

Credit Limit Procedures – IESS and related changes

Consultation paper -
Standard consultation for the
National Electricity Market

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Explanatory statement and consultation notice

This consultation paper commences the first stage of the standard rules consultation procedure conducted by AEMO to consider proposed amendments to the National Electricity Market (**NEM**) Credit Limit Procedures (**Procedures**), made under clause 3.3.8 of the National Electricity Rules (**NER**), to:

- Reflect the terminology changes to be made with effect from 3 June 2024 by the *National Electricity Amendment (Integrating energy storage systems into the NEM) Rule 2021 (IESS Rule)*.
- Account for ancillary services payments and costs in prudential settings.
- Improve prudential determinations for new participants with bi-directional energy flows.

Clause 8.9.2 of the NER describes the standard rules consultation procedure applicable to this 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 the two related issues. These represent gaps in the Procedures that, in AEMO's view, should be addressed in order to better align market participant credit support requirements with their prudential risk.

Account for ancillary services in prudential settings

To meet their prudential obligations, market participants have to 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. When the Procedures were first developed, trading amounts associated with ancillary services were generally considered to be marginal compared with energy and reallocations. In recent years, however, the level and diversity of participation in ancillary services markets has substantially increased, and ancillary service trading amounts have grown more significant. For some market participants, ancillary service provision is their primary source of NEM settlement revenue. As a result, the current exclusion of ancillary services from the MCL calculations leads to potential over or under estimation of prudential requirements for some market participants.

To address this gap, AEMO is considering changes to the Procedures to include an estimate of ancillary service related trading amounts (EAS\$) in the MCL calculations. EAS\$ would be calculated using the same methodology already used to estimate load and generation for MCL calculations, by referencing historical data and transaction patterns. AEMO did not identify other feasible options for including ancillary services related costs and payments in MCL calculations, and considers this methodology will be effective and efficient to implement in AEMO's systems.

This aspect of the proposal would generally decrease the MCL (in some cases to zero) of market participants who participate primarily in the ancillary service markets. Those market participants who routinely make net ancillary service payments may see increases in their MCL under the proposal. Any increases are expected to be marginal, given that cost recoveries are allocated between one or more classes of participants and any short term pricing spikes are smoothed under the MCL methodology.

Prudential calculations for new market participants with bi-directional flows

The current Procedures outline the process by which new market participant MCL is calculated (i.e. before AEMO has actual load and/or generation data to base the calculations on). Under these Procedures, a new market customer's MCL accounts for expected load, with a minimum MCL of

\$10,000. A new market generator's MCL accounts for load during construction and commissioning and not generation, with a minimum MCL of \$10,000. This MCL applies from the effective date of registration.

New market participants with significant bi-directional flows such as batteries, are currently registered as both a market customer and market generator. Such participants, have load that is directly linked to their generation (i.e. operate on a charge/discharge cycle). As the current approach for new participants MCL does not consider generation, MCL can be higher for such participants than is indicated by their prudential risk.

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

AEMO considered using technical information such as capacity and efficiency from bi-directional units to generate MCL calculations for such new market participants. However, when considering the complexity of such a process, together with the likely low prudential risks of bi-directional units, a simpler approach was preferred.

The detailed sections of this consultation paper include more information on the proposal and AEMO's reasons for making it.

Consultation notice

AEMO is now consulting on this proposal and invites written submissions from interested persons on the issues identified in this paper.

Submissions may make alternative or additional proposals you consider may better meet the objectives of this consultation and the national electricity objective in section 7 of the National Electricity Law. Please include supporting reasons.

Before making a submission, please read and take note of AEMO's consultation submission guidelines, which can be found at <https://aemo.com.au/consultations>. Subject to those guidelines, submissions will be published on AEMO's website.

Please identify any parts of your submission that you wish to remain confidential, and explain why. AEMO may still publish that information if it does not consider it to be confidential, but will consult with you before doing so. Material identified as confidential may be given less weight in the decision-making process than material that is published.

