AEMO
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20 December 2022

Anna Collyer
Chairperson
Australian Energy Market Commission
By online submission

Dear Ms Collyer,

Electricity Rule Change Proposal (Proposal) - Final Amendment Rule on Integrating Energy Storage Systems into the NEM (IESS Rule)

AEMO wishes to thank the AEMC for our engagement in respect of the IESS Rule.

Throughout 2022, AEMO has engaged with the AEMC and other stakeholders on the potential changes to reduce the implementation costs, market uncertainty and unintended consequences of implementing the IESS Rule. Accordingly, this Proposal requests the AEMC to make a number of non-controversial fast track changes to the National Electricity Rules (NER) under the National Electricity Law (NEL).

Non-Minor Changes

Changes in respect of NER 4.9.2A, NER 3.8.19 and NER 3.15, to be defined by 1 May 2023 for IESS final release on 3 June 2024, under NEL 96(1)(b) and 96A. The Non-Minor Changes are to:

- NER 4.9.2A – provide explicitly that a generating system can participate in aggregated dispatch conformance (ADC).
- NER 3.8.19 – removing the provision for semi-scheduled generating unit and a bi-directional unit (BDU) from submitting a dispatch inflexibility profile (known as a fast start inflexibility profile (FSIP))
- NER 3.15 – align the implementation date of Non-Energy Cost Recovery (NECR) to the commencement of a NEM billing week on 2 June 2024.
- Set out in Appendix A.

The Non-Minor Changes are:

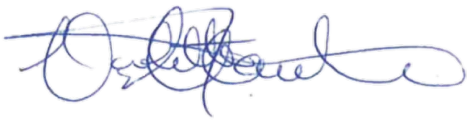
- Non-controversial because they are unlikely to have a significant effect on the NEM.
- Pressing because
  - NER 3.8.19 needs to be defined by 1 May 2023 for AEMO to implement, or not, FSIP for BDU especially given the complications in specifying the IT systems and development as AEMO implements the IESS Rule for 3 June 2024.

- NER 3.15 needs to be defined by 1 May 2023 for AEMO to implement, or not, a transitional week for the NECR to implement the IESS Rule.

AEMO has informed the AER on a number of elements relating to the implementation of the IESS Rule.

I look forward to working with you as you consider this Proposal. Please contact Kevin Ly, GM Reform Development & Insights at kevin.ly@aemo.com.au in the first instance should you wish to discuss this Proposal.

Yours sincerely,



Violette Mouchaileh
Executive General Manager – Reform Delivery

cc: Luke Barlow, Group Manager - DER Program Delivery

Attachment: Electricity Rule Change Proposal – Final Amendment Rule on Integrating Energy Storage Systems into the NEM

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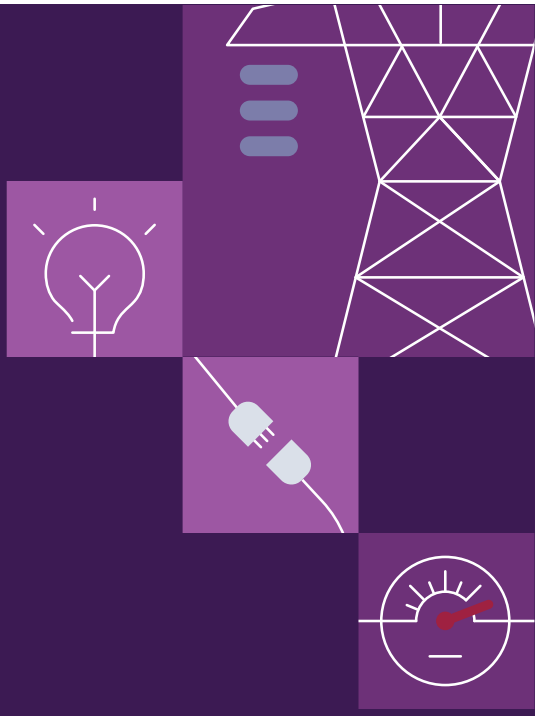

Electricity Rule Change Proposal

Final Amendment Rule on Integrating Energy Storage Systems into the NEM

December 2022

aemo.com.au

New South Wales | Queensland | South Australia | Victoria | Australian Capital Territory | Tasmania | Western Australia

Australian Energy Market Operator Ltd ABN 94 072 010 327

Contents

1. Summary

On 2 December 2021, the Australian Energy Market Commission (AEMC) made the Final Amendment Rule on Integrating Energy Storage Systems into the NEM (IESS Rule).[1] The IESS Rule seeks to better integrate storage and aggregate systems into the National Electricity Market (NEM).

