

2 July 2025

Ms Anna Collyer
Chair, Australian Energy Market Commission
Sydney NSW 2000

Reference: ERC0402

Dear Ms Collyer,

AEMO submission to consultation paper – Clarifying registration for non-generating units providing system security services

AEMO appreciates the opportunity to submit to the consultation paper on CS Energy's proposed change to the National Electricity Rules (NER) to clarify registration of non-generating units providing system security services.

AEMO strongly supports innovative provision of system security services from non-traditional services, including those supplied outside of regulated Network Service Providers (NSPs) or active power generation. Generating machines may be very valuable to the power system operating as synchronous condensers through either:

- Capability to operate in either generating or synchronous condenser mode, through air blow down (hydro), or the fitting of a clutch (thermal), or
- At end of generating life, thermal units being disconnected from their turbines to operate as dedicated non-generating synchronous condensers.

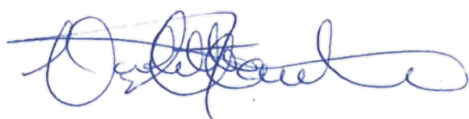
The rule change proposal relates to the latter, when the machines would no longer be 'generating systems', removing eligibility for registration as a Generator.

AEMO considers that unnecessary barriers to any suitable technology providing such system security services should be removed. We understand that CS Energy's proposal for a new participant registration category is intended to provide more confidence in developing investment cases.

AEMO agrees with the AEMC's proposition that, if registration is necessary for the provision of system security services, this could be accommodated within the existing Integrated Resource Provider (IRP) category. Within the IRP participant category, however, AEMO cautions against classifying these assets as bidirectional units (BDU) or integrated resource systems (IRS). This would cause significant complexity and is unnecessary for IRP registration under the existing NER.

The attached submission expands on these issues in further detail. Should you wish to discuss any aspect of our submission, please contact Hannah Heath, Group Manager, Strategic Market Reform (Hannah.Heath@aemo.com.au).

Yours sincerely,



Violette Mouchaileh
Executive General Manager, Policy & Corporate Affairs

aemo.com.au

New South Wales | Queensland | South Australia | Victoria | Australian Capital Territory | Tasmania | Western Australia

Australian Energy Market Operator Ltd ABN 94 072 010 327



ATTACHMENT – Detailed submission

This is AEMO's submission to the AEMC's consultation paper on Clarifying Registration for Non-Generating Units Providing System Security Services, dated 5 June 2025 (consultation paper). In summary:

- Section 1 explains that the National Electricity Rules (NER) do not currently preclude a non-registered participant from providing system security services other than inertia network services.
- Section 2 covers the registration categories that are currently available if a non-generating system security service provider needs to become a registered participant, and the consequences of registration.
- Section 3 responds to the option raised in the consultation paper of classifying a standalone synchronous condenser as an integrated resource system, explaining AEMO's view that this option is not appropriate or necessary.

1. Do the current rules present a barrier to providing system security services?

1.1. No NER registration requirement for most system security services

The consultation paper, and CS Energy's proposal, focus on the services most likely to be provided by a standalone (non-generating) synchronous condenser – namely inertia and system strength. It is worth noting that the definition of *system security services*¹ in the NER also includes transitional services, and network support and control ancillary services (NSCAS) - which can also cover inertia and system strength in certain circumstances.

Of the four broad categories of system security services, the rules themselves only require **inertia network services** to be provided by a registered participant². There is no equivalent registration precondition in the NER for system strength services, NSCAS or transitional services acquired from a third party by a transmission network service provider (TNSP) or AEMO. AEMO's current NSCAS tender guidelines do include a registration condition, and its transitional services guideline indicates that registered participant conditions may be included depending on the needs for a given service. However, these are not NER requirements and are also not applicable to services procured by a TNSP.

1.2. Registration in the context of system security services

In the case where system security services are procured by agreement with a TNSP, all necessary technical, availability, communication and dispatch requirements must be incorporated into the relevant agreement. The NER already require AEMO to approve the technical specifications, performance standards and arrangements for AEMO to give enablement instructions. NER 4.4.4 and 4.4.5³ contemplate that AEMO can have enablement arrangements directly with the TNSP who procures the service. This is an alternative to direct enablement instruction, which would typically require the provider to be registered in respect of the relevant plant. In selected circumstances, registration may be an unnecessary precondition, including if:

- the service does not involve the dispatch of designated production units (for which registration is required under chapter 2 of the NER in any event) or other scheduled resources, and
- the TNSP (as System Security Service Provider) can effectively manage the operation of the relevant plant in its own network.

