

## **AEMC – INTEGRATING PRICE-RESPONSIVE RESOURCES INTO THE NEM**

**14 SEPTEMBER 2023**

### **INTRODUCTION**

The Energy Users' Association of Australia (EUAA) is the peak body representing Australian commercial and industrial energy users. Our membership covers a broad cross section of the Australian economy including significant retail, manufacturing, building materials and food processing industries. Combined our members employ over 1 million Australians, pay billions in energy bills every year and in many cases are exposed to the fluctuations and challenges of international trade.

Thank you for the opportunity to make a submission under AEMC's integrating price-responsive resources into the NEM.

While the EUAA support the principle of a price-responsive resources mechanism to drive additional flexible demand-response from commercial and industrial (C&I) consumers, we acknowledge that participating in such a mechanism is not seen as a high priority for many C&I consumers. To increase their participation, any mechanism must represent a relatively simple, low risk and low cost opportunity.

The EUAA understands that price-responsive resources refers to many different technologies that may be utilised differently with different price signals. These include behind the meter energy generation that may be directed to export, or equipment to reduce demand on a consumer's site. These are also referred to as Consumer Energy Resources (CER). In this submission, we have used the two terms interchangeably, however prefer the term CER.

The EUAA understands there are currently approximately 400MW in VPP's across the NEM along with many demand response products offered through retailers (seeking to avoid high wholesale prices) and distributors (improving reliability on congested parts of their networks at peak usage times). These mechanisms are only expected to increase in size and participation over time. The EUAA is aware that AEMO does not currently have visibility of all of these mechanisms and as such forecasting is becoming more difficult, particularly in pre-dispatch and ST PASA. The EUAA understands that AEMO considers the lack of visibility could create circumstances where the NEM wholesale price or system security could be impacted detrimentally.

The EUAA broadly supports AEMO's proposal to include CER into the NEM as a mechanism to assist AEMO to improve forecasting, increase reliability, reduce wholesale prices and reducing the need for firming capacity, where C&I loads can be rewarded for injection of excess electricity (from behind the meter generation) and/or reduction of load when called on by AEMO.

However, AEMO's proposal to include CER in the wholesale market dispatch engine (similar to the Wholesale Demand Response Mechanism – WDRM) is not justified by AEMO and as such is not supported by the EUAA at this time.

AEMO's proposed rule change that is the subject of AEMC's Consultation Paper proposes a complicated process for C&I to be involved, with new requirements on load visibility, bidding and operational and regulatory obligations that currently do not exist. It must be remembered, C&I electricity consumers are focussed on producing a service or product and are not energy traders.

Although AEMC's Consultation Paper proposes to have an intermediary (Financially Responsible Market Participant – FRMP) as the “middle person” in the transactions, to ease the burden on C&I consumers, the current proposal may require C&I to become far more involved in the day-to-day operations of the energy market on top of their primary business. This may require participants to weigh up the cost of lost production against revenue from payments made by responding to NEM wholesale price, and sending instructions to the appointed FRMP. While this may be possible for some C&I, it is not possible for all.

The EUAA calls on AEMO to make a true “Simple Scheduled Lite” mechanism and not the current proposed “Complex Scheduled Lite” as the next step to introducing large C&I to the demand response world. As the AEMC points out in its Consultation Paper, large non-scheduled generation and loads can opt-in to existing mechanisms such as the WDRM or Reliability and Emergency Reserve Trader (RERT) etc. While the WDRM has had a slow take-up in the NEM since inception (below AEMO's predictions), the RERT provides a no loss, no risk situation for C&I consumers with penalties only being as high as the RERT availability payment.

AEMO's complicated proposed mechanism looks worse when AEMC's Consultation Paper is read in conjunction with its other consultation paper: “Unlocking CER Benefits Through Flexible Trading”, which may require participants who integrate their CER into the NEM requiring a second network connection or settlement point. The EUAA finds this unusual when compared to renewable energy facilities with co-located energy storage that have recently been allowed to have a single connection and settlement point rather than the previous dual connection and settlement points (with net metering applied). Although smart meter penetration outside of Victoria is low, all jurisdictions must aim for 100% smart meter penetration by 2030. The EUAA is aware that although this does not apply directly to C&I consumers, that C&I that do not already have smart meters are looking to install them.