The IESS Rule takes a significant step toward a technology agnostic two-way market model for the NEM and helps prepare the NEM for the future steps being envisioned through the Post-2025 Market Design initiative of the Energy Security Board (ESB).

Throughout 2022, AEMO has engaged with the AEMC and other stakeholders on the potential changes to reduce the implementation costs, market uncertainty and unintended consequences of implementing the IESS Rule. Accordingly, this Proposal requests the AEMC to make a number of non-controversial fast track changes to the National Electricity Rules (NER) under the National Electricity Law (NEL).

1.1. Non-Minor Changes

Changes in respect of NER 4.9.2A, NER 3.8.19 and NER 3.15, to be defined by 1 May 2023 for IESS final release on 3 June 2024, under NEL 96(1)(b) and 96A. The Non-Minor Changes are:

- NER 4.9.2A – provide explicitly that a generating system can participate in aggregated dispatch conformance (ADC).
- NER 3.8.19 – removing the provision for semi-scheduled generating unit and a bi-directional unit (BDU) from submitting a dispatch inflexibility profile (known as a fast start inflexibility profile (FSIP))[2]
- NER 3.15 – align the implementation date of Non-Energy Cost Recovery (NECR) to the commencement of a NEM billing week on 2 June 2024.
- Set out in Appendix A.

The Non-Minor Changes are:

- Non-controversial because they are unlikely to have a significant effect on the NEM.
- Pressing because
    1. NER 3.8.19 needs to be defined by 1 May 2023 for AEMO to implement, or not, FSIP for BDU especially given the complications in specifying the IT systems and development as AEMO implements the IESS Rule for 3 June 2024.
    2. NER 3.15 needs to be defined by 1 May 2023 for AEMO to implement, or not, a transitional week for the NECR to implement the IESS Rule.

AEMO has informed the AER on a number of elements relating to the implementation of the IESS Rule.

[1] AEMC, Integrating energy storage systems into the NEM, Rule determination, 2 December 2021. Access via: https://www.aemc.gov.au/sites/default/files/2021-12/1._final_determination_-integrating_energy_storage_systems_into_the_nem.pdf

[2] Australian Energy Market Operator, *Fast Start Inflexibility Profile*, June 2021. Access via: https://aemo.com.au/-/media/files/electricity/nem/security_and_reliability/dispatch/policy_and_process/fast-start-unit-inflexibility-profile.pdf

2. Background to the IESS Rule

This section sets out the background to the IESS Rule, AEMO's implementation responsibilities and the subjects for this rule change request.

AEMO has established the AEMO IESS project to carry out the procedure and system changes which are necessary to implement the IESS Rule.

The IESS Rule provides for two implementation dates which cover four main changes:

- Initial release on 31 March 2023:
  - Introduction of ADC.
  - Enablement of Market Small Generation Aggregators (MSGAs) to participate in contingency FCAS markets.
- Final release on 3 June 2024:
  - Introduction of the integrated resource provider (IRP) registration category and bi-directional unit (BDU) classification,
  - Changes to non-energy cost recovery calculations.

The IESS Rule transitional provisions largely deal with:

- AEMO's need to consult and amend its relevant procedures, guidelines and supporting documents.
- AEMO's management of the transitional aspects of IESS registration, classification and connections.

A glossary of terms is attached as Appendix B.

3. Rule Change Proposal

3.1. NER 4.9.2A – provide explicitly that a generating system can participate in ADC

Background

The IESS Rule explicitly provides for both generating systems (NER 11.145.16) and integrated resource systems (IRS) (NER 4.9.2A) to participate in ADC. The Final Determination on the IESS Rule:

- Indicates that "hybrid systems" relate to both IRS and generating systems.
- Contains multiple references to "hybrid systems" using ADC.

AEMO will implement ADC for both generating systems and IRS from 3 June 2024[3] through its SO_OP_3705 Dispatch Procedure (Dispatch Procedure). The Dispatch Procedure:

- Is a *power system operating procedure* made in accordance with NER 4.10.1.
- Provides instructions and guidelines in respect of the operation of the power system, including the requirements on Registered Participants to respond to dispatch instructions.