¹ NER 4.4A.2, to be introduced from 2 December 2025 under the *National Electricity Amendment (Improving security frameworks for the energy transition) Rule 2024*.

² NER 5.20B.4(d)(2) describes inertia network services made available to an inertia service provider (TNSP) 'by a Registered Participant'

³ To be replaced by new clause 4.4A in December 2025.

2. Registration options under current rules

Whether required by the NER or not, registration of procured system security service providers has potential benefits in appropriate cases, including:

- Allowing enablement of system security services through direct instructions from AEMO to the registered participant providing those services under new clause 4.4A.5, with corresponding regulatory compliance obligations.
- Assurance around performance/technical standards applicable to the relevant plant, as well as compliance with cybersecurity requirements.
- Better visibility and communication channels directly with AEMO, including operational contacts, access to market systems, etc.
- For system security services procured directly by AEMO, the ability to make and receive contract payments through settlement systems.

2.1. Integrated Resource Provider and Market Customer registration categories available under current rules

Where it is necessary or desirable for a person to register for the purpose of providing system security services via non-generating plant, registration is already possible either as an Integrated Resource Provider (IRP) under NER 2.1B.2(a), or a Market Customer under NER 2.1B.4. The owner or operator of a standalone synchronous condenser or other non-generating, non-network plant, could apply for registration in one of these categories based on its intended classification of the relevant connection point as a market connection point⁴. By virtue of that registration and classification, it would meet the existing requirement in NER 5.20B.4(d)(2) to provide inertia network services.

AEMO does not agree with the statement in the consultation paper⁵ that NER 2.1A.1(b) requires a person to 'own, control, or operate an integrated resource system in order to be registered as an IRP'. Rather, that clause is framed as a negative obligation – a person must **not** own, operate or control an integrated resource system **unless** registered as an IRP or exempted by AEMO. NER 2.1B.2(a) contemplates that a person can also be registered as an IRP if it intends to classify **any** connection point as a market connection point, without the additional classification requirements that apply to generating systems or integrated resource systems under NER 2.1B.2(b).

3. Standalone synchronous condensers are not integrated resource systems

The consultation paper asks whether a standalone synchronous condenser can be classified as a bidirectional unit. As explained in section 2, it is not necessary to consider this question for IRP registration purposes. However, AEMO does not consider that a standalone synchronous condenser meets the current definition of a production unit, or the additional criterion for classification as a bidirectional unit.

A production unit is defined as 'plant used in the production of electricity and all related equipment essential to its functioning as a single entity'. The only types of production unit that can be classified for the purposes of registration as a Generator or IRP are generating units and bidirectional units. Those classifications and

⁴ Noting this classification requires the registered participant to assume financial responsibility for settlement of electricity consumed at that connection point.

⁵ At page 10.

associated definitions cannot readily be applied to standalone synchronous condensers under the current rules, noting that:

- While a synchronous condenser certainly consumes electricity, it is not considered to produce, or ‘generate’, electricity (effectively active power in MW). Indeed, that is the assumption underlying CS Energy’s rule change request.
- A bidirectional unit is a production unit that also consumes electricity and, for classification purposes, is also capable of transitioning linearly from consuming to producing electricity and vice versa⁶. Again, synchronous condensers do not meet that requirement.

Further, extending or adapting the definition of a production unit or integrated resource system to include standalone synchronous condensers will affect the interpretation of many other rules, requiring the careful review and amendment or adaptation of all technical and market chapters of the NER that refer to integrated resource systems as currently defined. This includes the revision of large parts of the recently completed *National Electricity Amendment (Improving the NEM access standards – Package 1) Rule 2025*. This rule explicitly incorporates technical requirements for synchronous condensers into the connection access standards (NER schedule 5.2), including standalone synchronous condensers where the connecting party may or may not be a registered participant.

Although AEMO does not support any option to redesignate a synchronous condenser as an integrated resource system, if clarification is considered necessary to provide absolute certainty for investment purposes, in principle the NER might provide an explicit option for an IRP to classify a synchronous condenser system at a connection point. AEMO has not yet considered the implementation requirements for such a change, and requests further discussions with the AEMC should this option be progressed.

⁶ NER 2.2.2(b)(3)