Your ref: EPR0402

3 July 2025

Project Leader, AEMC
Submitted online at: www.aemc.gov.au

Dear Project Leader,

Submission: Clarifying registration for non-generating units providing system security services

CS Energy welcomes the opportunity to provide a submission to the Australian Energy Market Commission's (**AEMC's**) *Consultation Paper – Clarifying registration for non-generating units providing system security services* (**Consultation Paper**).

About CS Energy

CS Energy is a Queensland-owned and based energy company that provides power to some of the state's biggest industries and employers. We generate and sell electricity in the wholesale and retail markets, and we employ almost 700 people who live and work in the regions where we operate.

CS Energy owns thermal power generation assets, and we are building a more diverse portfolio that includes renewable energy, battery storage, gas fired generation and pumped hydro. We also have a renewable energy offtakes portfolio of almost 300 megawatts, which we supply to our large commercial and industrial customers in Queensland.

Overall views

As the National Electricity Market (**NEM**) transitions to a system with more variable renewable energy, the ability to effectively and efficiently manage grid security and reliability against this evolving landscape is crucial. Reforms are needed to ensure that essential system security (**ESS**) services continue to be adequately supplied at least cost to maintain grid security as thermal synchronous plants exit the NEM.

While network options may play a key role in the provision of ESS services, non-network assets could also supply these services and should do so when they offer a more cost-effective alternative. Frameworks that appropriately enable and value the provision of non-network ESS services would be crucial in incentivising investment in these non-network assets.

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In this context, CS Energy has proposed a rule change to introduce a new registration category to enable non-generating units to supply non-network ESS services. This rule change proposal is designed to address the lack of an appropriate registration category for non-generating units, including stand-alone synchronous condensers, under the National Electricity Rules (**NER**) presenting a barrier to participation.

In its Consultation Paper, the AEMC acknowledges this barrier and seeks feedback on an alternative approach to address the issue, specifically through the use of the existing Integrated Resource Provider (**IRP**) registration category, either by:

- Clarifying the application of the IRP category in the AEMC's final determination without NER amendment; or

- Amending the NER to clarify that a stand-alone synchronous condenser can be regarded as an IRP.

CS Energy considers that a new registration category is more effective than utilising the IRP category to enable the provision of ESS services by non-generating units as:

- Developing a new distinct registration category is administratively simpler and more likely to provide legal clarity with a well-defined registration pathway that is not at risk of interpretation. Unlike the alternative approach, this approach will not impact other existing registration categories. Further, the proposed category is both broad and sufficiently technological-neutral as it captures any non-generating technologies capable of supplying ESS services, which allows more flexibility for participation in market mechanisms under development and future innovation;[1]

- The IRP is primarily designed for bi-directional and hybrid units that supply electricity not ESS services. The notion that synchronous condensers could be regarded as bi-directional units contradicts the current definition in the NER, where Chapter 10 defines bi-directional units as electricity production units that also consume electricity;[2] and

- Amendments to the IRP category are necessary to make it workable as a registration category for non-generating units that supply ESS services. However, such an approach is likely to be legally and administratively more complex (than a new registration category) due to the need to review all IRP references in the NER and relevant Australian Energy Market Operator (**AEMO**) guidelines to ensure consistency and address unintended consequences. This would likely make the IRP approach more costly to implement relative to a new category.

It was also raised that a stand-alone synchronous condenser can be registered as an IRP on the basis of being a *market connection point*[3] that draws electricity from the NEM to operate. While technically feasible, registration based on being a load gives rise to the inherent uncertainty as to whether these synchronous condensers are precluded from providing the full suite of ESS services and limited only to providing load related services. Such an ambiguity is a key barrier to investing in stand-alone synchronous condensers.

[1] Under the current NER, generating systems that provide ESS services would register as a *Generator* and bi-directional units that supply ESS services can register as an *IRP*.
[2] In the consultation, paper, it was proposed that synchronous condensers could be regarded as bi-directional units on the basis that they "consumes electricity to charge the kinetic energy stored in its rotating mass that is released via its inertial response to a power system disturbance". This notion contradicts the current definition of bi-directional units in Chapter 10 of the NER that specifies a bi-directional unit as a "production unit that also consumes electricity…"; and a production unit as a "plant used in the production of electricity…".
[3] The NER defines a *market connection point* as a point where generating units, bi-directional units or network services are connected to the national grid. The rule also regards a connection point where electricity is purchased or sold through the national grid as a *market connection point*.

CS Energy's assessment is that the proposed new category is also compatible with the latest NEM access standards[4] recently finalised by the AEMC as all synchronous condensers, regardless of registration categories, will be subject to the access requirements in schedule 5.2. These include synchronous condensers (both stand-alone and as part of a larger generating system) operated by *Registered Participants*, *Network Service Providers*, intermediary or third parties and parties not required to register or exempted from registration.

On these bases, CS Energy considers that a new registration category would be more effective in removing the ambiguities and uncertainties regarding the appropriate registration for non-generating units to provide ESS services. A new well-designed category would likely enable and incentivise market participants to:

- Invest in stand-alone synchronous condensers to provide non-network ESS services, which will increase the supply of ESS services;

- Convert existing synchronous generators to stand-alone synchronous condensers. By reusing existing assets, this approach has benefits of being potentially lower in costs, larger in scale and with faster implementation timeframe relative to procuring new synchronous condensers. This can provide a viable and more efficient solution to delivering required ESS services;

- Explore new emerging non-generating technologies that can supply ESS services, which may increase the overall level and diversity of these services.

These potential benefits would most likely outweigh the costs associated with the introduction of a new registration category.

To conclude, CS Energy considers that our rule change proposal contributes to the National Electricity Objective (**NEO**) as enabling more widespread repurposing of existing units into synchronous condensers is likely to:

- Improve system security outcomes through more efficient use of existing resources to provide ESS services, which lowers costs for all consumers in the long run; and

- Reduce greenhouse gas emissions by not only increasing the availability of less emission-intensive ESS services[5] but also allowing for a higher level of renewable generation to be connected without compromising system security.

If you would like to discuss this submission, please contact Wei Fang Lim, Market Regulatory Manager, at wlim@csenergy.com.au or on 0455 363 114.

Yours sincerely

Dr Alison Demaria
Head of Policy and Regulation

[4] AEMC, Improving the NEM access standards – Package 1, May 2025.
[5] ESS services supplied by synchronous condensers are less emissions-intensive as they draw only small volumes of electricity from the grid, which is increasingly powered by renewables.