Integrating Price Responsive Resources – Technical Working Group Meeting 3

4 March 2024, 2pm

The third working group meeting was held online on 4 March 2024. The attendees of the meeting are listed below.

Member	Organisation
Alex Price	Powerlink Queensland
Benjamin Pryor	Shell Energy
Christina Green	Energex
Con Hristodoulidis	Clean Energy Council
Constatine Noutso	Red Energy
Craig Memery	Public Interest Advocacy Centre
Dylan McConnell	UNSW
Glen Summers	AGL
Kenneth Hee	Tesla
Mark Majzoub	Aggregation Exchange
Matthew Kaspura	Origin – representing CEC
Sam Lynch	KrakenFlex
Sanket Wankhede	Energy Australia
Wei Lim	CS Energy
Tyce Barton, Mohsen Khorasanv, Rosie Elkins, Nicole Dodd	AEMO

The AEMC's project team attended and is listed below.

Name	Position
Andrew Lewis	Executive General Manager
Ben Davis	Project Sponsor
Rachel Thomas	Project Leader/Incentives Lead
Harrison Gibbs	Dispatch Lead
Sam Markham	Visibility Lead
Craig Oakeshott	Market Expert
Lily Mitchell	Project Lawyer
Ben Bronneberg	Project Lawyer
Jacqueline Price	Graduate

The project sponsor acknowledged and showed respect for the traditional custodians of the many different lands across Australia on which we all live and work. We pay respect to all Elders past and present and the continuing connection of Aboriginal and Torres Strait Islander peoples to Country. The AEMC office is located on the land traditionally owned by the Gadigal people of the Eora nation.

At the start of the meeting, the 'competition principles' from AEMC's competition protocol were read out.

The following items were discussed at the meeting:

Context

- The AEMC project team provided a recap of the problem and rule change to date.
- The AEMC project team explained that dispatch mode is one of the mechanisms proposed by AEMO to incorporate price-responsive resources (PRR) into the National Electricity Market (NEM). The aim is to encourage PRR to participate in the central dispatch process. This would ensure that participants and their resources are treated similarly to other scheduled and semi-scheduled resources.
- The AEMC project team outlined the size-of-the-prize modelling conducted by IES.

The dispatch mechanism

- The AEMC project team outlined the aim of dispatch mode: to encourage PRR to participate in the central dispatch processes. The mechanism, as proposed, is not forcing a customer to act a certain way. Rather, it looks to capture existing (and expected future) orchestration arrangements and allow these to participate and be recognised in the wholesale market.
- The AEMC project team explained that the resources participating in dispatch mode would need to be highly forecastable and/or controllable. Resources that do not meet this criteria would be better considered through the Visibility mode.

AEMO dispatch mode

- AEMO provided an overview of the National Electricity Market (NEM) dispatch process.
    - AEMO explained they send out dispatch instructions every 5 minutes to scheduled generators, scheduled loads and Wholesale Demand Response (WDR). Non-scheduled generators generate/consume what they planned for, and this is estimated and forecasted by AEMO.
    - AEMO explained the National Electricity Market Dispatch Engine (NEMDE) optimises to meet the demand at the lowest cost subject to constraints on the power system.
- The proposed AEMO dispatch mode is designed to encourage resources that fall below the NEM scheduling threshold on an individual level, but aggregated could be large, to actively participate in the central dispatch process.
- AEMO stated they envision the visibility mode to be a stepping-stone into dispatch.
- AEMO explained that under the AEMO dispatch mode, each Light Scheduling Unit (LSU) will correspond to a Dispatchable Unit Identifier (DUID). The participant would submit bids for FCAS and energy which indicate the expected quantity of consumption/generation at different price bands. Through this process, energy and FCAS are co-optimised with NEMDE producing a bidirectional dispatch instruction for that DUID.
- The TWG asked whether it is up to the aggregator to choose whether they participate in the visibility mode or dispatch mode depending on how they see the value of their assets and their firmness.

