

Improving the NEM access standards – Package 2

The Commission has made a draft rule to improve the NEM access standards

The Commission has made a more preferable draft rule (hereinafter, 'draft rule') that would update and improve the technical performance requirements for connection to the National Electricity Market (NEM), with a focus on the system security impacts of large inverter based loads (IBLs). We have made this draft rule in response to three consolidated rule change requests:

- *Improving the NEM access standards – Package 2*, submitted by the Australian Energy Market Operator (AEMO)
- *Definitions of protection system requirements*, submitted by Rod Hughes Consulting
- *Conditions for generator protection systems*, submitted by Rod Hughes Consulting.

The access standards set out in the National Electricity Rules (NER) are the technical performance requirements that connection applicants (including generators, loads, and other plant) must meet before being allowed to connect to the NEM. The draft rule would update and introduce new access standards so that they are better suited to large loads, including large IBLs such as data centres, which are increasingly connecting to the NEM.

The draft rule includes:

- new access standards for large IBLs in relation to disturbance ride-through and managing power system instability
- a clear regulatory framework for classifying large IBLs connecting to distribution networks, that ensures a proportionate application of the access standards that would apply to them
- targeted improvements to some access standards and to the broader access standards framework, including for compliance and enforcement.

The draft rule is largely consistent with the proposals in the rule changes listed above. However, it is a more preferable rule, as the Commission's draft rule goes further, proposing to improve the regulatory framework for applying access standards and introducing new access standards for large IBLs to ride through disturbances. The Commission also proposes making no rule regarding the *Conditions for generator protection systems* rule change request submitted by Rod Hughes Consulting. Collectively, we consider that this would ensure the draft rule reflects the intended policy outcomes and best advances the National Electricity Objective (NEO).

We are seeking stakeholder submissions on the draft rule by 7 May 2026.

The draft rule would introduce new access standards for large IBLs to support power system security

Large IBLs, such as data centres, are connecting to the NEM rapidly and pose novel challenges to power system security.

Through our consultation process, the Commission observed that data centres tend to use inverter based technology, similar to that used by grid forming wind and solar generators, which can be configured to disconnect (or rapidly reduce demand) during a credible grid disturbance, potentially exacerbating power system outages or even leading to system black events. We have already seen international examples of power system instability caused by data centres in jurisdictions such as Ireland, Virginia, and Texas, with some of these jurisdictions going so far as to place moratoriums on new data centre developments.

To ensure these large IBLs can connect to the NEM efficiently whilst maintaining power system security, the Commission's draft rule would introduce new disturbance-ride-through

and instability-monitoring access standards. This would mitigate the risk of outages or system black events, in turn helping to avoid increases in system costs that would otherwise be passed on to consumers. Further, the application of the new and updated access standards would be proportionate to the potential impact on power system security posed by large IBLs, minimising unnecessary technical and compliance costs.

The draft rule would modernise the access standards for large loads and large IBLs by:

- Introducing a new disturbance ride-through access standard for IBLs, which would cover voltage and frequency disturbances as well as post-fault active power recovery
- Improving visibility of large loads' ride-through capability by enabling NSPs, in consultation with AEMO, to request information from connecting loads about their ride-through capability
- Introducing a new access standard relating to instability detection and response for large IBLs.

The draft rule would introduce a clear and transparent framework for classifying IBLs connecting to distribution networks

The draft rule would introduce a clear regulatory framework for defining and classifying large IBLs connecting to distribution networks, thereby determining when and how the access standards apply to them. The reason the draft rule applies the new classification framework to non-registered IBLs connecting at the distribution network is due to the Schedule 5.3 access standards already applying to IBLs connecting at the transmission level. They also automatically apply to IBLs that have opted to register as a market participant.

The classification framework would consist of three connection tiers for distribution-connected loads, as follows:

- Tier 1 connection: applies to IBL with a nameplate rating of up to 30 MW, and non-IBL regardless of its MW nameplate rating.
- Tier 2 connection: applies to IBL with a nameplate rating of at least 30 MW but less than 100 MW.
- Tier 3 connection: applies to IBL with a nameplate rating of 100 MW or greater.

