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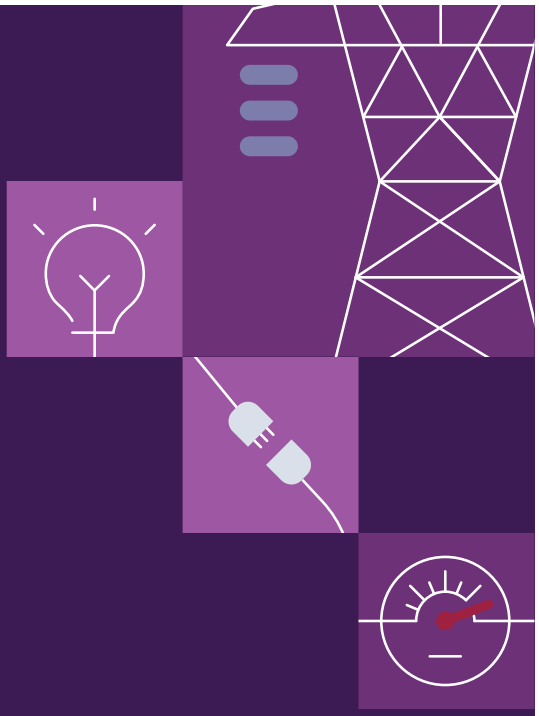

Electricity Rule Change Proposal

Flexible communication requirements for SAPS generation connection points

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

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1. Summary

This submission proposes an amendment to the National Electricity Rules (NER), specifically rule 7.8.2, to enable greater flexibility in metering requirements for Stand Alone Power Systems (SAPS). The current requirement for SAPS generation connection points to have type 1-4 metering with remote communications can impose prohibitive costs in locations with limited communications network access, requiring costly solutions such as satellite connectivity. AEMO proposes that by allowing the use of type 4A manual-read meters for SAPS generation points with a single generator connection, this rule change would reduce setup and operational expenses for Market SAPS Resource Providers (MSRPs) without compromising settlement integrity or affecting other market participants and end users.

This change would benefit network providers by supporting more cost-effective SAPS deployment in rural regions. Consultation with MSRPs, Distribution Network Service Providers (DNSPs), and metering service providers has shown strong support for this proposal, which AEMO considers non-controversial. We therefore respectfully request that the AEMC consider this proposal as an expedited rule change.

2. Relevant background

2.1. Current framework

SAPS have become a viable solution within the National Electricity Market (NEM) for locations where maintaining the traditional electricity grid connection is costly and logistically challenging. SAPS are self-sufficient systems that generate, store, and distribute electricity independently of the main grid. Typically, these systems incorporate renewable energy sources, such as solar or wind, combined with storage solutions and sometimes backup generation to ensure reliable supply.

In May 2023, new NER provisions were introduced to facilitate SAPS deployment, allowing network providers to operate SAPS where they offer greater efficiency than maintaining existing grid connections. This regulatory framework supports improved access to reliable energy supply for rural and remote communities, reducing reliance on extensive and costly grid infrastructure, whilst maintaining end user access to competitive retail market offers and consumer protections.

Since the rule was implemented, MSRPs have been registered in the NEM and DNSPs have established plans to deploy SAPS for hundreds of remotely located connections points on their networks.

3. Statement of issue

3.1. Current Rules

Under current NER requirements, each SAPS generation connection point must have a type 1-4 metering installation with remote communications[1].

The mandated use of type 1-4 remote-read metering installations for SAPS generation connection points presents significant challenges for SAPS deployments in rural and remote areas where traditional communications networks (3G, 4G, and 5G) are limited or entirely unavailable. In these locations, MSRPs may need to deploy high-gain antennas or connect to alternative satellite networks, such as Starlink, to achieve the required connectivity. These solutions can result in considerable additional costs for installation and operation, placing a financial burden that must be taken into account when determining the economic case for considering SAPS deployments.

Because SAPS connections are not classified as small customer metering installations, they cannot use type 4A meters with manual-read capability (enabled under NER 7.8.4).

