6 February 2023

Ms. Anna Collyer
Chair
Australian Energy Market Commission

Lodged via the AEMC website

Dear Ms Collyer

PROJECT ERC0272: Efficient reactive current access standards for inverter-based resources

The Clean Energy Council (**CEC**) is the peak body for the clean energy industry in Australia. We represent and work with hundreds of leading businesses operating in renewable energy and energy storage along with more than 7,000 solar and battery installers. The CEC is committed to accelerating the decarbonisation of Australia's energy system as rapidly as possible, while maintaining a secure and reliable supply of electricity for customers.

To avoid unnecessary investment in additional plant to meet the existing Minimum Access Standards in network situations where it may not be needed, we are supportive of the preferred rule and believe it will lead to more efficient outcomes based on system need, particularly in edge cases which are unlikely to be experienced on the power system but are currently required to be assessed.

However we think the intent of the preferred rule could further strengthened by providing additional clarity on the points detailed below.

- **Reactive current injection / absorption values:** we support the changes in the minimum access standard requirements to allow better flexibility for Proponents and NSPs when negotiating performance standards, particularly the ability to agree to alternate levels intended to capture edge cases which may not be realistic operating cases on the physical network.

- **Measurement at unit terminals:** We consider the measurement location should include flexibility to agree an alternative measurement point with the NSP and AEMO, rather than be specified at the c*onnection point*. We understand that historically, measurement at the terminals of larger generating systems has been adopted. We strongly suggest the AEMC consider including in its NER drafting an ability for parties to negotiate for appropriate measurement points, including for dynamic response to be measured at the unit terminals.

- **Response Characteristics:** we support the general approach taken to changes to the response characteristics however the new term "adequately controlled" is not defined under the NER. This term must therefore be defined properly. We propose aligning the definition with

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the updates to the definition of *Continuous Uninterrupted Operation* i.e. does not cause affect other Generator's ability to comply with their GPS.

The requirements for "commencement time" should also have a supporting definition.

- **Active power recovery:** we support the changes to active power recovery time, in which: "…requires the stable recovery of voltage between 90% and 100% of the normal voltage before active power recovers to 95% of its pre-fault level"

- **Trigger thresholds for reactive current response:** we support the changes to the trigger thresholds to facilitate new technology e.g. grid forming inverters, however the Preferred Rule mandates the threshold for commencing a response should be within the range of +/- 20%.

  Under the current Minimum Access Standard we understand alternate threshold levels can be agreed with NSP / AEMO – we suggest to reinstate alternate threshold levels can be agreed with NSP / AEMO agreement in the Minimum Access Standard (e.g. outside the +/- 20% threshold) to allow further flexibility.

- **Response to unbalanced faults:** the term "excessive voltage rise" does not have a supporting definition, therefore we suggest referencing the system standards, as this is the effective commitment from other Generators under their respective GPS'.

- **Definition of *Maximum Continuous Current*:** we suggest that the definition is further expanded as the largest rated apparent power of the generating system at the point of connection (but limited to the Automatic Access Standard equivalent).

- **Definition of *Continuous Uninterrupted Operation*:** we support the changes to CUO however the threshold for causing additional disturbances for other generators is unclear - we suggest referencing the system standards, as this is the effective commitment from other Generators under their respective GPS'.

With respect to the implementation timeframe, as proponents will be required to assess compliance to the proposed GPS (as with all other clauses) we question the need for a 10-week implementation timeframe for NSPs to prepare and believe this time can be reduced.

Lastly we commend the AEMC for taking a pragmatic and industry consultative approach in the developing this draft rule. We look forward to continuing to work closely with the AEMC on further reform to the connection process and access standards.

Should you have any questions on this submission please contact Paul Beaton, Senior Policy Officer, pbeaton@cleanenergycouncil.org.au or Christiaan Zuur czuur@cleanenergycountil.org.au

Kind regards,

Christiaan Zuur, Director – Energy Transformation