



14 September 2023

Ms Anna Collyer
Chair, Australian Energy Market Commission
Level 15, 60 Castlereagh St
Sydney NSW, 2000

Reference code: ERC0352

Dear Anna,

Integrating price-responsive resources into the NEM (i.e., Scheduled Lite)

Mondo appreciates the opportunity to provide a submission to the Australian Energy Market Commission's (AEMC) consultation paper on Integrating price-responsive resources into the National Electricity Market (NEM). AEMO's Rule change request referred as Scheduled Lite). Scheduled Lite is a proposed voluntary mechanism that aims to lower barriers and offer incentives for price-responsive, distributed resources to provide visibility and participate in the market scheduling process of the NEM. Although a key focus of the mechanism is to improve visibility and better integrate Consumer Energy Resources (CER) into the market, it is also expected to accommodate a range of resources that currently do not participate in scheduling processes, such as large users and small generating or bidirectional units currently exempt from registration in the NEM. Two Scheduled Lite models are being developed for participants to opt into:

- **Visibility:** to enable the provision of information relating to forecast behaviour and actual consumption and generation, and
- **Dispatch:** to integrate price-responsive load and generation into the NEM dispatch and scheduling processes.

The electricity industry is going through a period of significant transition to a renewable future. In this transition, aggregators can help customers to explore additional value streams by allowing their CER to respond to spot price changes and network incentives, particularly arbitrage when prices are very high or very low. The role of aggregators may also be more important in overcoming the problems associated with complexity and reluctance to engage in energy markets and with price signals.

Mondo is supportive the establishment of both visibility and dispatch models of scheduled light with an incremental approach that involves AEMO and aggregator collaborating in the market design and testing. Visibility mode would be an incremental step towards establishing dispatch mode. We agree that there are wholesale market and network benefits from CER allocation if it is orchestrated and incorporated into NEM dispatch.

We suggest the development of performance standards for aggregated CER that are distinct from SCADA based arrangements for large generation assets. The application of the same requirements would likely be cost prohibitive or otherwise infeasible for aggregators. There will be material implementation costs associated with providing AEMO with the information necessary to meet the Scheduled Lite visibility and dispatch requirements. These costs should be kept to a minimum.

Our response to these questions asked in the consultation paper is included in Appendix A.

Bright future.

If you have any queries on our submission, please do not hesitate to contact Justin Betlehem on 03 9695 6288 or via email justin.betlehem@ausnetservices.com.au.

Yours sincerely

Dharmika Adihetty

General Manager, Distributed Energy

Mondo

APPENDIX A: QUESTIONS ASKED IN THE CONSULTATION PAPER

QUESTION 1:

DO YOU AGREE THAT PRICE-RESPONSIVE RESOURCES NEED TO BE INTEGRATED INTO THE NEM?

1. The Commission has identified five types of issues with increasing volumes of price responsive resources. Do you agree with this breakdown of the issues? What do you consider the magnitude of each issue is? How is this likely to change over time?

- Yes, it is reasonable to expect that the large amount of PV generation being introduced into the distribution system will need to be better forecast, orchestrated, and made price responsive if the NEM is to transition to a higher CER, low emissions future.
- This will be necessary for the grid to maintain the level of resilience and reliability that consumers expect, particularly as the electrification of energy supply gathers momentum. CER that responds to market conditions as signalled via spot prices will allow optimal allocation of resources and capacity and avoid a system where DER operate in opposition to market (and network) requirements, for example maximising exports during minimum demand periods thus impacting grid security.
- This arrangement will allow customers to explore additional value streams by allowing their DER to respond to spot price changes, particularly when prices are very high or very low (energy price arbitrage). As feed in tariffs become less and less valuable, this will be important in allowing consumers to maximise the value possible from their DER investments.

QUESTION 2:

REPRESENTING PRICE-RESPONSIVE RESOURCES IN SCHEDULING PROCESSES

1. Is participation in this mechanism dependent on whether price-responsive resources can be separated at or behind the connection point (currently being considered through the “Unlocking CER benefits through flexible trading” rule change)? Please explain what impacts separating CER would have on traders’ participation in energy markets.

2. Do you have views on the need to define price-responsive resources or the traders that might coordinate a large amount of such resources?

- It is not necessary to separate price responsive resources in the scheduling process in all cases. There are scenarios where it makes sense, and scenarios where it does not.
- Aggregators should have the technical capability to forecast, bid and dispatch at the connection point and settlement levels to best serve many customers.
- Currently, it is often the case that the greatest value for customers is to use their CER for self-consumption not only to avoid energy charges but also to avoid network tariffs on imports. At these times, the “price-responsive” resources supply

“uncontrolled” site loads behind the meter, meaning aggregators are still required to accurately forecast uncontrolled loads.

