



Credit Limit Procedures – IESS and related changes

Final Report – Standard consultation
for the National Electricity Market

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Executive summary

The publication of this final report concludes the standard consultation procedure conducted by AEMO (**Consultation**) on its proposal (**Proposal**) to amend the National Electricity Market (**NEM**) Credit Limit Procedures (**Procedures**), to:

- implement the *National Electricity Amendment (Integrating energy storage systems into the NEM) Rule 2021 (IESS Rule)* by reflecting changes to terms and concepts in the National Electricity Rules (**NER**) under the IESS Rule;
- account for ancillary services payments and costs in prudential settings; and
- improve prudential determinations for new participants with bidirectional energy flows.

This Consultation was undertaken as required by NER 3.3.8(g), following the procedure in NER 8.9.2.

The original proposal

The IESS Rule updates the regulatory framework to make it easier for energy storage systems and hybrid facilities to register and participate in the NEM. While the IESS Rule only requires terminology updates to the Procedures, the increasing number of energy storage systems and hybrid facilities (i.e. market participants with bi-directional flows) in the NEM necessitates the review of two related issues (accounting for ancillary services in prudential settings and the prudential calculation for new market participants with bi-directional flows). These issues represent gaps in the Procedures that needed to be addressed in order to better align market participant credit support requirements with prudential risk.

Accounting for ancillary services in prudential settings

To meet their prudential obligations, market participants must provide AEMO with credit support that is equal to or greater than their maximum credit limit (MCL). To date, the MCL calculation under the Procedures has not accounted for a market participant's ancillary service costs or payments. The exclusion of ancillary services from the MCL calculations has potentially resulted in over or under estimation of prudential requirements for some market participants.

To address this gap, AEMO proposed to include an estimate of ancillary service related trading amounts (EAS\$) in the MCL calculations. EAS\$ would be calculated by referencing historical data and transaction patterns.

Prudential calculations for new market participants with bi-directional flows

The Procedures outline the process by which MCL is calculated for new market participants (i.e. before AEMO has actual load and/or generation data to base the calculations on). For new market participants with significant bi-directional flows such as batteries, the current approach for calculating MCL does not consider generation and MCL can be higher for such participants than is indicated by their prudential risk.

To address this gap, AEMO proposed that all new market participants with significant bi-directional flows will have an MCL starting at \$10,000 for up to 100 MW of production capacity, increasing by increments of \$10,000 for every additional 100 MW (or part) of production capacity. For such participants, this approach will result in an MCL that is equal to or potentially lower than under the previous methodology. It will also give certainty to intending participants about the amount of credit support required to meet their prudential obligations.

The draft report

As there were no submissions in response to the Consultation Paper, the Proposal remained substantially unchanged in the draft report.

Final determination

AEMO's final determination on the Proposal is to amend the **Procedures** in the form published with this final report, with an effective date of **3 June 2024**.

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1. Stakeholder consultation process

As required by National Electricity Rules (NER) 3.3.8(g) AEMO has consulted on proposed amendments to the Credit Limit Procedures (the **Proposal**) in accordance with the standard rules consultation procedure in NER 8.9.2.

Note that this document uses terms defined in the NER, which are intended to have the same meanings. There is a glossary of additional terms and abbreviations in Appendix A.

AEMO's process and timeline for this consultation are outlined below.

Table 1 Consultation process and timeline

| Consultation steps | Dates |
|---------------------------------------|-------------------|
| NEM Wholesale Consultative Forum | 18 July 2023 |
| Consultation paper published | 14 August 2023 |
| Submissions due on consultation paper | 22 September 2023 |
| Draft report published | 10 November 2023 |
| Submissions due on draft report | 11 December 2023 |
| Final report published | 25 January 2024 |

AEMO's consultation webpage for the proposal is at <https://aemo.com.au/consultations/current-and-closed-consultations/credit-limit-procedures-iess-and-related-changes> containing all published papers and reports, written submissions, and other consultation documents or reference material.

In response to its consultation paper, AEMO did not receive any written submissions or hold any meetings with stakeholders. AEMO considered all relevant information in developing the draft report and draft determination on the proposal.