AEMO has received cost estimates from DNSPs that have sought to deploy satellite communications in remote SAPS. Installation costs for this communication facility alone are in the region of $5,000 per connection, with annual operating costs exceeding $2,000. For many SAPS, which are deployed on a one-system-to-one-customer basis, with small-scale energy flows, these costs make the economic case for SAPS deployment untenable in many cases. Furthermore, in SAPS where there is only a single generation connection point, the metering data from this point is generally not required by market participants. The SAPS settlement process for MSRP NMIs is based on the aggregated metering data from the individual SAPS customer metering installations – a calculation performed by AEMO to determine the volume of energy to be attributed to the MSRP. While AEMO's automated settlement checks require data from the generation point, the data from a single SAPS generation point does not play a significant role in market operations or billing accuracy.

The only party who could benefit from receiving metering data in these circumstances is the MSRP for the SAPS generation. MSRPs are either appointed by the DNSP or are a business unit of the DNSP (in accordance with the AER's Ring-fencing guideline - distribution[2]) – either way, MSRPs are naturally incentivised to encourage cost reduction in order that the SAPS is approved and runs efficiently. MRSPs are primarily interested in accessing metering data from the SAPS generation connection point for the purpose of reconciling settlement process outcomes, and remote communications are not necessary to support this process.

[1] See NER 7.8 and S7.4.

[2] https://www.aer.gov.au/industry/registers/resources/guidelines/ring-fencing-guideline-electricity-distribution

4. How the Proposal will address the issues

4.1. How the proposal will address the issues

AEMO proposes allowing the use of type 4A manually-read metering for a SAPS with a single generation connection point and where the energy volume provided at that single generation connection point does not exceed the SMALL Business Customer energy volume thresholds described in Table 4D of the Market Settlement and Transfer Solution (MSATS) Procedures[3]. This targeted amendment would reduce installation and operational costs while ensuring that necessary metering data remains available to AEMO for settlement processes.

In cases where a type 4A meter is installed at a SAPS with a single generation connection point, the metering data could be efficiently collected alongside regular reading visits for the SAPS customers' manually-read meters, streamlining data collection without additional site visits. This would avoid the entire upfront and ongoing costs of establishing remote communications, with no material costs required to support manual collection.

If the SAPS were to be extended in the future, to the extent that a further SAPS generation connection point in the SAPS was required, remote communications could be added to the existing metering installation at that time.

Placing limitations on the application of type 4A metering for SAPS generation connection point would be consistent with the current metrology framework where large customer energy volumes must be provided with a remotely read metering installation, regardless of location.

4.2. AEMO Procedure changes

AEMO may need to make minor adjustments to the MSATS Procedures to confirm the annual energy volume thresholds for a type 4A metering installation at a SAPS generation connection point, depending on the final rule.

No other material changes to procedures and guidelines have been identified as necessary to make this proposal effective.

4.3. Stakeholder engagement

In developing this proposal, registered MSRPs, Metering Coordinators (MCs) and DNSPs with a vested interest in SAPS deployment, were consulted. These stakeholders expressed strong support for the proposed rule change, recognising its benefits in terms of reduced costs and operational efficiency. AEMO has also reviewed this proposal and considers it to be non-controversial, as it does not impact existing market arrangements or operational integrity.

In light of this stakeholder support and AEMO's assessment, we respectfully request that the AEMC consider this submission for the expedited consultation process to precipitate the amendment's implementation.

[3] https://aemo.com.au/-/media/files/electricity/nem/retail_and_metering/market_settlement_and_transfer_solutions/2024/msats-procedures--cats-v58-clean.pdf?la=en

5. Proposed Rule

5.1. Description of the proposed Rule

To address the challenges detailed above, we recommend adding new NER clause 7.8.2(h) to deal with specific requirements for metering installations at MSRP connection points (aligned with the existing NER format in 7.8.2(g) which specifies requirements for metering installations for small resource connection points):

7.8.2

Flexible communications requirements for SAPS generation connection points

(h) A type 4A *metering installation* may be used for a *regulated SAPS market generating unit* or *market bidirectional unit* (as applicable) *connection point* where:

1) There is only one *market generating unit* or one *market bidirectional unit* (as applicable),
2) The *energy* volume provided at the *market generation unit* or *market bidirectional unit* (as applicable) *connection point* does not exceed the *energy* volume thresholds determined by AEMO in the *Market Settlement and Transfer Solution Procedures*.
3) The connection is not classified as a *small customer metering installation*, and
4) The *financially responsible Market Participant* is a *Market SAPS Resource Provider*.