## **RESPONSE TO CONSULTATION QUESTIONS**

### **1. Do you agree that price-responsive resources need to be integrated into the NEM?**

The EUAA broadly supports AEMO's proposal to include CER into the NEM as a mechanism to assist AEMO to improve forecasting, increase reliability, reduce wholesale prices and reducing the need for firming capacity, where C&I loads can be rewarded for injection of excess electricity (from behind the meter generation) and/or reduction of load when called on by AEMO.

However, AEMO's proposal to include the CER in the wholesale market dispatch engine (similar to the Wholesale Demand Response Mechanism – WDRM) is not justified by AEMO and as such is not supported by the EUAA at this time.

When reviewing the documentation, it is difficult to understand if AEMO's goal is to simplify and unify the current suite of off-market mechanisms including RERT, WDRM, FCAS, etc as well as existing and future FRMP offerings, and bring them all into the wholesale market dispatch engine while improving visibility, or if their currently proposed

CER mechanism will be yet another market tool with its own set of unique requirements and obligations for consumers to choose from. If the latter, the EUAA can see a scenario where an FRMP could pick and choose the market they respond to depending on which market makes their client the largest revenue. This is not in the best interest of all consumers as this would likely create the highest cost for consumers.

The EUAA agrees with the AEMC's risk assessment and potential impacts from the increasing penetration of CER in the NEM, i.e.:

- That dispatch modelling will become more inaccurate;
- That NEM wholesale energy prices will become inefficient;
- That reliability could be adversely impacted;
- That meeting system security requirements will likely become more expensive; and
- Additional resources may be required to obtain system security.

However, the EUAA considers that the NEM wholesale energy price may also become inefficient with AEMO's proposed CER mechanism being included in the NEM dispatch engine. e.g. when the forecast wholesale price is slightly higher than a consumers price-response, the price-responsive resource will bid into the NEM wholesale market, putting downward pressure on pricing, thus withdrawing the resource in the next 5 min putting upward pressure on pricing etc. Keeping the CER mechanism outside of the NEM dispatch engine, and thus not directly impacting wholesale market prices, would minimise this feedback loop.

In addition, the basis of AEMO's argument for the rule change is its future inability to accurately forecast demand. As stated in our submissions to the following consultation papers: AEMC's Operating Reserve Market, AEMO's Reliability Forecast Guidelines and AEMO's Reliability Forecasting and Methodologies papers, EUAA considers that AEMO's forecasting is currently regularly overstated and that directly leads to unnecessary market interventions that are costly to the end consumer. From that perspective, the EUAA would encourage:

- the AEMC to investigate how the accuracy of forecasts are communicated through a regular report that compares the Forecast and Actual demand to determine, based on actual market real time 5 minute dispatch outcomes, if a genuine events are occurring due to demand response and/or aggregation through FRMP's. This would assist AEMO in arguing its case.
- In line with this, the EUAA encourages the AEMC to investigate embedding in the NER a requirement for a far more regular Forecasting and Accuracy Reports (monthly or quarterly rather than annually) that covers all of AEMO's forecasting requirements and compares against actual market real time 5 minute dispatch outcomes, including a process for improving forecasting where an issue is identified in the report.
- The EUAA would encourage the AEMC to consider how such a report could be prepared by an independent market body (either AER or AEMC) to ensure impartiality in the report's preparation.

## **2. Representing price-responsive resources in scheduling processes.**

A mechanism for separating CER at the connection point already exists in retailer and distribution led demand response. AEMO's proposal to have a second connection point and/or a second NEM connected meter behind the meter creates an unnecessary complexity that is only designed to allow for a secondary FRMP (who have difficulty accessing NMI meter data under existing rules) and the (inconsistent) access arrangements to NMI meter data throughout the NEM. The EUAA does not consider a second connection point is necessary, although we do consider that the access to NMI meter data throughout the NEM needs to be as consistent as possible, with simpler

access for FRMP's and consumers. Alternatively, almost all C&I consumers have SCADA and/or sub-metering on-site behind the existing connection point that can be utilised for separation of the price-responsive resource.