Issue

NER 4.9.2A applies from 3 June 2024. NER 4.9.2A explicitly provides for ADC for IRS, but is silent on ADC for generating systems.

AEMO's view is that:

- ADC should be technology-agnostic.
- ADC should be available to both generating systems and IRS.

Further, AEMO already facilitates a form of ADC for eligible aggregate generating systems.

The current IESS rule:

- Creates uncertainty as to whether GS can participate in ADC from 3 June 2024.
- Would be inconsistent with AEMO's implementation of ADC for both generating systems and IRS from 3 June 2024[4] through the Dispatch Procedure.

Change

The change is to NER 4.9.2A, to explicitly provide for generating systems for ADC.

Change Benefits

The changes will:

- Improve market confidence that participants with generating systems can continue to efficiently use their assets behind a connection point after 3 June 2024.

[3] NER 4.9.2A

[4] NER 4.9.2A

- Align to AEMO's Dispatch Procedure[5] which, in accordance with NER 11.145.16, provides for ADC for any form of generating systems (that is, any combination of scheduled or semi-scheduled generating units, with or without bidirectional units).[6]
- Align to the key NEM design principle[7] that ADC should be available on a technology-agnostic basis to generating systems and IRS.

Change Costs

The relevant costs are negligible, being the costs to change NER 4.9.2A.

Change deadline

AEMO would prefer if AEMC would make its Final Determination on this change by 1 May 2023.

Contribution to the NEO

The changes will contribute to the long-term interests of consumers through the efficient operation of electricity services with respect to the price of electricity, by providing certainty that ADC will remain available to generating systems after 3 June 2024.

AEMO proposes the following **bold** changes.

4.9.2A	Aggregated dispatch conformance ~~**for hybrid integrated resource systems**~~ (a) This clause applies to an integrated resource system **or generating system** that comprises more than one scheduled resource and where AEMO gives separate dispatch instructions for each scheduled resource. (b) **A Registered Participant** ~~**An Integrated Resource Provider**~~ for an integrated resource system **or generating system** to which this clause applies may, in accordance with the power system operating procedure made under paragraph (d), comply in aggregate (aggregated dispatch conformance) with the dispatch instructions for a trading interval for two or more of the scheduled resources comprised in the integrated resource system **or generating system**, excluding any scheduled resource for which resource level compliance has been specified in accordance with paragraph (c). (c) AEMO may specify in a dispatch instruction for a scheduled resource in an integrated resource system **or generating system** that the scheduled resource the subject of the dispatch instruction is required to operate in accordance with that dispatch instruction (resource level compliance) where a network constraint would be violated if the relevant scheduled resource were to operate other than in accordance with the dispatch instruction, due to technical characteristics of the relevant scheduled resource. (d) AEMO must make, as a power system operating procedure, a procedure setting out:

[5] SO_OP_3705 Dispatch Procedure, published 16 September 2022 to AEMO consultation page: https://aemo.com.au/consultations/current-and-closed-consultations/dispatch-procedure-consultation-iess

[6] AEMO notes there were no stakeholder objections to the proposed eligibility for ADC. Section 2.6 of the Dispatch Procedure defines an "Aggregate or Aggregate System" as a GS registered for ADC.

[7] NER 3.1.4(a)(3) provides that market design should avoid any special treatment in respect of different technologies used by Market Participants.

	(1) for the purposes of paragraph (b), permitted forms of aggregated dispatch conformance by one or more scheduled resources comprised in an integrated resource system **or generating system**; and (2) arrangements for AEMO to specify when resource level compliance is required for the purposes of paragraph (c).

3.2. NER 3.8.19 – removing the provision for a semi-scheduled generating unit and a bidirectional unit from submitting a FSIP

Background

A fast start generating unit:

- Is a generating unit that can synchronise and reach its minimum loading within 30 minutes and can shut down in less than 60 minutes.
- Must register with AEMO to participate in the NEM as a fast start generating unit but can submit offers as a fast start or slow start generating unit.

A fast-start inflexibility profile (FSIP) must be submitted for a registered fast start generating unit to be dispatched as a fast start generating unit. NER 3.8.19(e) defines the FSIP format to consist of parameters to indicate MW capacity and time related inflexibilities. A semi-scheduled generating unit cannot commit to and follow a FSIP because its output is largely weather dependent. Currently, AEMO excludes a semi-scheduled generating unit from being registered as a fast start generating unit. AEMO only allows a scheduled generating unit to register as fast start.[8]

> *You must specify whether **scheduled generating unit** sets are of 'Fast' or 'Slow' start-type. Fast start generating units can synchronise and increase generation within 30 minutes of receiving an instruction from AEMO. Slow start generating units cannot do this.*

Consequently, there are no semi-scheduled generating units in the NEM which are registered for fast start.