Please provide any submissions to prudentials@aemo.com.au by 5:00pm (Melbourne time) on 22 September 2023.

Submissions received after the closing date and time will not be valid, and AEMO is not obliged to consider them. Any late submissions should explain the reason for lateness and the detriment to you if AEMO does not consider your submission.

Interested persons can request a meeting with AEMO to discuss any particularly complex, sensitive or confidential matters relating to the proposal as per clause 8.9.1(k) of the NER. Meeting requests must be received before the end of the submission period and include reasons for the request. We will try to accommodate reasonable meeting requests but, where appropriate, we may hold joint meetings with

other stakeholders or convene a meeting with a broader industry group. Subject to confidentiality restrictions, AEMO will publish a summary of matters discussed at stakeholder meetings.

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1. Stakeholder consultation process

AEMO is consulting on proposed amendments to the Credit Limit Procedures (**Procedures**) made under clause 3.3.8(g) of the National Electricity Rules (**NER**) (**proposal**), in accordance with the standard rules consultation procedure in clause 8.9.2 of the NER.

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 indicative process and timeline for this consultation are outlined below. Future dates may be adjusted and additional steps may be included if necessary, as the consultation progresses.

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	20 October 2023
Submissions due on draft report	20 November 2023
Final report published	15 December 2023

This consultation paper commences the standard rules consultation procedure on the proposal. AEMO introduced the proposal to stakeholder representatives at a meeting of the NEM Wholesale Consultative Forum on 18 July 2023.

Consultation materials, reports and submissions will be published on AEMO's consultation page for the proposal, at; <https://aemo.com.au/consultations/current-and-closed-consultations/credit-limit-procedures-consultation-iess>

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 NER (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 NER changes introduced by the IESS Rule will come into effect on 3 June 2024.

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.
- Bi-directional 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 NER 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 NER and the Procedures. The MCL, therefore, determines the minimum credit support available to achieve the objective of meeting the prudential standard. More detail on the requirements for MCL calculation are provided in Section 2.2.

2.1.2. IESS Rule change

The IESS Rule will make a number of NER 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 proposal aims to ensure that the Procedures will reflect all relevant changes from the IESS Rule. Further context on this aspect of the proposal is provided in Section 3.1.

2.1.3. Ancillary services

AEMO procures ancillary services to fulfil its obligation under the NER to ensure that the power system is operated in a safe, secure and reliable manner. Market and non-market ancillary service costs 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 proposal aims to ensure that MCL calculations appropriately reflect the anticipated net ancillary service revenues or liabilities of market participants. Further context on this aspect of the proposal is provided in Section 3.2.

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 bi-directional flows.

Further context on this aspect of the proposal is provided in Section 3.3.

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 the 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 will seek to make a determination that is consistent with the national electricity objective (NEO) and, where considering options, to select the one 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.

3. Proposal discussion

Questions

- **Is there any additional clarifying information required for the inclusion of estimated ancillary service trading amounts in the MCL calculation?**
- **Are there any unintended/adverse consequences of the proposed changes to include the estimated ancillary service trading amounts in the MCL calculation as described?**
- **Is there any additional clarifying information required for the calculation of MCL for new market participants with significant bi-directional flow?**
- **This calculation is to apply to new market participants that have significant bi-directional flows with a loss factor (i.e. difference between load and generation) below 20% to 30%. What information should AEMO consider when setting this value?**
- **Are there any additional options for the calculation of MCL for new market participants with significant bi-directional flows that AEMO should consider?**
- **Are there any unintended/adverse consequences of the proposed changes to the MCL calculation for new market participants with significant bi-directional flow as described?**

3.1. Changes to reflect the IESS Rule

AEMO's review of the Procedures has identified that the necessary changes to the Procedures directly arising from the NER amendments made by the IESS Rule are administrative (i.e. replacing existing terms with new terms from the Rules), with no changes to the methodology for calculating MCL.

