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To the Australian Energy Market Operator

Emerging Generation and Energy Storage in the NEM

Meridian Energy Australia Pty Ltd and Powershop Australia Pty Ltd (MEA Group) thank AEMO for the opportunity to provide comments on the Emerging Generation and Energy Storage in the NEM stakeholder paper (Paper).

MEA Group is the owner and operator of the Mt Mercer and Mt Millar Wind Farms and the Hume, Burrinjuck and Keepit hydroelectric power stations, and has underwritten a number of offtake agreements for renewable energy projects across the NEM. MEA Group also owns and operates Powershop Australia, an innovative energy retailer committed to providing lower prices for consumers, which recognizes the benefits for consumers of a transition to a more renewable-based and distributed energy system.

Below are MEA Group's responses to the questions set out in the Paper.

Section 2.4 – Defining ESS

Question 1: Referring to Section 2.3, are there any other issues with the current arrangements for ESS?

MEA Group agrees that given the complexities associated with the bidding process of an ESS for both energy and FCAS, there is the real risk that an ESS could be dispatched for both import and export simultaneously under the current arrangements. Given the ESS would be operated via AGC, further work should be undertaken to ensure the signal the AGC provides to the ESS aligns with the frequency and voltage measurements at the ESSs' connection point, so as to avoid there being any conflict between the ESS's expected behaviour and the signal from the AGC.

Question 2: Do you have any views on whether a definition of ESS should be included in the NER?

MEA Group agrees with AEMO that a definition of ESS should be included in the NER.

Question 3: Do you have any views on whether a definition of ESS should be generic and encompass technologies other than batteries, for example, pumped hydro?

MEA Group believes that any definition of ESS should be suitably broad so as to encompass current and potential future technologies that can convert electricity to stored energy for discharge back into the system on any time scale.

Question 4: Do you have any views on AEMO's suggested definition of ESS?

MEA Group is supportive of AEMO's proposed definition. Consistent with our response to question 3, we would suggest that the definition may benefit from wording which provides for flexibility in the timing of ESS discharges.

Section 2.4.2 – Participation and operation

Question 1: What are your views on the appropriate participation model for integrating ESS into the NEM?

MEA Group agrees that the development of a new registered participant category should occur to allow AEMO to accurately reflect the power system at all times, both in pre-dispatch and PASA. As the installed capacity of ESS continues to grow across the NEM it will become increasingly important for these systems to be accurately forecast by AEMO for the benefit of other participants and for system security requirements.

Question 2: Would the proposed participation model (2b) meet your future needs, both in terms of participating in the NEM with an individual ESS or where multiple resources (e.g. ESS and generating units) are to be aggregated? AEMO is particularly interested to understand the additional benefit that you would derive from aggregating hybrid systems and offering them to the market as a single resource that is not available by separately offering the components to the market.

MEA Group's preferred option would be Option 1 as opposed to Option 2b for the reasons discussed below.

Question 3: Refer to Table 8, are there other potential challenges and risks associated with option 1?

MEA Group has no comment at this time.

Question 4: Refer to Table 9, are there other potential challenges and risks associated with options 2a and b?

It is unclear from the table whether there are any perceived limitations with respect to receiving an AGC signal where the ESS was additional to an existing semi-scheduled wind or solar farm that did not have AGC capability.

Question 5: Do you have any views on AEMO's proposed approach to implement a single participation model to integrate ESS?

MEA Group supports this proposal on the basis that it will unlock the full potential of the ESS technology currently being considered by a number of proponents across the NEM. MEA Group believes this development will ultimately lower prices for consumers as the installed capacity of ESS increases the supply of FCAS and NSAS products across the NEM.

Question 6: Do you have any views on the proposed key requirements AEMO has identified for an ESS participation model?

MEA Group has no comment at this time.

Question 7: Do you have any views on whether existing ESS should be transitioned to the proposed participation model (2b)?

MEA Group can support neither options 2a or 2b on the basis that both options increase the level of complexity associated with a participant's ability to bid into the NEM in an efficient and technically optimal manner. The introduction of ESS, and relatively new technologies such as wind and solar, increases the number of participants and the level of competition within the NEM. MEA Group supports increased competition and lower prices for consumers, and believes this can be achieved alongside a system that continues to be secure and reliable for everyone. Designing a system that is more complex and presents barriers to entry will only discourage competition and leave average wholesale prices across the NEM higher than they need to be for longer.