Issue

Currently, under the IESS Rule, NER 3.8.19(d) and (e) allows a FSIP to be submitted for a:

- BDU (Issue 1)

  The IESS Rule requires AEMO to design and implement the additional systems capability which would be necessary to receive a FSIP exclusively for a BDU. This is because a BDU would be able to provide FSIP for production and consumption. However, AEMO's current systems can only accept one set of FSIP per DUID, for either production or consumption.

  The main form of BDU is the battery energy storage system (BESS). A BESS is a flexible resource that can almost instantaneously and seamlessly vary its dispatch loading. Therefore, BESS does not need a FSIP, because it can safely start up or shut down within a trading interval. Further, none of

[8] Australian Energy Market Operator, *Application Guide for Registration as a Generator in the NEM,* December 2022. Access via https://aemo.com.au/-/media/files/electricity/nem/participant_information/registration/generator/nem-generator-registration-guide.pdf?la=en

the BESS operating in the NEM have submitted a bid FSIP in the last four years. AEMO and participants will need to augment their FSIP systems capability with a capability that would probably never be used. AEMO considers this issue to be the most important.

- Semi-scheduled generating unit (Issue 2)

  This is inconsistent with AEMO's registration guidelines and current practice. AEMO considers this to be a more incidental issue, with the priority to be Issue 1.

In essence, the augmentation to AEMO's current systems would incur additional implementation costs for a capability that will probably never be used, unless NER 3.8.19(d) and (e) are changed.

Changes

The changes are to NER 3.8.19, to remove the option for a semi-scheduled GU and a BDU to submit a FSIP.

Change Benefits

The changes will allow AEMO and participants to avoid the additional implementation costs which they would otherwise incur to augment its FSIP systems capability with a capability that would probably never be used.

Change Costs

The changes to the IESS rule, in the timeframe below, will allow AEMO and participants to avoid the unnecessary costs which are noted above.

Change deadline

AEMO would require AEMC to make its Final Determination on this change by 1 May 2023. Otherwise, AEMO would need to commence the augmentation to AEMO's current systems and incur costs as noted above which could be avoided.

Contribution to the NEO

The changes will contribute to the efficient operation of electricity services with respect to the price of electricity, by allowing AEMO and participants to avoid the above-noted costs.

Proposed drafting

AEMO proposes the following **bold** changes.

3.8.19(d)	In respect of scheduled resources which are not slow start generating units, **excluding semi-scheduled generating units and scheduled bidirectional units**, Market Participants may provide AEMO, as part of a dispatch bid in respect of the relevant scheduled resource, with a dispatch inflexibility profile.
3.8.19(e)	A dispatch inflexibility profile for a generating unit, **excluding a semi-scheduled generating unit**, ~~**or bidirectional unit**~~ must contain the following parameters to indicate its MW capacity and time related inflexibilities

3.3. NER 3.15 – align the NECR implementation date to the commencement of a NEM billing week on 2 June 2024

Background

The IESS commencement date is Monday 3 June 2024 for:

- NECR calculations.
- BDU bidding.

NEM billing weeks commence on a Sunday.

Issue

The IESS commencement date of Monday 3 June 2024 would require AEMO to design, build, test and operate a 'transitional week' from Sunday 02 June 2024 comprising:

- 1 day of current NECR calculations.
- 6 days of new NECR calculations.

A transitional week will:

- Flow through all settlement revisions.
- Incur significant costs to both AEMO and participants.

Changes

This Proposal is to align the NECR implementation date to the commencement of a NEM billing week on 2 June 2024.

For avoidance of doubt, AEMO intends to maintain the commencement date of the Final Release of 3 June 2024 for the remaining IESS changes, including the introduction of BDU bidding.

Change Benefits

The change will eliminate the estimated costs of $260,000 – which represents approximately 300 days of work – to AEMO, as well as to financially responsible market participants (FRMPs), to design, build, test and operate the transitional week.

Change Costs

The change will eliminate the above-noted estimated costs of $260,000.