The purpose of this three-tiered classification framework is to ensure a proportionate application of the access standards for IBL, so that technical and compliance costs are commensurate with the load's interaction and impact on power system security.

The framework also addresses the growing risk that large IBLs are currently being treated inconsistently across the NEM, which is reducing AEMO's visibility and ability to plan for system security needs.

Without a clear, fit-for-purpose definition of large IBL, connection applicants, NSPs, and system planners face uncertainty about when technical requirements should apply and how to design networks that remain secure as these loads proliferate. Definitional clarity is therefore central to this rule change.

Accordingly, IBLs with a nameplate rating of 30 MW or greater would be classified as large IBL under the draft rule. This differs from the current threshold of 5 MW or greater in AEMO's System Strength Impact Assessment Guidelines (SSIAG). Accordingly, the draft rule would raise the threshold for 'large' IBLs (such as data centres) from 5 MW to 30 MW and define it directly in the NER, so that stricter technical requirements would apply to those most likely to affect power system security.

The draft rule would make further improvements to the NEM access standards and the broader regulatory framework

The draft rule would also make targeted reforms to the broader access standards framework to improve clarity, transparency and flexibility. These reforms would include:

- Strengthening the compliance framework for Chapter 5 plant, by requiring connection agreements with non-registered participants to include terms and conditions that provide reasonable assurance from the connection applicant of ongoing compliance with the performance standards, in a manner consistent with good electricity practice. AEMO would

also be required to maintain a register of performance standards for all Schedule 5 Participants.

- Limiting the application of the short circuit ratio access standard to large IBLs, and providing flexibility in the application of this access standard.
- Providing flexibility for loads to meet load shedding obligations by way of fast ramp down where technically possible, rather than disconnecting in blocks.
- Allowing HVDC link operators the option to meet their short circuit ratio requirements by procuring system strength from a third party.
- Clarifying and restricting the scope of credible contingency events that generating systems, integrated resource systems, and synchronous condensers are required to ride through
- Formally defining primary and back-up protection systems to help clarify protection obligations throughout Chapter 5 of the NER.
- Supporting ongoing compliance by ensuring that all Schedule 5 plant connections are subject to requests for testing and assessment, or have the right to request that other Schedule 5 plant be tested, regardless of registration status.
- Providing flexibility to AEMO to extend the timeframes for its future reviews of the access standards, where there are complex issues or a material change in circumstances.

The draft rule would contribute to the NEO and serve the long-term interests of energy consumers

The draft rule would contribute to achieving the NEO in the following ways:

- **Safety, security and reliability:** The draft rule would promote the safe, reliable, and secure operation of the power system at least cost. The operational security of the power system depends on whether the connecting plant and equipment can operate within the technical access standards contained in the NER and not present significant system security risks. Improving access standards would ensure alignment with safe, secure and reliable system performance and improve power system resilience.
- **Innovation and flexibility:** The draft rule would promote innovation and flexibility because it improves the NEM access standards from the perspective of process innovations and provides the right amount of flexibility for connection applicants, NSPs and AEMO to find solutions to system security issues.
- **Implementation considerations:** The draft rule takes a practical approach to implementation. This includes timing, interrelationships with other reforms and processes, and benefits or adverse consequences for industry and consumers. We have considered the cost and complexity of implementation, as well as the ongoing regulatory and administrative costs for all market bodies, participants, and consumers. The draft rule also provides clarity on the roles of market bodies and participants, supporting efficient investment and operational decisions, and promoting transparency and predictability.

We are seeking stakeholder submissions on the draft determination

The Commission welcomes written submissions on this draft determination and draft rule by **7 May 2026**. To make a submission, visit our website, www.aemc.gov.au, find the 'Lodge a submission' function under the 'Contact Us' tab, and select the project reference code **ERC0394**.

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