 12.**
>
> Do you consider there are any changes to the requirements for the recording of contemporaneous notes for battery rebids that could be implemented to help to reduce regulatory burden whilst still providing necessary integrity?

2.2.5 Updates to the Significant price reporting guidelines

The AER has recently updated its Significant price reporting guidelines (SPR Guidelines) for monitoring and reporting on significant price outcomes under clauses 3.13.7 and 3.13.7A of the NER. The purpose of the SPR Guidelines is to inform interested parties on our approach, criteria and procedures for significant price reporting. Reports prepared under the SPR Guidelines explain the key drivers of significant price outcome events. The AER is proposing to include reference to the SPR Guidelines in the updated Guideline.

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[17] We note however that only the final rebid submitted prior to gate closure for a dispatch interval is used by the NEM Dispatch Engine (NEMDE) to calculate the next dispatch schedule.

3   Technological Developments

3.1 AI utilisation in the NEM

The AER considers there to be two different motivations for Auto-bidding – that related to the technical capabilities of a plant (e.g. availability, FCAS trapezium), and Auto-bidding designed to improve the commercial position of a Market Participant. While the former is already common in the NEM (using rules-based automated algorithms), the AER considers we will continue to observe a significant increase in the usage and sophistication of machine-learning driven AI in the bidding process for commercial reasons. The use of AI, in contrast to most existing automated processes, will enable software to learn and evolve over time. We also consider the application of these technologies will continue to expand through other areas of the NEM (for instance, in the provision of self-forecasts by Semi-Scheduled Generators).

Grappling with the impact of these technological advancements is a challenge being encountered across a myriad of industries, and as with those, the energy sector will require significant efforts from market bodies and other interested stakeholders to address the potential impacts on the market, as well as in monitoring compliance. At this juncture, the AER is interested in better understanding the views from stakeholders as to the opportunities and risks that these developing AI technologies represent to the NEM, including in the context of bidding and rebidding. Ultimately, we are seeking to create an environment where Market Participants and energy consumers can benefit from use of this technology, while ensuring we are able to intervene appropriately where there is conduct that may be detrimental to the market or other stakeholders.

There are a number of clear benefits to the utilisation of this technology by Market Participants in the bidding process, in particular allowing for the implementation of more efficient and responsive bidding strategies. This is of particular importance to highly responsive assets such as renewable generators and batteries, allowing for greater efficiency and helping to drive forward the energy transition. We also acknowledge the importance of sophisticated bidding technology in helping to achieve the orchestration of CER.

However, there are also several potential emerging risks associated with the use of sophisticated Auto-bidding software. As outlined in the NEM Panel Review Recommendations, algorithms and AI are reshaping how the sector generates, stores, prices, trades, and hedges in electricity markets and across markets. This increasing complexity is driving behavioural shifts and potentially giving rise to new opportunities for market manipulation or other conduct which could undermine the integrity of the market. These circumstances create an increased potential for negative price outcomes and collusive behaviour, which the NER may not address directly.

Both the AEMC[18] and the Nelson Review[19] have raised concerns with the possibility of algorithmic collusion, where AI algorithms may lead (intentionally or not) to the

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[18] Addressing the risk of algorithmic collusion – AEMC staff working paper, published July 2024.

[19] National Electricity Market wholesale market settings review draft report.

implementation of pricing strategies that closely resemble collusion, resulting in higher prices for consumers. This possibility would be exacerbated in circumstances where different Market Participants utilise a common third-party AI technology which serves to treat this combined capacity as a single block. Given the risk of potential collusion and, in particular, the risk of an increase in prices, the AER consider this to be an emerging issue that must be considered closely.

The NER imposes some behavioral obligations in relation to bidding and rebidding conduct (particularly the requirement that bids and rebids not be false or misleading under clause 3.8.22A). However, we consider that there could also be benefit to introducing obligations which would require Market Participants to have and maintain the necessary organisational and technical resources to ensure they:

- do not interfere with the efficiency and integrity of the market; and
- prevent conduct that is false, misleading, or manipulative within a market and across markets.

Given the nature of the models applicable to both Auto-bidding and AI, we consider that there is benefit to including obligations which specifically require Market Participants:

- to certify (and recertify where material changes are made), test, govern and record each Auto-bidding and AI model; and
- to have the ability to suspend, limit or amend each Auto-bidding and AI model at any time.

To help inform the AER's view on these issues, we are seeking stakeholder views on the following questions:

Question 13.

What are your views regarding the utilisation of AI in Auto-bidding technology? What do you consider the potential benefits and harms as this technology becomes more utilised and sophisticated?

Question 14.

How can the AER ensure sufficient transparency and accountability of technology being utilised for bidding and rebidding?

Question 15.

What, if any, amendments to the NER are required to address the utilisation of AI in the bidding process?

Question 16.

Do you consider there are AI issues that are directly relevant to the Guideline which require it to be amended? If so, how?

Glossary

Term	Definition
AEMC	Australian Energy Market Commission
AEMO	Australian Energy Market Operator
AER	Australian Energy Regulator
AI	Artificial Intelligence
CER	Consumer Energy Resources
DER	Distributed Energy Resources
FCAS	Frequency Control Ancillary Services
Guideline	Rebidding and Technical Parameters Guideline
IPRR rule change	Integrating price-responsive resources into the NEM rule change
MPC	Market Price Cap
MSOL	Minimum safe operating level
PASA	Projected Assessment of System Adequacy
SPR Guidelines	Significant price reporting guidelines
ST PASA Procedures	Short Term PASA Procedures
VSR	Voluntarily Scheduled Resource
VSRP	Voluntarily Scheduled Resource Provider