The EUAA supports in principle consistency in the regulation of existing and future aggregators, demand response parties etc and considers that a change to the NERR is required.

### **3. Visibility mechanism – encouragement to participate.**

The EUAA supports in-principle the incentive mechanisms outlined in Table 3.1 of AEMC's Consultation Paper for participants to enter visibility mode, including:

- Access to pre-dispatch scheduling.
- Reduced cost recovery of other market ancillary services
- Payment for visibility
- Linking eligibility to other mechanisms, such as FCAS, to participation in CER visibility mode

However, prior to implementation of any proposed incentive mechanism, the EUAA would encourage a cost-benefit analysis of the implementation and operating costs (for AEMO, FRMP's and consumers) of the CER mechanism and each incentive to understand what the likely benefits would be, as well as the costs to non-participating consumers i.e. who pays and how much?

The EUAA does not support mandatory participation in visibility mode and instead consider that a balance needs to be struck between participants who are visible (and receive an incentive), and those who have CER available but not visible.

### **4. Assessment of visibility mode.**

Visibility mode may improve forecasting, or it may create an information overload that makes managing the NEM more burdensome than is necessary. This is where the EUAA is of the opinion that a balance needs to be struck between visible participants and non-visible participants. Additionally:

- Individual C&I connection points fluctuate in their electricity demand throughout the day. AEMO is responsible for managing the market that delivers "the average demand profile" of all the individual electricity demand profiles at each connection point. Having compulsory visibility mode across all groups of consumers will shift AEMO's focus away from managing the average profile across the NEM.
- Having visibility mode available for C&I consumers who have opted into the CER mechanism visibility mode will allow AEMO to better understand what load is available for demand response at specific price points, allowing for improved forecasting.
- However, as mentioned above, the EUAA sees the potential for inefficiencies where the wholesale market price and price-responsive resource create a feedback loop.

The EUAA agrees with the AEMC's initial assessment of visibility mode's ability to achieve the outcomes identified, where visibility mode is optional.

In implementing visibility mode, the AEMC needs to:

- Ensure that visibility mode is only required by consumers who opt-in to the visibility mode.

- Perform a cost-benefit analysis as described above.
- Report on the financial impact to consumers who do not opt-in to the CER mechanism.
- Consider the feedback loop described above and how the CER mechanism can be designed to minimise the feedback loop.

The EUAA considers that visibility mode is only required if AEMO's proposed dispatch model is chosen. If an off-market mechanism is chosen for CER, then visibility will not be a requirement for every participant. A balance of "enough visibility" for AEMO to accurately model the market is all that is required.

## **5. Dispatch mode – incentives to participate.**

As proposed, the dispatch model will work for AEMO, integrating into its existing dispatch systems almost seamlessly. However, for consumers, the dispatch model requires bidding processes, lost production, monitoring and measurement as well as regulatory and compliance requirements. The EUAA is aware of the proposed FRMP acting on behalf of the consumer, however, that does not appear to remove much of the burden on consumers.

Consumers could incur costs in establishing and monitoring all of the activities listed above that they currently do not perform. C&I electricity customers are focussed on producing a service or product and are not energy traders. Even with the FRMP acting as the intermediary between the consumer and AEMO, the current proposal may require large C&I to become day traders on top of their primary business. This may require participants to weigh up the cost of lost production against revenue from payments made by responding to NEM wholesale price and sending instructions to the appointed FRMP. While this may be possible for some C&I, it is not possible for all.

Incentives for consumers to enter dispatch mode, such as participation in FCAS and Primary Frequency Response (PFR) markets, suggests that AEMO intends to replace existing market mechanisms with the current CER mechanism proposal. The EUAA supports simplification of how consumers can contribute to the reliability and system security mechanisms, however AEMO's rule change proposal and AEMC's consultation paper lack detail in how these would function as part of the dispatch mode for CER. As such, the EUAA can not support the use of FCAS and PFR as incentives for dispatch of CER at this stage.

