30 June 2025

Australian Energy Markets Commission
Level 15, 60 Castlereagh Street
Sydney NSW 2000

Via email: www.aemc.gov.au

Improving NEM access standards – package 2 (ERC0394)

Thank you for providing CitiPower, Powercor and United Energy (networks) the opportunity to comment on the Australian Energy Market Commission's (AEMC) consultation paper *Improving NEM access standards – package 2* (Consultation Paper).

Our key comments, we:

- support the inclusion within the National Electricity Rules (NER) a definition of 'large load'. The definition needs to be flexible as what is considered a large load on a rural or regional based network, will not be on an urban network
- the proposed 5MW limit for what is considered a large invertor-based load (IBL) is extremely low and risks a step change in administration for network service providers and small load proponents
- flexibility in the minimum access standard should be maintained noting the requirement for the negotiated performance standards to be close to the automatic
- Network service providers should be empowered to request additional information independently of AEMO. Where AEMO requires the information, then AEMO should be empowered to require the network service provider to request it
- support clarifying the credible contingencies that a schedule 5.2 plant must ride through provided there is flexibility for this to evolve through time based on experience
- greater flexibility being granted to enable full consideration/engagement of changes to technical performance standards provided there are controls on timeframes to avoid over-analysis and prolonged delays in the connection process.

We would be pleased to discuss our proposal with the AEMC further should that be of assistance. In the first instance, please reach out Lauren Fetherston, Head of Regulatory Policy and Compliance on 0499 202 244 or Lauren.Fetherston@ue.com.au.

Yours sincerely,

Lauren Fetherston
Head of Regulatory Policy and Compliance
CitiPower, Powercor and United Energy

Question 1: Defining large loads in the context of this rule change request

We are supportive of the ongoing process to address system security implications, performance standards and the inclusion of a definition of large loads through the National Electricity Rules (NER) as opposed to a guideline. Care should be taken in preparing a definition of large loads, that there is recognition of issues such as property boundaries, jurisdictional requirements and in Victoria the Service and Installation Rules.

We also support the AEMC considering the definition of large loads in the context of this rule change. Due to the complexity of the definition, there is broad need for industry engagement and flexibility in the interpretation to enable network service providers to assess the local network capability. Whilst a 30MW load may be a large load in a regional network, it is unlikely to represent a large load in a metropolitan network where a 150 MW may be considered a large load. We suggest that the threshold be considered no less than 150 MW and between 70 and 150 MW, with the final definition at the network service provider's discretion.

Question 2: Amending the NER to address the influx of large loads

The impact of large loads on power system security is uncertain and complex. The actual impact is dependent upon actual growth of large loads, the type of large load, future generation capabilities and ongoing system strength reinforcement. Given the uncertainty, power system security issues are better reviewed and assessed through the *general power system risk review* process, presented back to industry, and addressed in the future forum.

With respect to information on large loads, we would be happy to confidentially share with the AEMC any data we have regarding the prospective growth of large loads if that would be of assistance.

Question 3: HVDC links to procure system strength services from third parties

We do not have any high voltage direct current (HVDC) assets so have no opinion on this matter.

Question 4: Limiting short circuit ratio requirements for customer loads to IBR, and introducing flexibility to the access standard

Our position is that the proposed 5MW limit for a large invertor-based load (IBL) is an extremely low threshold. Instituting such a low threshold limit risks a significant step change in work for network service providers to process small connections to the distribution network. It also risks incurring material risks and costs for the small loads with no consequential material benefit.

With respect to the short circuit ratio requirement, we believe it should only be applicable to inverter-based resources. Further, there should be flexibility in the minimum short circuit ratio (SCR) to allow for local network conditions.

Question 5: In relation to Rod Hughes Consulting's Definitions of protection system requirements rule change request

As a general comment, our experience has been that the current requirements for generation protection systems are clear. If there is a perception amongst other stakeholders that they are not, we are not opposed to further clarity being provided but that should not be through changes to the NER.

We are not comfortable with the proposed definition of protection element. The definition is understood to be *any of the facilities, equipment, physical and virtual connections of the protection system including: CT cores, VT windings, trip coils, devices providing protection functions, auxiliary/tripping DC. batteries, battery chargers, auxiliary AC. auxiliary supply, wiring, communication systems*. Such a definition will generate confusion as a protection element is usually associated with a function i.e. inverse time OC, ROCOF, under voltage etc. We consider *protection component* is a better definition for facilities that make up the protection system.

Finally, whilst we would defer to formal legal advice, the wording of s5.2.5.9(b) appears to overlap with s5.2.5.9(a). We do not object to the removal of paragraph (b) however as it will not weaken the current automatic assess standards.

Question 6: Conditions for generator protection systems

The minimum access standard has been defined to facilitate the negotiation framework. As such, we believe that the flexibility in the minimum access standard should be maintained noting the requirement for the negotiated performance standards to be close to the automatic.