3.1.1. Description and effect of proposal

AEMO proposes that the terminology in the Procedures is updated to reflect and give effect to the IESS Rule, consistent with AEMO's obligation in clause 11.145.9 of the NER. The most significant terminology changes will be to:

- Where appropriate, replace load and generation terminology with terms reflecting energy quantities.
- Include IRPs as a market participant category for the purposes of calculating prudential requirements, and remove small generation aggregators.
- Amend references to generating units either to production units or, where appropriate, replace them with terms reflecting energy quantities.

These changes reflect the updates that will be made in AEMO's systems. They will promote consistency with the NER, enhancing clarity and certainty of interpretation, which aligns with the NEO.

3.1.2. Issues for consultation

AEMO has not identified any issues arising from this change.

3.2. Accounting for ancillary services in the prudential settings

3.2.1. Issue description

Currently, the methodology for calculating a market participant's MCL does not consider trading amounts relating to ancillary services (either payments or recovered costs). When the Procedures were first developed, trading amounts associated with ancillary services were generally considered to be marginal compared with energy and reallocations. In recent years, however, the level and diversity of participation in ancillary services markets has substantially increased and ancillary service trading amounts have grown more significant. These can now in some cases have a meaningful impact on MCL calculations, leading to two issues:

1. Overestimating prudential requirements
 - There are growing number of participants (currently mostly batteries) whose NEM participation is largely based on ancillary service revenues.
 - As ancillary service payments are excluded from MCL calculations, these market participants may have a higher MCL than indicated by their prudential risk profile.
2. Underestimating prudential requirements
 - While currently not a significant issue, ancillary service costs have been increasing over time as shown in the following section.
 - Ancillary service costs are allocated between categories of market participants, generally based on relevant energy amounts. For some market participants, depending on the location and profile of their facilities, ancillary service costs may no longer be marginal and could present a prudential risk that is not currently accounted for in MCL calculations.

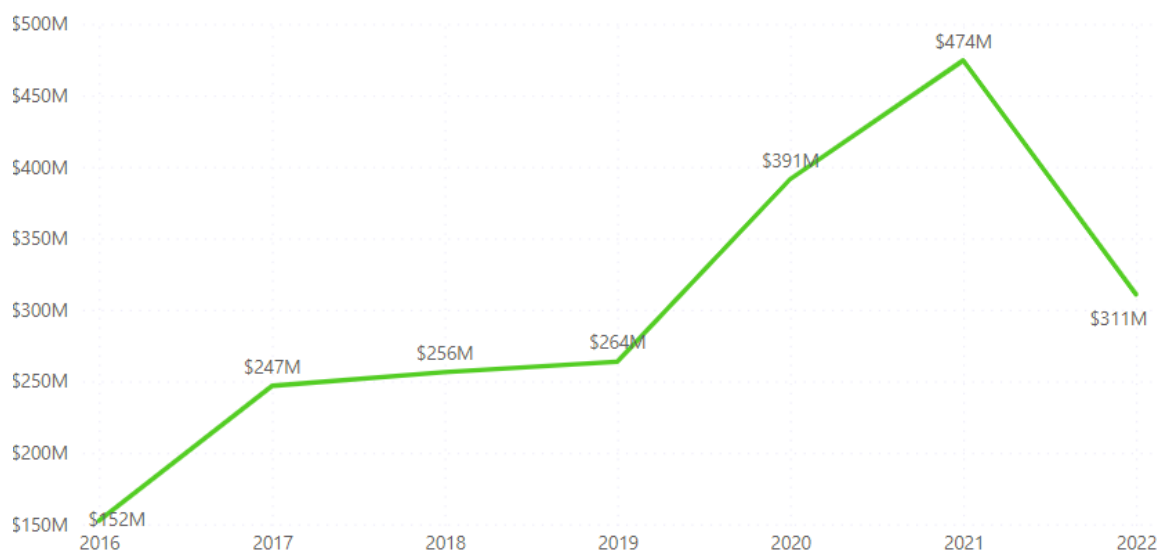
3.2.2. Supporting analysis

The electricity market is changing rapidly, with the increasing penetration of renewables, and new technologies such as large batteries and hybrid systems entering the market. In relation to ancillary services, this has meant that:

- Ancillary services requirements, market participation and associated costs have changed over the past 10 years.
- The relative revenues possible for certain market participants have shifted (ancillary service payments can be a significant proportion of total settlement amounts for some participants).