- Many customers would benefit from site level optimisation that factors in all energy needs and includes generation, consumption, battery charge/discharge and network tariffs.
 - Customers may be reluctant to engage with multiple energy service providers as it requires more effort and may add confusion with respect to how the services work together for to meet the customer’s needs.
 - Customers may have a negative perception of offering energy their solar PV installation generates for self-consumption to the NEM.
 - Flexible Export limits are currently calculated and assigned at connection point as that is where the distribution system connection for the site is defined. Where aggregators are responsible for only the controllable assets at a site, the responsibility to ensure that the site operates within connection limits may become difficult to meet.
 - Increased metering costs – as each additional sub-NMI meter will need a minimum level of certification, implementation and processing.
 - Mondo is supportive of having the option of separating price responsive resources for customers/assets/ business models structured for this but not supportive of making that option mandatory.
 - Mondo has extensively reviewed and considered feedback from its aggregation customers, particularly residential and small C&I customers in regional areas and those that participated in the [EDGE DER market trial](#) which Mondo undertook with AEMO (the relevant Deakin University study undertaken for the EDGE trial on customer preferences and perceptions can be found [here](#)). Based on that feedback, we find that voluntary participation from DER customers at scale will require material effort in building trust and social license on the part of industry to represent their DER in the electricity market via mechanisms such as those proposed under this rule change. Accordingly, we strongly believe that a
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successful adoption of this and future DER integration mechanisms such as those trialled in EDGE intended to deliver value for all consumers, will require effective regulatory support and incentives as well as obligations on aggregators to sufficiently protect the interests of DER customers.

QUESTION 3:

VISIBILITY MECHANISM - ENCOURAGEMENT TO PARTICIPATE

1. What are your views on the incentive mechanisms outlined in Table 3.1?
2. Are there any alternative incentives the Commission should consider?
3. Should mandatory participation in the visibility mode be considered?
 - a. If so, what types of traders/ resources should be required to participate and what criteria (for example size in a region) or circumstances (observed behaviour or performance) could the requirement to participate be based on?

- Incentives need to align with costs (establishment and ongoing) and value to customers with the aggregators able to establish a commercially viable business model.
- In the absence of sufficient incentives, there is little value for end customers in participating in Visibility mode, but there are costs.
- Direct payment is the preferred incentive, to offset costs.
- Mandatory participation requires a customer mindset shift to accept that their CER requires an ongoing service / subscription (that may be invisible to them if bundled with other services)

QUESTION 4:

ASSESSMENT OF VISIBILITY MODE

1. Do you think visibility mode would be effective as designed? If not, what improvements or amendments would you suggest and why?
2. Do you agree with the Commission's initial assessment of visibility mode's ability to achieve the outcomes identified?
3. If we progress with this mode, what should the Commission consider in terms of implementation of this mode?
4. Is visibility mode needed as a steppingstone to the dispatch mode?

- We believe visibility mode will be effective and help achieve the stated outcomes – allowing for the possibility that the visibility information would have some level of accuracy error as the actual behaviour at a site can vary from the submitted information for several reasons.
- For implementation, there needs to be a mechanism to allow aggregators to develop and test capability with AEMO with a small number of sites/customers. They can then work out costs and value before acquiring a significant fleet of customers.
- Visibility mode would be an incremental step towards establishing dispatch mode. Establishing visibility mode would likely establish the IT systems and data arrangements, such as a data hub with the requisite identity and access management frameworks necessary for critical infrastructure services. These systems and arrangements could be leverage in providing despatch mode.

QUESTION 5: DISPATCH MODE — INCENTIVES TO PARTICIPATE

1. Do you think dispatch mode would be effective as designed? If not what improvements or amendments would you suggest and why?

2. What costs would traders incur to participate in dispatch mode?

3. Is access to the wholesale electricity market and other markets (for example regulation FCAS and PFR) sufficient incentive to participate in dispatch mode?

4. Are there other factors that would encourage or discourage participation in the dispatch mode?

5. Should participation in the dispatch mode be required? If so, what types of traders/resources should be required to participate, against what criteria and in what circumstances?

- As designed, the dispatch mode appears to apply to bidding and dispatching price responsive assets only. In practice aggregators managing CER activity at a site level may prefer to bid and be dispatched at the site level so as to be able to account for variability of self-consumption at the site. Accordingly, we support bidding and dispatching at the metered settlement point which may be at the connection point or at a sub-metered point.
- Implementation of the dispatch mode should consider that aggregators will require the flexibility to take one or more sites in their fleet out of active dispatch mode at times (and not be held to meeting dispatch targets).
- Aggregated small systems are different to large systems with dedicated SCADA etc – a viable implementation of this arrangement will need to accommodate those differences and not impose a one size fits all with respect to dispatch targets, ramping and telemetry.
- Costs to establish dispatch capability can be considerable, so the scale (size and number of assets) of the fleet for which dispatch is required will need to be carefully assessed to ensure the cost/benefit is viable. Implementing dispatch capabilities for a small number of customers might impose costs that are not recoverable.

