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Ms Anna Collyer
Chair
Australian Energy Market Commission
Sydney South NSW 1235

By online submission: ERC0346

Dear Ms Collyer

Draft Determination: Unlocking CER benefits through flexible trading

AEMO welcomes the opportunity to provide a submission to the Australian Energy Market Commission's (AEMC's) draft determination on *Unlocking CER benefits through flexible trading*, progressing consideration of AEMO's *Flexible trading arrangements and metering of minor energy flows in the NEM* rule change proposal.

AEMO observes that the AEMC is assigning the responsibility for creating and maintaining secondary settlements points to the local network service provider. This represents an enhancement over the AEMO proposal, granting network service providers insight into 'behind-the-meter' energy flows and flexibility in applying network charges and dynamic operating envelopes in the future. Moreover, it simplifies the design of several market processes and procedures necessary to enact the rule.

This submission (Attachment 1) articulates AEMO's perspectives on how the proposed new metering installation types 8 and 9 could be more accurately delineated in the NER to be clearly distinguished from existing NER metering installation types. AEMO also addresses specific questions raised in the draft determination and, given that the draft rule and associated cost-benefit analysis mention the provision of ancillary services, provides background information on the current arrangements concerning the provision of FCAS within an aggregated facility sharing a connection point to the network.

Following publication of the draft determination, AEMO has arranged for the development of a high-level implementation design (HLID) report which proposes the schedule and timing of changes to procedures and systems necessary to implement the final rule in the context of the broader regulatory change roadmap. This has now been published on AEMO's website[1] and provides AEMO's recommendations on implementation timeframes for the final rule based on the requirements of the draft rule and determination. As agreed with industry participants and the AEMC team, AEMO will consolidate participant feedback in relation to the HLID by 3 May 2024 for the AEMC's consideration.

AEMO looks forward to continuing to work collaboratively with the Commission and industry on this rule change process. Should you wish to discuss any of the matters raised in this submission, please contact Kevin Ly, Group Manager - Reform Development and Insights at kevin.ly@aemo.com.au.

Yours sincerely,

Violette Mouchaileh
Executive Group Manager – Reform Delivery

[1] https://aemo.com.au/initiatives/major-programs/unlocking-cer-benefits-through-flexible-trading

Attachment 1 – detailed submission

Metering installation types 8 and 9

AEMO considers that there is a need for simplification and greater clarity regarding the utilisation of the proposed new metering installation types 8 and 9 within the NEM, particularly in scenarios where these may overlap with type 4 metering installations, and in distinguishing between the two metering types themselves.

AEMO's original rule change request highlighted gaps in the current metering framework for the full range of applicable scenarios, specifically that current metering framework in the NEM did not reasonably accommodate the metering of:

- Scenario 1 - Resources that could be separately identified in market settlement behind the metering installation at the network connection point (i.e. at the secondary settlement point)
- Scenario 2 - Street furniture connections such as smart street lighting, streetside EV charging, telecommunications kiosks, currently unmetered supplies, legacy connections in embedded networks, etc.

The draft determination references these use cases, specifying that for Scenario 1, a type 4, 8 or 9 metering installation could be used for a singular secondary settlement point and that for Scenario 2, a type 4 or 9 metering installation could be used. This results in an overlap in the application of metering types, depicted by a Venn-diagram in the draft determination. In contrast, current metering installation types do not overlap, necessitating only those parties interested in offering a specific metering service to obtain the requisite accreditation. This enables all parties interested in acquiring a particular service to identify those entities with the necessary competency to provide it. For example, a Metering Data Provider with type 4S accreditation has demonstrated the competency and capability to provide metering data services for small customer metering installations in accordance with NER 7.8.3, and so on.

The proposed type 8 metering installation is specifically intended for secondary settlement points within small customer premises, comprising only one metering point per NMI. AEMO has observed that the draft determination implies a type 4 metering installation could be used for the same purposes. However, such differentiation is unnecessary and is inconsistent with the application of other metering types. The NER should delineate the circumstances under which a type 8 can be utilised (i.e. secondary settlement points) and specify the minimum requirements the metering installation type must meet. While a Metering Coordinator may opt to utilise devices capable of meeting type 1, 2, 3 or 4 specifications or any higher standard than the minimum for type 8, this should not alter the metering type for the connection, which should remain as type 8 in all circumstances.

The utilisation of proposed type 9 metering installations as alternatives to type 4 for connection points to the network, is similarly confusing and diverges from the typical application of metering types in the NEM, as previously described for type 8.

AEMO contends that there is no need to have the option of a type 9 metering installation at a secondary settlement point as the only notable difference between the proposed type 8 and type 9 in the NER is a small variance in the accuracy class. In practice the required accuracy class acts as a minimum criterion for the metering installation and Metering Coordinators can install metering installations where the overall accuracy far exceeds the required competency level required in the NER.