Total market and non-market ancillary service payments for the past seven years (since the start of the Procedures) are shown in shown in **Error! Reference source not found.** 1 below. As shown, total ancillary service payments increased from \$152 million in 2016, to \$474 million in 2021, falling to \$311 million in 2022. Apart from a decrease in 2022, the general trend is that these payments are increasing.

Figure 1 Total ancillary service payments 2016 - 2022



AEMO analysed the prudential position of various market participants who receive net payments for ancillary services. The analysis indicates an increasing number of market participants for whom ancillary service provision is their primary source of NEM settlement revenue. For these market participants:

- Appropriately accounting for ancillary service payments in MCL calculations will better reflect their risk profile and could have a meaningful impact on their MCL, in some cases reducing it to zero.
- A lower, or potentially zero, requirement for credit support will result in costs savings for market participants and reduce the costs of administering bank guarantees for both participants and AEMO.

For market participants that have net liabilities for ancillary service recoveries, AEMO's analysis found that, on current positions very few (under five) participants would have any increase in MCL once rounding is considered, based on data for the recent summer and winter seasons. The increase in MCL for these few market participants would be marginal, below 1.2% in all cases, which AEMO considers is likely to have minimal or no adverse financial or administrative impacts.

3.2.3. Description of proposal

AEMO proposes the following updates to MCL calculations in the Procedures to account for trading amounts relating to ancillary service transactions:

- Inclusion of an estimated ancillary service trading amounts value (EAS\$) in the outstandings limit (OSL) and typical accrual (TA) calculations.
- The EAS\$ would be an amount that represents the estimated average daily dollar value of ancillary service trading amounts for that Market Participant in the NEM.
- The EAS\$ includes both market and non-market ancillary service amounts.
- The EAS\$ will be a negative value if the market participant is to be paid by AEMO or positive if the market participant is to pay AEMO.
- EAS\$ would not be included in the prudential margin (PM) calculation.

- EAS\$ would be calculated applying the same methodology already used to estimate load and generation for the MCL calculation, by referencing historical data and transaction patterns.¹
- Any one-off spikes would be excluded when determining the EAS\$ value to ensure it reflected a likely estimate of ancillary service related transaction amounts).

3.2.4. Impact of proposal

The key outcomes from the proposed inclusion of estimated ancillary service trading amounts in market participant MCL calculations will be:

- For market participants who receive net ancillary service payments – a potential decrease in MCL (in some cases to zero). This could benefit market participants with batteries, for some of whom ancillary service provision is a primary source of NEM settlement revenue.
- For participants who make net ancillary service payments – potential for small increases in MCL. Based on AEMO's analysis, very few participants would be impacted, as any nominal increase in MCL in most cases would be lower than the effects of rounding (i.e. rounding up to nearest 10K under 250k, and the nearest 100k for above).

Individually, the proposed changes will have different impacts on market participants depending on their current prudential obligations, whether they have negative or positive expected ancillary service trading amounts at any time and what (if any) guarantees they have already provided to AEMO.

3.2.5. How the proposal meets the objectives

The proposed changes will better reflect market participants' risk profile by accounting for their ancillary service payments and liabilities. This will help to ensure prudential requirements are assessed in a way that is consistent with the NER prescribed 2% prudential standard and consistent with the NEO.

3.2.6. Alternative options

AEMO did not identify other feasible options for including ancillary services related costs and payments in MCL calculations.