In response to its draft report, AEMO did not receive any written submissions or hold any meetings with stakeholders.

2. Background

2.1. Context for this consultation

In December 2021, the AEMC made the *National Electricity Amendment (Integrating energy storage systems into the NEM) Rule 2021 (IESS Rule)*. The IESS Rule updates the regulatory framework to recognise energy storage systems and hybrid facilities in the NEM (as ‘bidirectional units’ and ‘integrated resource systems’) and make it easier for operators of those facilities to register and participate in the NEM. The majority of NEM changes introduced by the IESS Rule will come into effect on 3 June 2024. The IESS Rule introduced a transitional provision which requires AEMO to review, and where it considers it necessary or desirable, amend and publish, procedures to take into account the IESS Rule (NER 11.145.9).

The concepts and associated terminology introduced by the IESS Rule will necessitate corresponding terminology updates to the Procedures. At the same time, AEMO has taken the opportunity to consider how to address gaps in the Procedures in accounting for:

- Ancillary services trading amounts.
- Bidirectional flows for relevant new market participants,

Historically these gaps have not had a material prudential impact. However, as the number of energy storage systems and hybrid facilities in the NEM continues to grow, they are increasingly likely to result in more significant misalignment of some market participants’ credit support requirements with their prudential risk. AEMO considers these issues should be addressed by amending the Procedures to appropriately account for these matters in prudential calculations.

2.1.1. Credit support in the NEM

Market participant confidence in the financial settlement of spot electricity transactions is critical to the operation of the NEM and setting the spot market price. AEMO’s obligation to settle payments in a billing period is limited to the funds received from market participants in that billing period or provided under credit support arrangements and security deposits. Any shortfall in funds available to make payments in a billing period will proportionately reduce the amount of energy or reallocation payments due to be made by AEMO in that billing cycle (typically resulting in short payments to generators).

Credit support requirements should be set at a level that ensures that in 98 out of 100 of market participant default events, AEMO holds enough credit support to avoid a shortfall. This is referred to as the 2% prudential standard.

The NEM require market participants to provide credit support in the form of unconditional guarantees to AEMO from acceptable financial institutions, at or above the value of the maximum credit limit (**MCL**) determined for each market participant in accordance with the NEM and the Procedures. The MCL, therefore, determines the minimum credit support available to achieve the objective of meeting the prudential standard.

2.1.2. IESS Rule change

The IESS Rule will make a number of NEM changes including:

- A new registration category, the Integrated Resource Provider (IRP), that allows storage and hybrids to register and participate in a single registration category rather than under two different categories.
- New classification categories for energy producing and consuming facilities, including bidirectional units, integrated resource systems and ancillary service units.
- Clarity for the scheduling obligations that apply to different configurations of hybrid systems, including DC-coupled systems, so that operators of these systems have the flexibility to choose whether to be scheduled or semi-scheduled.
- Allowing hybrid systems to manage their own energy behind the connection point, subject to system security limitations.
- Clarifying that the current approach to performance standards that are set and measured at the connection point will apply to grid-scale storage units, including when part of a hybrid system.
- Transferring existing small generation aggregators to the new IRP category, with new aggregators of small generating units and/or storage units also registering in this category.
- Aggregators registered in the IRP category will be able to provide market ancillary services from generation and load.
- Amending the framework to recover non-energy costs based on a market participant's net consumed and sent out energy at each market connection point over relevant intervals, irrespective of its registration category.

The changes ensure that the Procedures will reflect all relevant changes from the IESS Rule.

2.1.3. Ancillary services

AEMO procures ancillary services in accordance with its obligation under the NER to maintain and improve power system security. Market and non-market ancillary service costs incurred depend on the service price and quantity required at a given time. Market ancillary service payments in particular can vary substantially from period to period. The ancillary service payments made to each ancillary service provider are recovered from market participants based on their generated or consumed energy, using an allocation framework established in the NER for each type of ancillary service.

Currently under the Procedures, the MCL calculations do not consider ancillary service trading amounts receivable or payable by market participants, although the credit support held by AEMO for a defaulting market participant would be used to pay its share of the ancillary service costs. Ancillary service payments are not subject to short payment provisions under the NER, which could increase the potential for energy and reallocation payments to be reduced in cases where credit support is insufficient.