Section 2.4.3 – NER Recovery Mechanisms

Question 1: What are your views on how to integrate ESS into the NEM's recovery mechanisms?

MEA Group supports the option to charge on the basis of electricity imported from and exported to the NEM, in the same way as Market Customers and Market Generators are charged.

Section. 3.1 – The application of performance standards to generating system or load in an exempt network

Question 1: Are there other options to address the issue identified for connecting plant in an exempt network?

MEA Group has no comment at this time.

Question 2: Are there other costs, risks and benefits associated with the options presented? If so, please indicate what these are.

MEA Group has no comment at this time.

Question 3: Which option to address the issue is your preferred option? Why?

MEA Group agrees with AEMO's preferred option to manage the connection of ESS in an exempt network (Option 1 in Table 11 of the Paper). History has shown us that new technologies which enter the NEM at what may initially be small aggregated quantities can with time have a significant effect on the operation of the power system as their penetration levels increase. Setting the standards expected of ESS during the infancy of the technology is both sensible and reasonable and will reduce the quantum of issues that would otherwise arise from application at a later date with participants already connected.

Section 3.2 – Providing NEM information to project developers

Question 1: Should a person intending to develop or build a generating system or ESS (and not subsequently register as a Generator) be allowed to register as an Intending Participant?

MEA Group accepts this approach, subject to AEMO's review of the circumstances and subsequent consent for registration of the person as an Intending Participant.

Question 2: What is the market benefit associated with allowing a person intending to develop or build a generating system (and not subsequently register as a Generator) to be an Intending Participant?

MEA Group believes that increasing access to NEM data in these circumstances will result in a more diverse power system that is resilient to system events and resource supply limitations.

Question 3: Referring to section 3.2.3, are there other options to provide a person intending to develop or build a generating system (and not subsequently register as a Generator) with the necessary NEM data?

MEA Group has no comment at this time.

Question 4: Are there other costs, risks and benefits associated with the options presented? If so, please indicate what these are.

MEA Group has no comment at this time.

Section 3.3 – Separation of operational and financial responsibility

Question 1: What is the market benefit associated with allowing the separation of operational and financial responsibilities?

The clearest market benefit would be a possible increase in the number of parties willing to enter into offtake arrangements directly with operators of proposed or existing generators. This would allow facilities of scale and combined technologies (solar, wind, gas, ESS) to be co-located, taking advantage of balance of plant economies of scale.

Question 2: What are the risks associated with allowing the separation of operational and financial responsibilities?

As identified by AEMO this change would likely result in an increase in the administrative burden for AEMO particularly where AEMO would need to direct each participant during a power system event. MEA Group does not believe that any of the points raised in the assessment are insurmountable or would represent a barrier to investigating this option further.

Question 3: Are there other models of separate operational and financial responsibilities that should be considered?

MEA Group is not aware of any at this stage.

Section 3.4 – Logical metering arrangements

Question 1: What is the market benefit associated with using logical metering arrangements?

MEA Group expects that by allowing the logical metering arrangements, a number of new business models will become commercially viable where they otherwise would not have been. As a result of providing an environment where different business models can survive we would expect to see an increase in the level of competition and therefore, a reduction in the average wholesale price of energy.

Question 2: What are the risks associated with allowing the use of logical metering arrangements?

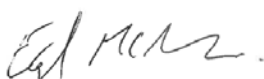
There are a number of assumptions and logic that would ultimately introduce uncertainty into the current metering arrangements. There would also be a number of uncertainties introduced where switching is undertaken or where prolonged outages were a feature of the metered period. However, MEA Group does not expect these issues to preclude this option from being pursued.

Question 3: If logical metering arrangements are permitted to be used instead of a NER compliant metering installation, who should pay for this? Please identify any cost recovery arrangements that you consider appropriate.

MEA Group would propose that the participant proposing the logical metering arrangement would be responsible for any associated costs.

If you have any further questions please feel free to contact me.

Yours sincerely



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