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Australian Energy Market Operator  
Lodged Electronically  
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## **CEC submission to AEMO System Strength Impact Assessment Guidelines**

The CEC is the peak body for the clean energy industry in Australia. We represent and work with hundreds of leading businesses operating in solar, wind, hydro, bioenergy, marine and geothermal energy, energy storage and energy efficiency along with more than 5,000 solar installers. We are committed to accelerating the transformation of Australia's energy system to one that is smarter and cleaner.

We welcome the opportunity to respond to this Review. The System Strength Impact Assessment Guidelines (SSIAG) is an important process for ensuring system security outcomes in the National Electricity Market (NEM). Currently, there are unprecedented numbers of proponents seeking to connect. It is therefore of increasing importance that the framework for assessing potential system strength impacts on the network is clear and practical.

This submission outlines the CEC's views on the SSIAG and key considerations for their development.

### **Calculations of system strength impact must be clear and justified**

The calculation of system strength impacts by connecting parties must be clearly defined. AEMO has presented the SSIAG within the context of System Security Market Framework Review requirements, specifically the Fault Level rule which requires NSPs to procure a minimum level of system strength. However, it is not clearly stated how the SSIAG is linked to the Fault Level rule and what minimum levels of fault level will be required as part of the application process for the guidelines. Without a definition of this minimum level within the SSIAG, the definition of the level is at the discretion of the NSP which could produce varied or unreasonable outcomes. It is suggested that the SSIAG focus on compliance with S5.2.5.5 (fault ride through performance).

Attention should be exercised when specifying calculations of system strength. It is not clear that the short circuit ratio (SCR) is the most appropriate metric to use in calculations of system strength. If used, transparency must be provided in the SCR calculation in the SSIAG and the basis for the calculation approach must be justified. It is understood that the final system strength guidelines may specify the use of transient reactance. The need for the use of this variable is unclear, and requires justification considering its impact on the SCR value.

### **Processes must be clearly defined within the SSIAG**

The SSIAG must inform clear processes for involved parties, particularly in terms of requirements, modelling methods and responsibilities. For instance, although the SSIAG references system strength remediation schemes, it does not identify a transparent process

by which a connecting proponent can assess the impact of their project on system strength in the presence of other connecting parties. It is unclear how a connecting party can demonstrate compliance with a 'do not harm' requirement in the absence of a defined process. This must be considered in order to ensure the usability of the guidelines.

In terms of process, the current power system model guidelines also do not address the commercial sensitivities of requiring PSCAD models to be shared between third parties. The competitive nature of the connection process causes difficulties around sharing models and has the potential to cause confidentiality issues for manufacturers. This issue must be considered by AEMO.

### **The SSIAG must work within the capabilities of proponents**

It is essential that requirements made in the SSIAG allow parties to meet their performance standards. The full assessment requires connecting parties to assess the impact of new or modified generation connection on the ability of existing or other committed generating systems to meet their GPS. This is beyond the reasonable requirements of the connecting party.

The transparent provision of information is also essential. It is critical to appreciate the importance of information provision for connecting parties. Where a full system strength impact assessment is required, there should be a mechanism to allow all information required for the connecting party to carry out a full assessment to be made available. Without full information, there is significant uncertainty for proponents to undertake EMT-type modelling.

It is important that the SSIAG incorporate practical assumptions, and does not include results that reflect non-physical assumptions (eg. infinite source impedance or no fault contribution at a connection point). It is likely that incorrect assumptions will result in high equipment costs for proponents and inefficient outcomes.

We thank you for the opportunity to provide our views on these matters. Please contact Emma White on 03 9929 4107 or [ewhite@cleanenergycouncil.org.au](mailto:ewhite@cleanenergycouncil.org.au) in the first instance.

Sincerely,

A handwritten signature in black ink, appearing to read 'Lillian Patterson', written in a cursive style.

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