Alternatively, the NER could enable AEMO to exempt an MC and Metering Data Provider from the requirement to establish remote communications to the metering installation where the same conditions apply.

5.2. How the Proposed Rule Contributes to the national electricity objective (NEO)

Before the AEMC can make a change to the NER it must apply the rule making test set out in the NEL, which requires it to assess whether the proposed rule will or is likely to contribute to the National Electricity Objective (NEO). Section 7 of the NEL states the NEO is:

… to promote efficient investment in, and efficient operation and use of, electricity services for the long-term interests of consumers of electricity with respect to –

(a) price, quality, safety, reliability and security of supply of electricity; and

(b) the reliability, safety and security of the national electricity system; and

(c) the achievement of targets set by a participating jurisdiction –

(i) for reducing Australia's greenhouse gas emissions; or

(ii) that are likely to contribute to reducing Australia's greenhouse gas emissions.

AEMO considers that the proposed change to NER 7.8.2 would contribute to the NEO as follows:

- **Cost efficiency** - By enabling the use of type 4A manual-read meters in these circumstances, the amendment reduces the need for costly communications infrastructure, supporting more economical SAPS deployment in remote areas.
- **Simplicity in SAPS deployment –** The flexibility to use type 4A meters would streamline the deployment of SAPS in rural regions, reducing administrative and operational burdens on network providers, enabling DNSPs to realise cost efficiencies in the deployment of SAPS.
- **Alignment with settlement requirements –** This proposal preserves settlement accuracy, as AEMO's processes can still access metering data from SAPS generation connection points where necessary, with minimal adjustments required. The collection of metering data from type 4A installations at SAPS generation connection points could be synchronised with routine visits to read customers' meters within the SAPS, further optimising the data collection process.
- **Environmental impact** – Greater SAPS adoption could reduce the environmental impact associated with maintaining traditional grid infrastructure to remote areas, supporting sustainability objectives.

5.3. Expected benefits and costs of the proposed Rule

The cost of implementing this change is expected to be minimal, primarily involving changes in DNSP practices. The use of type 4A metering installations aligns with existing infrastructure capabilities, accreditations, system design and procedure drafting, limiting implementation complexity.

The expected benefits of the proposed rule are:

- **Reduced costs:** The ability to use type 4A metering installations at SAPS generation connection points would lead to substantial cost savings for SAPS providers. DNSPs have reported that alternative satellite communication solutions can cost approximately $5,000 for installation per site, with ongoing annual costs exceeding $2,000. These significant expenses are currently a barrier to SAPS deployment in remote areas.

  By enabling type 4A metering installations, the upfront ~$5,000 installation costs for satellite communications are entirely avoided. Furthermore, the ongoing cost of manually collecting quarterly meter readings is expected to be significantly lower that the ~$2000 annual communication costs. Manual meter reading can be made even more cost-efficient if the SAPS generation connection point metering is read during the same visit as the customer's metering installation, which will already require manual reading in cases where remote communication is impractical. This coordinated approach would streamline operations and further reduce the cost burden for SAPS providers.

  Deployment of SAPS is dependent on the DNSP demonstrating an economic benefit in the management of their network, the outcome of which reduces the overall network charges to all customers in that region.
- **Reduced barriers for SAPS projects:** By alleviating costs associated with remote communication requirements, this change could encourage investment in innovative and tailored energy solutions, promoting long-term market efficiency and technological progress.
- **Affordable and reliable energy:** In the long term, remote and rural consumers will benefit from more cost-effective, sustainable energy solutions. Greater SAPS deployment may reduce reliance on traditional grid infrastructure, providing a more resilient localised energy supply.

Conversely, without this change, the high costs of satellite communication will deter SAPS projects, preventing efficiencies gained by their deployment.

5.4. Transitional matters

No transitional provisions are required, as the proposed change would enable a manually read metering installation for SAPS generation connection points where there is a single SAPS generation system, without impacting settlement, end user billing, or any other processes.