As the level and diversity of participation in the ancillary service markets increases, the changes to the Procedures aim to ensure that MCL calculations appropriately reflect the anticipated net ancillary service revenues or liabilities of market participants.

2.1.4. Prudential requirements for new market participants

The Procedures define specific MCL calculations for new market participants based on participant type. These calculations only apply for an initial period (approximately three months) beyond which actual load and/or generation data is used to determine MCL. In general, MCL calculations for new market participants considered load only (not generation). There is no specific calculation available for market participants with bidirectional flows.

2.2. NER requirements

The Procedures are made under clause 3.3.8 of the NER, with the objective of establishing the process by which AEMO determines the prudential settings for each market participant so that the 2% prudential standard is met for the NEM. The prudential settings for a market participant comprise its MCL, outstandings limit (**OSL**) and prudential margin (**PM**). The MCL is the sum of the OSL and the PM (under clause 3.3.8(k) of the NER), and each market participant is required to procure credit support equal to or greater than its MCL. AEMO may draw down on the credit support and apply it against the market participant's liabilities in the event of a default.

The prudential standard of 2% is set by clause 3.3.4A of the NER and refers to the 'prudential probability of exceedance'. That is, the probability of a market participant's MCL being exceeded by its outstandings within 7 days after a payment default (being the 'reaction period' within which the market participant is likely to be suspended).

Clause 3.3.8(d) of the NER sets out the factors that AEMO must take into account when determining the prudential settings methodology, which are:

- Regional reference prices.
- Time of year.
- Volatility of load and regional reference price for a region.
- AEMO's estimate of a market participant's generation and load.
- The relationship between average load and peak load for a market participant.
- Prospective reallocations for the assessment period.
- Correlations between energy, reallocations and the regional reference price,
- Statistical distribution of any accrued amounts owing to AEMO.
- The time period for which the prudential settings are being calculated.
- Any other factors AEMO considers relevant having regard to the objective of the Procedures to meet the prudential standard for the NEM.

2.3. The national electricity objective

Within the specific requirements of the NER applicable to this proposal, AEMO has sought to make a determination that is consistent with the national electricity objective (NEO) and, where relevant, to select the option best aligned with the NEO.

The NEO is expressed in section 7 of the National Electricity Law as:

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; and
- (c) the achievement of targets set by a participating jurisdiction—
 - (i) for reducing Australia's greenhouse gas emissions; or
 - (ii) that are likely to contribute to reducing Australia's greenhouse gas emissions.

3. Discussion of material issues

All material issues relating to this consultation were addressed in the Consultation Paper and the Draft Report and Determination.

AEMO's Proposal was to amend the Procedures, with an effective date of 3 June 2024, (when the IESS Rule comes into effect) to:

- Reflect the terminology changes arising from the IESS Rule.
- Include an estimated ancillary service trading amounts value in the OSL and TA calculations, to enable a more accurate assessment of prudential requirements for all market participants.
- Include a specific MCL calculation for new market participants with "Significant Bidirectional Flows" which considers the specific prudential risk associated with such participants.

AEMO received no submissions on the Proposal and no other material issues were raised during the consultation process.

4. Other matters

There were no submissions commenting on the proposed changes, and there are no other matters for discussion in relation to the consultation.

5. Final determination on proposal

Having considered all relevant matters, AEMO's final determination is to amend the Procedures in the form published with this final report, in accordance with NER 3.3.8(g). This form of the Procedures is unchanged from the version provided with the Consultation Paper and the draft report.

Amending the Procedures in this way, will meet the objectives of the credit limit procedures as set out in NER 3.3.8 by:

- Ensuring the prudential standard is met for all relevant participant categories in the NEM;
- Improving existing methodologies to enable AEMO to take into consideration more accurate information about generation and load for certain categories of market participants.

The updated terminology and methodologies in the amended Procedures will be clearer for participants to understand and will be more closely aligned to participant's actual activities and prudential risks.