Change deadline

AEMO would require AEMC to make its Final Determination on this change by 1 May 2023. Absent which, AEMO will be required to spend the estimated costs as outlined above.

Contribution to the NEO

The change will contribute to the efficient operation of electricity services with respect to the price of electricity, by eliminating the above-noted costs.

Proposed drafting

The effective date of 2 June 2024 or later will need to apply to a number of provisions, which may include:

- IESS Rule 3.15.
- Definitions of:
    - Adjusted consumed energy.
    - Adjusted gross energy.
    - Adjusted sent out energy.
    - Cost recovery market participant.

4. Stakeholder engagement

AEMO has engaged regularly with stakeholders on the changes which are contemplated in this Proposal, as well as received relevant feedback.

Stakeholders	AEMO Session	Topic	Timing & occurrence rate
Market Participants (ADC candidates)	One-to-one discussions with AEMO specialists	ADC	May/June 2022[9]
Intermittent Generators and IESS Stakeholders	Information session	ADC, Dispatch Procedure consultations	26 July 2022[10] 30 November 2022
IESS Working Group	Working Group meeting	ADC, Rule change proposals, Dispatch Procedure consultations, Billing week date change, Classification and exemption policy	Monthly meetings[11]
TNSPs	Information sessions	ADC, Dispatch Procedure consultations	Three sessions in Oct/Nov 2022
Clean Energy Council Members	Presentation to the Storage Directorate	ADC, Dispatch Procedure consultations	15 Nov 2022[12]
AEMO NEM 2025 Reform Program	Electricity Wholesale Consultative Forum Program Consultative Forum	Rule change proposals, Dispatch Procedure consultations, NECR change	Nov/Dec 2022[13]
IESS Working Group	Dispatch Procedure Consultation	Dispatch Procedure • Static ADC design • Dynamic ADC design	From 21 July 22 – 14 Sept 22[14] From 28 Nov 22 – 10 Feb 22[15]

[9] Meetings with market participants provided constructive feedback. Three out of five participants expressed support of extending ADC to include non-IRS.

[10] AEMO presented the designs for the ADC at these stakeholder sessions. Feedback on the static ADC reinforced that participants were unlikely to use this ADC design. Slides can be accessed via download: https://aemo.com.au/consultations/current-and-closed-consultations/dispatch-procedure-consultation-iess Feedback regarding dynamic ADC gave assurance that the design would encourage participation. Stakeholders have until 10 February 2023 to submit feedback on this design.

[11] AEMO presented the rule change process at five WG meetings and dispatch procedure consultation and ADC design at seven WG meetings. Participant feedback generally indicated support of AEMO's approach and no specific feedback on the inclusion of generating units was noted. Noted in meeting minutes from 31 Aug 2022 and 28 Sep 2022. Minutes available via: https://aemo.com.au/consultations/industry-forums-and-working-groups/list-of-industry-forums-and-working-groups/iess-working-group

[12] Feedback from CEC members was positive and supportive regarding ADC design elements and Dispatch Procedure consultation timing.

[13] No feedback was received. Access via: https://www.aemo.com.au/consultations/industry-forums-and-working-groups/list-of-industry-forums-and-working-groups/electricity-wholesale-consultative-forum

[14] Feedback received showed that the participants were unlikely to participate in static ADC due to design elements. Access via: https://www.aemo.com.au/consultations/current-and-closed-consultations/dispatch-procedure-consultation-iess

[15] Consultation is still open. Access via: https://www.aemo.com.au/consultations/current-and-closed-consultations/dispatch-procedure-dynamic-adc

Appendix A. Non-minor change proposals to implement IESS Rule from 3 June 2024

Appendix A sets out non-minor IESS Rule change proposals for the IESS Rule implementation to be effective from the IESS Final Release Date (3 June 2024). The Non-Minor Changes are non-controversial because they are unlikely to have a significant effect on the NEM. These changes will contribute to the NEO and the long-term interests of consumers through the efficient operation of electricity services with respect to the price of electricity.