3.2.7. Issues for consultation

- Is there any additional clarifying information required for the inclusion of estimated ancillary service trading amounts in the MCL calculation?
- Are there any unintended/adverse consequences of the proposed changes to include the estimated ancillary service trading amounts in the MCL calculation as described?

¹ Please note that for new facilities that do not have historical data and transaction patterns in relation to ancillary services, EAS\$ would not be included in the MCL calculation until such data is available.

3.3. Prudential calculations for new market participants with bi-directional flows

3.3.1. Issue description

The current Procedures outline the process by which MCL is calculated for new market participant (i.e. before AEMO has actual data to base the calculations on). This MCL applies from the effective date of registration.

Under this process, a new market customer's MCL accounts for expected load, with a minimum MCL of \$10,000. A new market generator's MCL accounts for load during construction and commissioning, and does not include generation, with a minimum MCL of \$10,000. Once a pattern of operations is established (i.e. about three months of load and/or generation data), the participant's MCL is reassessed using the standard MCL methodology.

Market participants with bi-directional flows (i.e. batteries or hybrid systems) are currently classified in the NEM as both a market customer and a market generator. Under the IESS Rule, participants with bi-directional facilities such as batteries will be registered under the new IRP market participant category from June 2024.

Batteries have load that is directly linked to their generation (i.e. operate on a charge/discharge cycle). Under normal operations, most batteries charge under lower prices and discharge under higher prices. There are losses associated with this process (i.e. discharge load is always lower than charge load). Additionally, some batteries are also a net receiver of ancillary service payments.

To date, market participants with significant bi-directional flows such as batteries (registered as both a customer and a generator), do not have a specific approach for calculating MCL upon registration. As a result, the MCL calculation for such new participants does not account for any generation, resulting in an MCL that is likely not commensurate with the prudential risks they represent, considering their load/discharge characteristics.

With the IESS Rule coming into effect in 2024, the Procedures need to be updated to include MCL calculations for new IRPs that consider the specific prudential risk related characteristics of bi-directional energy flows.

3.3.2. Supporting analysis

AEMO analysed the prudential position of new market participants with significant bi-directional flows. The analysis showed that:

- Typically such participants' operations result in low average outstandings (under \$10,000 for the first three months per 100MW of capacity).
- There are occasional one-off events leading to higher outstandings.
- The loss factor (difference between load and generation) is typically between 15% to 30%.

Please note that this analysis although useful, is based on a small number of market participants.

3.3.3. Description of proposal

Due to their inherent characteristics, AEMO believes that for new market participants with significant bi-directional flows of similar magnitude (i.e. batteries and some hybrid systems) the current MCL calculation based only on the participant load is not commensurate with their prudential risks. That is,

the current MCL calculation for these new market participants produces an MCL value that is higher than is indicated by typical operations and hence prudential risk profile.

Under the proposed changes, a new section will be added to the Procedures that outlines how MCL will be calculated for new participants with significant bi-directional flows. These will most likely be batteries, but may also include some hybrid systems. This calculation will not to be used where the new market participant load is significantly larger than the generation or vice versa (even if there is some bi-directional flow). For such new market participants, the standard MCL calculation for new market participants will apply.

The proposed changes will outline the following:

- For new market participants with significant bi-directional energy flows the MCL will be calculated as $MCL = OSL + PM$, where:
 - OSL is set at the value of \$8000 for each 100 MW of production capacity; and
 - PM is a set at the value of \$2000 for each 100 MW of production capacity.
- A market participant who wants to have reallocations taken into account in its MCL calculation must consult with AEMO on its expected generation and load.
- If the market participant's actual load or generation is significantly different than that assumed upon registration, an MCL review will be undertaken at the earliest opportunity and a revised MCL issued.