5.1. Meeting the objectives of the NER and the NEO

The confidence of the market participants in the financial settlement of spot electricity transactions is critical to the operation of the NEM and setting the spot market price. An enabler of this confidence, under the NER, is the setting of credit support arrangements so that in 98 out of 100 of participant default events, AEMO holds enough credit support to avoid a shortfall (otherwise referred to as the 2% prudential standard under NER 3.3.8 (b)).

In 2022, AEMO's report on the *Effectiveness of the NEM Prudential Settings Methodology*¹, found that the prudential standard was not met in most regions over the analysis period, being exceeded in the NSW region at 2.83% and the QLD region at 2.66% in the VIC region at 3.14% and the TAS region at 5.17%. The report also stated that AEMO would “explore additional ways the NER, regional model and/or the Procedures could be updated to ensure the prudential standard is met in the future”.

While there were a variety of reasons for the prudential standard not being met in 2022, to meet its obligations under NER 3.3.8(b), AEMO makes continuous improvements to its prudentials methodology (such as these changes to the Procedures) to ensure that the prudential standard will be met in the future. By better aligning the actual activities of market participants with their prudential settings and by accounting for ancillary service costs and reflecting the operation of systems with bidirectional energy flows, the proposed changes will improve AEMO's ability to determine the prudential setting for each market participant, thereby improving the likelihood of the 2% prudential standard being met.

The changes to the Procedures meet the NEO of promoting the efficient operation of electricity services for the long term interests of consumers by seeking to ensure that the costs of non-payment are not factored into electricity prices.

Additionally, as result of the changes to the Procedures, some market participants will have lower credit support requirements (and thus lower credit support costs) that more closely reflect their actual prudential risk profile. In some cases, credit support requirements will be reduced to zero, eliminating both the costs and the administrative burden associated with credit support provision. AEMO considers that these outcomes are consistent with the NEO of promoting the efficient operation of electricity

¹ https://aemo.com.au/-/media/files/electricity/nem/settlements_and_payments/prudentials/report-on-effectiveness-of-the-nem-prudential-settings-methodology-2022.pdf?la=en

services for the long term interests of consumers by reducing the costs of participating in the NEM for some market participants.

5.2. Applying the amended NEO

The *Statutes Amendment (National Energy Laws) (Emissions Reduction Objectives) Act 2023 (SA) (Amending Act)* recently amended the NEL to incorporate a new emissions reduction element into the national electricity objective (**NEO**). AEMO is not required to apply the amended NEO to a process which had started but was not completed on 21 November 2023, but it has a discretion to do so. This consultation process is such a process.

AEMO has determined that the amended NEO should not apply to this consultation process because the application of the amended NEO will not make a material difference to AEMO's final determination. This is because:

- the framework for the credit limit procedures set out in NER 3.3.8 does not allow for consideration of the achievement of emissions reduction targets and there is no other requirement or basis for AEMO to consider the new emissions reduction element in the NEO in making its prudential decisions;
- the amendments to the Procedures will have no influence on the level of Australia's greenhouse gas emissions or on related emissions targets, and so consideration of emissions reduction or related targets will not be relevant to the Procedures or this consultation process;
- actions taken under the Procedures fall within the real time systems and operations functions performed by AEMO which are not intended to be affected by the new emissions objective².

5.3. Effective date

The effective date of this determination is 3 June 2024, when the IESS Rule comes into effect.

² Second Reading Speech, Statutes Amendment (National Energy Laws) (Emissions Reduction Objectives) Bill 2023, Hansard, South Australian House of Assembly, Wednesday June 14, 2023 (The Hon A Koutsantonis).

Appendix A. Glossary

| Term or acronym | Meaning |
|-----------------|-------------------------------------------|
| AEMC | Australian Energy Market Commission |
| AEMO | Australian Energy Market Operator Limited |
| IRP | Integrated Resource Provider |
| MCL | Maximum Credit Limit |
| NEM | National Electricity Market |
| NEO | National Electricity Objective |
| NER | National Electricity Rules |
| OSL | Outstandings Limit |
| PM | Prudential Margin |
| Procedures | The NEM Credit Limit Procedures |