Item number	NER reference	IESS Rule	Proposed Drafting and explanatory notes
1	2.2.2(a) and 2.2.3(a)	2.2.2 Scheduled production units (a) A generating unit which has a nameplate rating of 30 MW or greater or is part of a group of generating units connected at a common connection point with a combined nameplate rating of 30 MW or greater must be classified as a scheduled generating unit unless AEMO approves its classification as: (1) a semi-scheduled generating unit under clause 2.2.7(b); or (2) a non-scheduled generating unit in accordance with clause 2.2.3(b). 2.2.3 Non-scheduled production units (a) A generating unit with a nameplate rating of less than 30 MW (not being part of a group of generating units connected at a common connection point with a combined nameplate rating of 30 MW or greater) must be classified as a non-scheduled generating unit unless AEMO approves its classification as: (1) a scheduled generating unit under clause 2.2.2(b); or (2) a semi-scheduled generating unit under clause 2.2.7(b).	2.2.2(a) and 2.2.3(a) replace "generating units" with "production units". This change is to enable the appropriate classification of a generating unit which is part of a group of production units (which also includes a bidirectional unit) connected at common connection point that has a combined nameplate rating of 30 MW or greater (given the group includes the bidirectional unit).
2	2.2.7(a)	Semi-scheduled generating units (a) A generating unit which has a nameplate rating of 30 MW or greater or is part of a group of generating units connected at a common connection point with a combined nameplate rating of 30 MW or greater, must be classified as a semi-scheduled generating unit where the output of the generating unit is intermittent unless AEMO approves its classification as: (1) a scheduled generating unit under clause 2.2.2(b); or (2) a non-scheduled generating unit under clause 2.2.3(b).	Replace "generating units" with "production units". This change is to enable the appropriate classification of a generating unit which is part of a group of production units (which also includes a bidirectional unit) connected at common connection point that has a combined nameplate rating of 30 MW or greater (given the group includes the bidirectional unit).
3	2.3.4(i)	Market connection point classification A Customer who is also a Local Retailer must classify any load at a connection point in its local area as a market connection point if electricity supplied through the national grid to or from that connection point is purchased or sold by a franchise customer.	AEMO suggests deleting "any load at", consistent with other changes made to refer to market connection points.

Item number	NER reference	IESS Rule	Proposed Drafting and explanatory notes
4	2.3D.1	Ancillary Service Units and Ancillary Service Providers (f) If AEMO is reasonably satisfied that: … (3) in the case of an application made by a Market Customer or Demand Response Service Provider, the applicant has an arrangement with the retail customer at the relevant connection point for the supply of market ancillary services...	IESS Rule change combined the provisions for classification of Ancillary Services for both load (typically involving a Customer) and generation (often but not always the MP itself). The distinction is between connection points at which the Registered Participant is the intermediary and other connection points. Therefore, AEMO suggests NER 2.3D.1(f)(3) be replaced with: "if there is a retail customer or Small Resource Aggregator Customer at the relevant connection point, the applicant has an arrangement with that retail customer or Small Resource Aggregator Customer for the supply of market ancillary services,"
5	3.6.3(b1) 3.15.10C(a)(4)	3.6.3(b1): Where a Generator, Integrated Resource Provider or Small Resource Aggregator 3.15.10C(a)(4): for each Market Customer, Market Generator, Integrated Resource Provider and Small Resource Aggregator	NER 2.2.8(c) provides that an Integrated Resource Provider is taken to be a Small Resource Aggregator (only) in so far as its activities related to small resources connection points classified as its market connection points under NER 2.2.8(b). This formulation is reflected elsewhere in the NER, including NER 2.3.4(a)(3). If an Integrated Resource Provider includes a Small Resource Aggregator, the reference to Small Resource Aggregator is unnecessary in NER 3.15.10C(a)(4) and 3.6.3(b1). Accordingly, AEMO suggests simplifying the drafting in NER 3.15.10C(a)(4) and 3.6.3(b1) by deleting reference to Small Resource Aggregator.
6	NER 7.8.2(a1) and (b1)	(a1) AEMO may exempt a Metering Provider at a connection point from complying with the data storage requirements under subparagraph (a)(9) for: (1) types 1, 2, and 3 *metering installations*; and (2) type 4 *metering installations* referred to in clause 7.8.2(b1), installed prior to 1 July 2021. AEMO may only grant an exemption under this clause where it is reasonably satisfied that the Metering Provider will be able to otherwise satisfy the requirements of Chapter 7. (b1) Any type 4 *metering installation* must be capable of recording and providing, and configured to record and provide, *trading interval energy data*.	**Summary of 5MS Rule provisions related to metering installation energy data storage** To minimise costs for existing type 1 to 3 and type 4 meters, installed before 1 July 2021, that were required to be reconfigured to five-minute granularity from the 5MS commencement date, but just fell short of the energy data storage requirements specified in NER 7.8.2(a)(9), the 5MS Rule empowered AEMO to grant exemptions, only for those meters, to metering providers from those energy data storage requirements. The 5MS Rule NER 7.8.2(a1) provided AEMO with the power to grant the exemption, NER 7.8.2(a2) required AEMO to publish an exemption procedure and NER 7.8.2(b1) identified the type 4 metering installations that were the subject of the exemption.