Table 1 MCL for new market participants with significant bi-directional flows

Production capacity (MW)	OSL	PM	MCL
Up to 100	\$8,000	\$2,000	\$10,000
100 – 199	\$16,000	\$4,000	\$20,000
200 – 299	\$24,000	\$6,000	\$30,000
300 – 399	\$32,000	\$8,000	\$40,000
400 – 499	\$40,000	\$10,000	\$50,000
500 – 599	\$48,000	\$12,000	\$60,000

For this proposed MCL calculation to apply, it is proposed that the new market participants will have to have significant bi-directional flows with a loss factor between 20% to 30% (AEMO will finalise this value based on further analysis and consultation feedback).

The calculation will only apply to new participants with significant bi-directional flows. Then typically within three months of normal operations commencing, the MCL will be recalculated, taking into account actual load, generation, and ancillary service data (assuming the changes proposed in Section 3.2 are implemented).

3.3.4. Impact of proposal

This proposed change will have no impact on existing market participants, or on new market participants with no significant bi-directional flows. For new market participants with significant bi-directional flows, the proposed approach will:

- Result in an MCL that is equal to or potentially lower than under the current methodology.
- Give certainty for new market participants with significant bi-directional flows as to how their MCL will be calculated and the amount of collateral they will be required to provide at the time of registration to meet their prudential obligations under the NER.

Increasing the MCL amount by \$10,000 for every 10MW of production capacity will ensure that all capacity sizes are covered and recognise that prudential risk, and thus the prudential cover required, will increase by participant size, due to a larger facility being able to draw more load and thus have higher potential outstandings.

AEMO's analysis of prudential risks indicates that new market participants with significant bi-directional flows have operational patterns resulting in typically low outstanding levels, on average under \$10,000 per 100MW of production capacity. While some event driven spikes can occur, resulting in increased outstandings for brief periods, this is not typical of normal operations. For such cases, processes for provision of security deposits (clause 3.3.8A of the NER) are generally adequate to deal with such temporary increased prudential risks. Additionally, if generation and or load patterns change significantly from those expected at the time of registration, AEMO can always review that market participant's MCL, and require additional credit support if necessary.

3.3.5. How the proposal meets the objectives

For new participants with significant bi-directional flows, AEMO believes that by initially setting MCL at \$10,000 per 100MW (or part of) of production capacity prudential risk will be adequately covered and the 2% prudential standard met, while keeping the process simple to understand and low cost (in terms of credit support requirements).

3.3.6. Alternative options

AEMO also considered the use of technical information, such as capacity and efficiency from new bi-direction units, to generate the MCL calculation. However, as such units are so technically and operationally diverse AEMO was unable to determine an approach for all such participants which was simple and did not place onerous and complex requirements (including for data provision) on market participants and AEMO. Based on his assessment, and the expectation that new bi-directional units (with commensurate load/generation) will likely have low outstandings, the simplified approach of an MCL of \$10,000 per 100MW of production capacity was thought to be justified.

3.3.7. Issues for consultation

- Is there any additional clarifying information required for the calculation of MCL for new market participants with significant bi-directional flow?
- This calculation is to apply to new market participants that have significant bi-directional flows with a loss factor (i.e. difference between load and generation) below 20% to 30%. What information should AEMO consider when setting this value?
- Are there any additional options for the calculation of MCL for new market participants with significant bi-directional flows that AEMO should consider?
- Are there any unintended/adverse consequences of the proposed changes to the MCL calculation for new market participants with significant bi-directional flow as described?

3.4. Proposed effective date

The proposed effective date for all amendments to the Procedures considered in the proposal is 3 June 2024, when the IESS Rule comes into effect.

Appendix A. Glossary

Term or acronym	Meaning
AEMC	Australian Energy Market Commission
AEMO	Australian Energy Market Operator Limited
CLP	Credit Limit Procedures
IRP	Integrated Resource Provider
SGA	Market Small Generation Aggregator
MCL	Maximum Credit Limit
NEM	National Electricity Market
NER	National Electricity Rules
OSL	Outstandings Limit
PM	Prudential Margin
PRAF	Participant Risk Adjustment Factor
Procedures	These Credit Limit Procedures
SMWG	Settlement Managers Working Group
AEMC	Australian Energy Market Commission