Instead, type 8 metering installations should be able to be installed at secondary settlement points regardless of whether the customer is large or small, thereby avoiding the possibility of type 8 and type 9 metering installations "competing" with each other. If a large customer's primary FRMP (at the network connection point) requires any secondary settlement point created within the large customer's electrical installation to have a higher accuracy class than the minimum required in the NER (i.e. class 2), the parties can agree this

through negotiation rather than NER specification. Alternatively, AEMO could be given authority to elevate the accuracy class of type 8 metering installations for large customer connections within the proposed minimum services specifications in AEMO procedures. This adjustment could aim to assure equity in the accuracy of metering data used for settlement between different FRMPs at a large customer's premises.

These changes would allow type 9 metering installations to be designed for Scenario 2 connection arrangements that are not currently provided for by existing metering type design in the NEM. Acting as an alternative to a type 4 metering installation, the type 9 metering installation could be used providing that it:

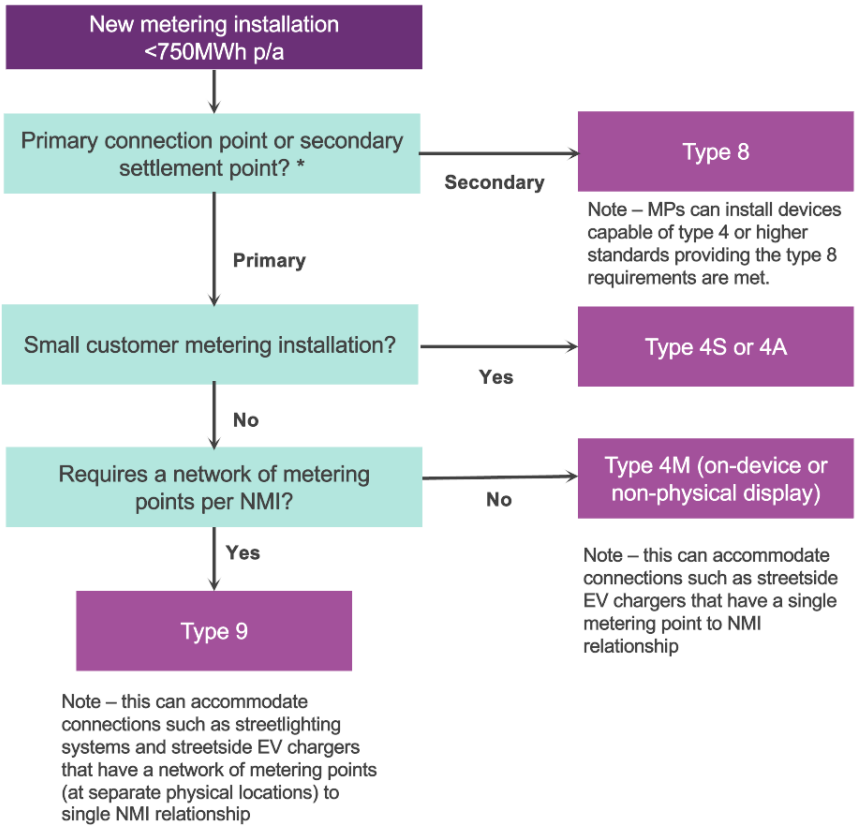
- Comprises a central management system;
- Comprises of, or has the capability to incorporate within, a network of multiple metering points per NMI; and
- Adheres to the minimum service specifications established within AEMO procedures.

These criteria would provide a mechanism in the NEM metering framework for parties interested in deployment of the use cases considered under Scenario 2, except for legacy connections in embedded networks. Critically, these arrangements would not confuse or cross over with the well-functioning application of type 4 metering installations in the NEM beyond Scenario 2 connection arrangements.

Furthermore, AEMO notes that there is no practical benefit in having the option to install a type 9 metering installation at a primary connection point instead of a type 4 at large customer connections unless the above criteria are met. Large customer connections are not obliged to install type 4 metering that adheres to NER S7.5 Minimum Services Specification, as these connections do not fall under the category of small customer metering installations. Conversely, type 9 metering installations must comply with the new S7.5.2. Therefore, it is reasonable to infer that any type 9 metering installation would entail more stringent specifications than a large customer type 4, potentially resulting in equal or higher installation and maintenance costs, and thus be rarely if ever used.

The amendments to NER 7.8.2(a)(1) provide clarification that any metering installation type can incorporate a non-physical display, distinct from the physical metering installation itself. This clarification is particularly beneficial for connections such as streetside EV chargers. With this amendment alone, it appears feasible to deploy a type 4M metering installation, potentially integrated into the EV charger, if market participants opt for a one metering point to one NMI relationship. This approach circumvents the necessity for new accreditations and compliance with minimum services specifications associated with type 9 installations. Conversely, type 9 metering installations would be well-suited for the same use case if a network of metering points to single NMI relationship were preferred, utilising a "central management system", as previously outlined.