Item number	NER reference	IESS Rule	Proposed Drafting and explanatory notes
			The type 1 to 3 and type 4 meters that were required to be reconfigured to 5 minute granularity were collectively defined as “Excluded metering installations” in NER 11.103.1 of the 5MS Rule. Therefore 7.8.2(a1) and (b1) meant that “Excluded metering installations” were the subject of the data storage exemption. **Proposed drafting explanation** NER 11.103.3 of the 5MS Rule stated that all metering installations (other than Excluded metering installations and type 4A metering installations) installed prior to 1 December 2018 and type 4A metering installations installed prior to 1 December 2019 did not have to be capable of recording and providing, or configured to record and provide trading interval energy data (i.e. 5 minute interval energy data) until they were replaced in accordance with NER 7.8.2A. NER 7.8.2A requires all new and replacement metering installations to be capable of recording and providing and configured to record and provide trading interval energy data. Changes made, under the IESS Rule, to NER 7.8.2(b1) are meant to extend the requirement for type 4 metering installations to be capable of recording and providing and configured to record and provide trading interval energy data to all type 4 metering installations (ref. second point on page 106 of the IESS Final Rule Determination). As NER 7.8.2(b1) is linked to NER 7.8.2(a1)(2), the change to NER 7.8.2(b1) has the effect of exempting metering installations from meeting the metering installation energy data storage requirements of NER 7.8.2(a)(9) that are required to record and produce trading interval energy data under the 5MS Rule. As these are the type 4 metering installations that were installed between 1 December 2018 and 1 July 2021, they have already been converted to record and produce trading interval energy in accordance with the 5MS Rule. Accordingly, NER 7.8.2(a1) date should be “prior to 1 December 2018” and NER 7.2.8(b1) becomes redundant. As type all 1, 2 and 3 metering installations were also converted record and provide trading interval energy data and all new and replacement metering installation must record and provide training interval energy data in accordance with 7.8.2A, there are no longer any type 1, 2 and 3 metering installations recording and producing non-trading interval data, and, accordingly, NER 7.2.8(a1)(1) becomes redundant. Accordingly, AEMO suggests the following drafting to NER 7.2.8(a1) and (b1):

Item number	NER reference	IESS Rule	Proposed Drafting and explanatory notes
			(a1) AEMO may exempt a Metering Provider at a connection point from complying with the data storage requirements under subparagraph (a)(9) for type 4 *metering installations* ~~:~~ ~~(1) types 1, 2, and 3 *metering installations*; and~~ ~~(2) type 4 *metering installations* referred to in clause 7.8.2(b1),~~ installed prior to 1 December 2018 ~~July 2021~~. AEMO may only grant an exemption under this clause where it is reasonably satisfied that the Metering Provider will be able to otherwise satisfy the requirements of Chapter 7. ~~(b1) Any type 4 *metering installation* must be capable of recording and providing, and configured to record and provide, *trading interval energy data*.~~ Note: this proposed change will not affect the operation of the Victoria Government Gazette GG2018S474 that provides for Vic AMI metering installations ("relevant metering installations") to also be the subject of the data storage exemption.

Appendix B. GLOSSARY

Abbreviation	Term
ADC	aggregated dispatch conformance
BDU	bidirectional unit
BESS	battery energy storage system
DUID	dispatchable unit identifier
FCAS	frequency control ancillary service
FSIP	Fast start inflexibility profile
IESS	integrating energy storage systems
IRP	integrated resource provider
IRS	integrated resource system
MP	Market Participants
NECR	Non-Energy Cost Recovery
NEL	National Electricity Law
NEM	National Electricity Market
NEMDE	NEM Dispatch Engine
NER	National Electricity Rules
RLC	resource level conformance
SCADA	Supervisory Control and Data Acquisition
SGA	small generation aggregator
SGU	small generating unit
SRA	Small resource aggregator
VRE	variable renewable energy