C&I in general have the ability to reduce demand slightly over short periods of time (e.g. cycling refrigeration units), however for longer periods or for larger reductions in demand, significant planning is required to change production schedules and ensure quality of the product and/or service that they provide. The EUAA would like to see modelling and/or case studies of AEMO's expected CER price triggers, frequency and seasonality of reaching the trigger, time at that trigger price and the total capacity of CER that AEMO envisages would be necessary. This information would allow the EUAA, its members and C&I more broadly to provide responses to how they might or might not contribute to the proposed CER mechanism.

## **6. Assessment of dispatch mode.**

The EUAA can see merit in a single market mechanism to manage system security, reliability and efficient operation of networks, however neither AEMO's rule change request nor the AEMC's consultation paper have enough information to be able to determine whether the proposed mechanism will have this impact on the NEM.

In terms of dispatch costs and the wholesale spot market, the EUAA has discussed the potential for feedback loops above, and considers that this issue needs to be interrogated prior to formalising an opinion on whether the proposed mechanism will have this impact on the NEM.

In implementing dispatch mode, the AEMC needs to:

- Consider the implementation, operational and cost impacts to consumers.
- Clarify the intent of the price-responsive resource mechanism in its entirety, i.e. is it intended to replace the current reliability and system security mechanisms?
- Perform modelling and case studies of the expected price triggers, frequency and seasonality of triggers, time at that trigger price and the total capacity that AEMO envisages would be necessary.
- Address the issue of feedback loops.

## **7. Other issues raised in relation to the Scheduled Lite mechanism.**

The EUAA is concerned that C&I have not been broadly consulted in the development of the currently proposed price responsive resources mechanism. Given the demonstration of a general lack of understanding of how the C&I sector operates in AEMO's drafting of the proposed rule change, the EUAA supports a more prescriptive drafting of a price-responsive resource mechanism rather than principles based.

The EUAA considers that it is essential to make changes to the NERR to protect consumers and bring consistency to all FRMP's, particularly with the proposed use of FRMP's in the CER mechanism.

## **8. Are there preferable alternative arrangements?**

The EUAA considers the current proposal to be overly burdensome on consumers wanting to participate in the CER mechanism. The possible shift to energy day trading for consumers is unlikely to illicit the response that AEMO anticipates.

The EUAA recommends a market led approach using a mechanism similar to RERT or retailer and distribution business demand response, whereby consumers opt-in and respond when called upon by AEMO.

## **9. Assessment Framework.**

The EUAA agrees with the AEMC's assessment approach of considering the long-term impact on consumers.

## **10. Visibility mode – participation, data and operations.**

The C&I sector are at different levels of sophistication when it comes to energy management. Some C&I consumers will be able to provide details of CER on their site(s) along with their capacity and the price point where they could curtail electricity demand, including the size of the curtailment. Others would not be able to provide this level of detail and certainty. In addition, most C&I consumers would need to model the wholesale market price versus the participation benefit versus the lost revenue from lost production dependent on total capacity and duration of any curtailment. These would all have costs associated with them that will be different for every C&I business.

In designing a rule, the AEMC could consider using a mechanism similar to RERT or retailer and distribution business demand response, whereby consumers opt-in and respond when called upon by AEMO. These mechanisms simplify the requirements of consumers and have few downside risks.

### **11. Dispatch mode – participation, data and operations.**

The EUAA considers that the proposed compliance arrangements are favoured towards AEMO, and do not strike an appropriate balance between reliability of the response and the barrier to participation.

## **CONCLUDING REMARKS**

The EUAA support a CER mechanism intent to drive additional flexible, demand-response from commercial and industrial (C&I) consumers.

The EUAA supports simplification of the current mechanisms for reliability and system security, however does not think that the current proposal strikes the right balance to incentivise C&I consumers participation at the levels that AEMO envisages will be required.

The EUAA does not support mandatory visibility for the purpose of AEMO managing the NEM.

The EUAA encourages the market bodies to provide more detail on the requirements, obligations, costs, capacity, duration and the intent of the proposed CER mechanism.

The EUAA welcomes further discussions with us and our members around the issues raised in this submission.

Do not hesitate to be in contact should you have any questions.



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