The decision tree describing AEMO's preferred metering arrangements, as outlined above, is presented below:



*Note – secondary settlement points can only be established where the primary connection point facilitates remote collection of 5-minute interval metering data

This arrangement would align the utilisation of the type 8 and 9 metering installations with that of other types in the NER and would provide clarity for parties interested in accessing these arrangements by reference to the categories of accreditation obtained and maintained by registered Metering Providers and Metering Data Providers.

Consultation questions

The Draft Determination raises 6 specific questions for interested parties. AEMO can provide responses to questions 1, 2, 3, 4 and 5 as below:

Question 1: What should the flow limit be for type 8 meters (when considered per year)? Is 750 MWh per annum per connection point appropriate?

AEMO concurs that the energy volume limit for a type 8 metering installation should not exceed 750MWh. Additionally, AEMO suggests that this limit should also be explicitly stated for type 9 metering installations.

Question 2: What role, if any, should Meter Providers have in installing and managing type 8 and type 9 meters?

AEMO observes that Metering Providers will need to establish processes to ensure the quality of installation work on any metering installation they are mandated to maintain, thereby guaranteeing the integrity of metering data used to support market processes. AEMO notes that there are existing processes that support

the commissioning of devices within a metering installation where the device was not installed by the Metering Provider performing the commissioning. These matters can be determined in AEMO Procedures.

Question 3: How frequently should AEMO update its specifications and procedures for type 8 and type 9 meters? Should this review be mandated?

Ensuring that the utilisation of the proposed type 8 and 9 metering installations is explicitly outlined in the NER, and that the accompanying AEMO Procedures are designed for generic application rather than being tailored to specific use cases, allows for the implementation of standard change processes and applications to assess modifications. For instance, existing procedures like the Metrology Procedures incorporate established arrangements for consultation and change, facilitating the assessment of participant change requests periodically.

Question 4: Are there instances in which aggregating multiple street lights under a single NMI via a central management system may create issues for settlement?

AEMO can consider how best to accommodate multiple streetlight establishment under a single NMI in its procedures, ensuring the integrity of settlements is maintained. AEMO also acknowledges that any transition from calculated type 7 metering installations to a type 9 metering installation arrangement must be carried out through close collaboration among stakeholders to prevent inadvertent double-counting or exclusion of connections from settlement.

Question 5: Are there other use cases for type 8 or type 9 meters which stakeholders foresee in future?

Adoption of the proposed definitions of type 8 and type 9 metering installations, described above, alleviates the need to describe future use cases for type 8 and type 9 metering installations.

FCAS provision – current arrangements

AEMO has previously consulted with the industry on the location of the FCAS meters for provision of FCAS from DER and the final determination[2] was published in December 2021. The metering point for FCAS measurement devices was maintained 'at or close' to the connection point for provision of contingency FCAS for the following reasons, which were highlighted during the consultation process:

- FCAS is necessary for the power system to manage disparities in supply and demand on a continuous basis. AEMO needs to know how much energy is being produced and consumed, and these measurements are taken at the connection points.
- All devices operating 'behind-the-meter' must be orchestrated properly to ensure that the FCAS AEMO expects to be provided for bulk power system operation is, in fact, provided, and the only place it can be measured accurately is the connection point.
- AEMO must be able to verify the amount of FCAS delivered to the power system, and in-device metering will not indicate if the FCAS response was offset by other 'behind-the-meter' devices behind the same connection point.

AEMO considers that there's still benefit for the FCAS provider to retain data from 'behind-the-meter' assets where there's a potential non-compliance. For example, when a battery system is providing FCAS during changes in solar generation or uncontrollable load, the FCAS provider can provide the 'in-device' metering data for the battery system and other 'behind-the-meter' assets for AEMO to assess whether any discrepancies were due to an unplanned change to operating conditions, potential manipulation or improper orchestration of the 'behind-the-meter' assets.

[2] Amendment of the Market Ancillary Service Specification (MASS) – DER and General consultation

For awareness, AEMO has updated the technical FCAS guides for battery systems[3], wind farms and solar farms[4] to provide further clarity on the measurement points if FCAS is provided from within an embedded network. In short, measurements of power are required from both the child connection point with the FCAS facility, to verify the FCAS delivery, and the parent connection point, to demonstrate there is no direct interaction between other elements in the embedded network and the FCAS Facility.

In a constantly evolving market landscape, AEMO considers that it is important for the NER and procedures to possess the flexibility to evaluate emerging changes in technology and connection arrangements as they unfold in the future.

[3] Battery Energy Storage System guide to Contingency FCAS registration

[4] Wind Farm and Solar Farm Guide to Contingency FCAS registration