    - The AEMC project team responded stating visibility and dispatch are complimentary. If the aggregator has low firmness or control of their portfolio and cannot meet the dispatch criteria and threshold, visibility would be more suitable.
- Clarity was sought as to whether this rule change would change who receives the spot price.
    - The AEMC project team clarified that these mechanisms would not change who receives the spot price. The Financially Responsible Market Participant (FRMP), with the exception of the Wholesale Demand Response Mechanism (WDRM), is the only party that receives the spot price directly – irrespective of whether they participate in these mechanisms.
- Further questions were raised regarding the need for a new mechanism to be introduced alongside the Integrating energy storage systems rule change. Participants also questioned why the WDRM couldn't be expanded.
    - The AEMC project team explained that the mechanisms being considered integrate with the changes made in the IESS rule change. For example, dispatch mode utilises the bidirectional framework to allow aggregated batteries to participate.
    - The AEMC project team explained there are two primary reasons why mechanisms like WDRM would not be fit for purpose:
        - (1) the WDRM is an add-on to the existing wholesale market designed to cater for the occasional situation where a non-FRMP is capable of responding to spot prices. The rule change is seeking to deal with the standard situation – where the party that receives and responds to spot prices is the FRMP.
        - (2) it relies on baselines that are unlikely to ever be able to be created for dynamic devices such as (aggregated) batteries.

Worked example

The AEMC went through a worked example of the operation of dispatch mode. Several steps were identified as part of the process.

<u>Setting up an LSU to participate</u>

- The TWG suggested that participants of this mechanism would want to expand their ability to participate in demand response (DR). For this scheme to succeed, it would be important to provide the elements that allow this mechanism to be expanded upon and developed.
- The TWG asked if the zonal aggregations would be linked with the Integrated System Plan (ISP) sub-regions.
    - The AEMC project team explained that the ISP sub-regions are used for planning processes, while load forecasting regions relate to the physical layout of the network. There would be some linkages between these regions but they are not directly comparable.
- The TWG suggested it would be ideal to align the minimum aggregation in this mechanism with how contingency FCAS works, where participants can register less than 5MW.

- A TWG member noted that often a participant's VPP dispatch forecast is tied to AEMO's price forecast. When dispatching based on price forecasts, a participant can remove their dispatch so the price can spike again.
    - The AEMC project team noted that the dispatch mechanism would likely remove this cycle. With dispatch, a participant is issued dispatch instructions based on their bids.

LSU bidding and dispatch

- The AEMC project team explained the bidding process. Participants' bids are included as part of NEMDE and they will receive a single bi-directional dispatch instruction per Light Scheduling Unit (LSU).
- There was a short discussion about the treatment of household solar self-consumption within the bidding process.
    - The AEMC project team clarified that a participant's bid should reflect all generation or load at the participating NMI in each trading interval. This would include the solar self-consumption. The unlocking CER benefits rule change would allow a participant to separate forecastable resources from others to assist in participation.
- The TWG indicated that the example provided is simplistic compared to the more complicated and varied real-world performance. Furthermore, it would be beneficial to see different variations of assets, such as rooftop PV and batteries represented in a worked example.
    - The project team acknowledged that the worked example was simple, but was provided to the TWG to explore the core elements of the proposed design. Rather than give a wholistic worked example for every variation of asset and use-case.

Rules and procedures

- The AEMC project team explained when making a rule, the aim is to make the rule as simple and precise as possible, and consistent with its legal context. This includes considering whether certain details are to be dealt with through guidelines established by other market bodies, such as AEMO or AER.
- The TWG asked whether the desire for civil penalties influences whether something goes in the rules or the guidelines.
    - The AEMC project team explained there is a general tendency for higher or more severe civil penalties to be placed against something within the rules. However, this is not always true and there are instances of substantial penalties attached to compliance with regulations in guidelines.
- The TWG said that rules are seen as more 'firm' and inflexible which can provide certainty to participants. Where things are stipulated in guidelines, it is harder to consider long-term investment decisions.
- Following discussion, the AEMC project team observed that challenges for the participants seem to arise from the conformance and accuracy of the bids as opposed to following dispatch instructions.

- The AEMC project team reiterated that we do not want dispatch participants to be subject to higher network limitations than if they were not participating.
- The TWG raised concerns that for Dynamic Operating Envelope (DOE) programs, retailers need to publish a forecast of their operational schedule in advance. As such, being dispatched may pose a challenge to using these programs.
    - The AEMC project team acknowledged this concern and will look to investigate this further during the rule change process.

Next steps

- The AEMC project team thanked TWG members for their time and noted that the next TWG will be held on 12 March at 10am. The focus of that TWG will be incentives.
- The AEMC project team will continue to organise individual meetings with TWG members who have further insights and thoughts on the topics discussed.