QUESTION 6: ASSESSMENT OF DISPATCH MODE

1. Do you agree with the Commission's initial assessment of the ability of dispatch mode to address the outcomes identified?

2. If we progress dispatch mode, what does the Commission need to consider in terms of implementation of this mode?

- Yes, broadly there is scope for efficiency improvements in system resource allocation if DER is orchestrated and incorporated into NEM dispatch.
- As with visibility mode, the cost to aggregators and the available incentives would need to be carefully assessed to ensure it is commercially viable for aggregators to offer the market services on behalf of their customers.
- The benefit to DNSPs as stated would only be realised if there is investment in new data provision and analysis capabilities by DNSPs to receive and utilise the bid/offer data.
- Performance standards for aggregated DER should be carefully assessed to not assume that the same SCADA based

arrangements that currently applies for large generation assets are not directly applied to aggregated DER. The application of the same requirements would likely be cost prohibitive or otherwise infeasible for aggregators.

QUESTION 7: OTHER ISSUES RAISED IN RELATION TO THE SCHEDULED LITE

MECHANISM

1. Do you consider that the proposed mechanism (or a similar mechanism) should be introduced through a principles-based framework, with the details considered through AEMO's procedures and guidelines?

2. Do you consider that the proposed mechanism (or a similar mechanism) requires changes to the NERR to protect consumers?

- Yes, an initial agreement on the key principles such as the provision of aggregator incentives and performance standards followed by a separate process to set out the details is appropriate for this type of change and allows for flexibility in adopting the appropriate mechanisms that work for the greatest number of market participants and customers.
- The NERR and jurisdictional instruments would need to be assessed to ensure that the aggregated use of consumer resources in the manner proposed under the scheduled lite arrangement (particularly in relation to dispatchability) provide the necessary customer protections and certainty to aggregators undertake the necessary switching.

QUESTION 8: ARE THERE PREFERABLE ALTERNATIVE ARRANGEMENTS?

1. Are there any alternative solutions that you think would be preferable to AEMO's proposal and more aligned with the long-term interests of consumers? What are the costs and benefits of any proposed alternative arrangement?

- The alternative would be the status quo resulting in a proliferation of VPP without the necessary incentives or frameworks to support visibility and participation from smaller residential and C&I DER at scale.

QUESTION 9: ASSESSMENT FRAMEWORK

1. Do you agree with the proposed assessment framework? Are there additional principles that the Commission should take into account or principles included here that are not relevant?

- The assessment framework and the 5 criteria are appropriate for this rule change.

QUESTION 10: VISIBILITY MODEL — PARTICIPATION, DATA AND OPERATIONS

1. Would traders be readily able to participate and provide the data as proposed? What implementation

- There will be material integration costs associated with providing AEMO with the information necessary to meet the Scheduled Lite visibility requirements. Aggregators will need to have assurance up front that there is a viable business model for them in incurring the costs necessary for this arrangement.

considerations and costs would be required to participate?

2. Is there anything the Commission could do in designing the rule that would help to minimize the costs and maximise the benefits?

- Cost minimisation would be supported by ensuring that a sufficiently “fit for purpose” minimum specifications is established for the technical implementation of the arrangement. This will need to be done without unduly impacting flexibility of the arrangement to scale and offer consumers with options in the future.

QUESTION 11: DISPATCH MODEL — PARTICIPATION, DATA AND OPERATIONS

1. Could price-responsive resources comply with the operational and data requirements? If not:

a. How difficult would it be to change your systems to comply with the requirement outlined above?

b. Does this depend on what resource is participating?

2. Do the proposed compliance arrangements strike an appropriate balance between the reliability of the response and the barrier to participation?

- There will also be material integration costs associated with executing dispatch instructions from AEMO to meet the Scheduled Lite dispatchability requirements. Aggregators will need to have assurance up front that there is a viable business model for them in incurring the costs necessary for this arrangement.
- Dispatch instruction conformance standards must take into consideration the challenges of orchestrating large fleets of DER with varying capabilities and connectivity to meet dispatch targets in 5-minute intervals. If the standards are too rigid, the cost of conformance would hinder the inclusion of price responsive DER in the NEM dispatch process.
- Additional incentives may be required at least initially to promote the participation by aggregators in the dispatch scheme – ultimately there may be sufficient value in bringing spare capacity to market, but the initial costs may need to be offset via early incentives. This will be particularly relevant for smaller non-traditional entrants seeking to develop aggregation businesses in competition with large retailers.