

15 May 2019

Mr John Pierce AO  
Chair  
Australian Energy Market Commission  
Po Box A2449  
Sydney South NSW 1235

Lodged online: [www.aemc.gov.au](http://www.aemc.gov.au)

Dear Mr Pierce,

**INVESTIGATION INTO INTERVENTION MECHANISMS AND SYSTEM STRENGTH IN THE NATIONAL ELECTRICITY MARKET (EPR0070): CONSULTATION PAPER**

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 6,000 solar and battery installers. We are committed to accelerating the transformation of Australia's energy system to one that is smarter and cleaner.

The CEC welcomes the opportunity to respond to the Australian Energy Market Commission's (AEMC's) consultation paper on its investigation into intervention mechanisms and system strength in the National Electricity Market (NEM). Our submission focuses on the system strength elements of the consultation paper.

The clean energy industry agrees that it would be useful for the AEMC to revisit the minimum system strength and inertia frameworks that came into effect on 1 July 2018. However, we strongly consider that the AEMC's investigation must also review the 'do no harm' requirement that came into effect at the same time. The *Managing power system fault levels* final rule sought to introduce an overarching system strength framework incorporating:

- A framework for the Australian Energy Market Operator (AEMO) to determine a minimum level of system strength necessary to maintain the power system in a secure operating state.
- An obligation on Transmission Network Service Providers to procure system strength services needed to provide the fault levels determined by AEMO where a system strength shortfall exists.
- A requirement on new connecting generators to 'do no harm' to the security of the power system in relation to any adverse impact on the ability to maintain system stability or on a nearby generating system to maintain stable operation.

The CEC considers these aspects of the final rule are interlinked and therefore should be considered holistically.

The 'do no harm' requirement has been particularly problematic for the renewable energy industry. Connecting generators are experiencing challenges with various elements of the full impact assessment process. Significantly, where an adverse system strength impact

is identified, not only does a connecting generator have little visibility of the modelling underpinning this assessment but it is required to pursue a system strength remediation scheme based on this assessment. These generators are increasingly being asked by Network Service Providers and AEMO to build synchronous condensers for the purposes of system strength remediation. The cost of a synchronous condenser depends on a range of factors such as the size of the unit. As an example, a 50-70MVA synchronous condenser may be sufficient to offset adverse system strength impacts from a 200MW project. The cost of such a unit is typically \$15-20 million.

The addition of synchronous condensers is adding a substantial cost to the overall project costs of new developments. As the lowest cost form of new generation, renewable generation can assist to lower wholesale power prices. However, increased connection costs will flow through to the wholesale market by retarding the full ability for renewable generation to exert downward pressure on the wholesale price.

In addition, the 'do no harm' requirement is resulting in multiple synchronous condensers being built by multiple connecting generators. This is leading to a degree of overbuild, which is clearly not an efficient market outcome. The CEC considers it may be more efficient for one larger synchronous condenser to be built and shared between generators.

The CEC would welcome the opportunity to discuss in more detail with the AEMC the clean energy industry's experience with the 'do no harm' requirement. If you would like to discuss any of the matters raised in this submission, please contact me on the below details.

Yours sincerely,

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

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