We do not agree that the minimum access standard creates risk for power system security.

Question 7: In relation to AEMO's proposed changes to enable NSPs to request information on loads' ride-through capability:

The impact of large loads on power system security is uncertain and complex. It depends on actual load growth, load type, future generation capabilities and ongoing system strength reinforcement. Given the uncertainty, allowing for additional information to be requested during, or after, the connection process provides future flexibility.

Network service providers should be empowered to request additional information independently of AEMO. Where AEMO requires the information, then AEMO should be empowered to require the network service provider to request it.

Question 8: In relation to AEMO's proposed changes to amend clause S5.3.3(c) of the NER to encourage protection settings that maximise loads' ride-through capability:

The AEMC should, if it chooses to amend load protection settings, be aware of commercial arrangements that may exist between the large load connection and other third parties, which often involve complex liability conditions. Amendments to the NER should not create circumstances where large loads may become non-compliant with their performance standards or other commercial agreements. Flexibility should remain in the design process to achieve an optimal outcome without constraint.

Question 9: In relation to AEMO's proposed new access standard for detection and response to instability that would apply to large inverter-based loads:

Given the uncertainty in the behaviour of large IBL, we believe that the installation of additional monitoring would be valuable. Our experience with large inverter-based generation does not support requiring disconnection for instability at this time, as it will be difficult to identify the cause of the instability. The exception would be where it has been agreed with the customer, they are the cause of the instability.

Our experience is that oscillations on the power system can be seen more broadly, and it is difficult to identify what is a cause and a response. One scenario would be a group of large IBL simultaneously tripping due to an oscillation in an area resulting in a power system security issue. We therefore note the proposed rule could lead to the tripping of loads that are not contributing to oscillations and may, in fact, be helping to damp them. Since a similar requirement already applies for generators, this could result in scenarios where both load and generation trip simultaneously, potentially worsening system stability.

In terms of the materiality thresholds for application of the automatic access standard and minimum access standard, we would respond to the matter in the draft determination if the automatic and minimum access standards are modified.

Question 10: In relation to AEMO's proposed changes to amend the NER to facilitate the ability for loads to ramp down

We are supportive of any flexibility that can be obtained to manage under frequency events. We would observe that different requirement may exist depending on the rate of change of frequency and speed of response. Under some events, tripping of load blocks may be preferable, and we would support flexibility for both solutions to be provided and used depending on the nature of the event.

Question 11: In relation to AEMO's proposed changes to amend clause S5.2.5.5 of the NER to clarify the scope of contingency events that a schedule 5.2 plant must be able to ride through:

Our experience has been disturbance ride-through requirements are unbounded and may result in a registered participant becoming unknowingly non-compliant with their performance standards.

In terms of whether the types of credible contingencies for disturbance ride-through under schedule 5.2 plant are poorly defined, our experience has been that the credible contingencies that need to be considered, are not prescribed. Rather the credible contingencies to be considered are based on network service provider and AEMO experience developed through time.

We would support clarifying the credible contingencies a schedule 5.2 plant must ride through provided there is flexibility for this to evolve through time based on experience.

Question 12: Testing and commissioning

We are supportive AEMO's proposed amendments to clause 5.7.2 and 5.7.3 to refer to schedule 5 plant in respect of AEMO's ability to request compliance tests for registered plant and to extend the rights for testing of power system plant to apply to non-registered Schedule 5.2, 5.3, and 5.3A plant.

We do believe that the proposed rule written in the proposed rule drafting, rather than a 'schedule 5 plant', should reference schedule 5.2, 5.3 and 5.3A rather than schedule 5 given the number of schedules that do not relate to plant performance.

We note the 30MW threshold is low for certain parts of the network and it may be preferable for the reference to be determined by the network service provider rather than prescribed.

We believe that the AEMC should consider extending enforceability and compliance requirements under rules 4.14 and 4.15 to all 'schedule 5 participants', which includes non-registered participants. Any schedule 5.2, 5.3 and 5.3A participant should be able to demonstrate and ensure ongoing compliance to their performance standards.

Its noted schedule 5 participant does not appear to be a defined term in the proposed rule changes and, given the broad nature of schedule 5, may lead to unintended impacts. It is therefore preferable to refer to schedule 5.2, 5.3 and 5.3A participants as proposed as changes to the glossary.

Question 13: In relation to AEMO's proposal to amend clause 5.2.6A of the NER to allow flexibility for extending the time limit for completing each review:

We are supportive of any flexibility that can be given to enable full consideration and engagement of changes to technical performance standards. It is however important to manage timeframes to avoid over-analysis and prolonged delays in the connection process. To that ends, a process for AEMO to propose an extension should

be reviewed by a third party, such as the Australian Energy Regulator. The AEMC position there should be industry engagement for any time extension is also supported.