

## Integrating storage – options paper: stakeholder feedback template

The template below has been developed to assist stakeholders in providing their feedback on the questions posed in this paper and any other issues that they would like to provide feedback on. The AEMC encourages stakeholders to use this template to assist it to consider the views expressed by stakeholders on each issue. Stakeholders should not feel obliged to answer each question, but rather address those issues of particular interest or concern. Further context for the questions can be found in the consultation paper.

Organisation:

Contact name:

Contact details (email / phone):

Questions		Feedback
<b>Chapter 1 – Registration and participation framework</b>		
<b>Question 1: Registration and classification (p. 17)</b>		
1	Is introducing a new participant category, an Integrated Resource Provider (option 4), to better facilitate entry and participation of storage and hybrid facility, more preferable than modifying existing participant categories (option 3)? Are either option 3 or 4 more preferable to options 1 and 2?	Option 3 is preferable in providing a level of transparency to the roles of BDRP and MSGA which are important in providing all customer classes access to markets thru suitable experience channels. By moving to Integrated Resource Provider, smaller pro consumers would be effectively locked out. Which is again the spirit of AEMC “Power of Choice”. All subsequent effort must be made with be consumer in mind.
<b>Question 2: Classifying MSGAs (p. 18)</b>		
1	Do you agree that, if an Integrated Resource Provider category (option 4) is established, battery aggregators should use that category and MSGAs should not be allowed to classify storage units exempt from the requirements to register as a Generator? And in that case, should the current arrangements regarding the	If Option 4 is established then yes we agree that MSGA as working on behalf of customers be able to register as loads and generators and hence be able to participate in the ancillary services market.

Questions		Feedback
	provision of market ancillary services by MSGAs be maintained?	
<b>Question 3: Existing storage participants (p. 19)</b>		
1	Should existing storage participants be transitioned to a single participant category (as they are currently registered as both a Market Generator and Market Customer)?	Yes, as consistent with Option 3 & 4, where Option 3 provides some visibility of asset Behind The Meter, which can effect the market. Having these asset visible in certain circumstances can be beneficially to the market operations.
<b>Question 4: Scheduling of hybrid facilities (p. 20)</b>		
1	What proportion of a hybrid facility's sent-out generation capacity would need to be dispatchable for the whole of the hybrid facility's sent-out generation to be able to follow dispatch instructions, under a single DUID?	On establishing a facility with market capacity a minimum (negotiate) capacity should be contracted, hence providing some level of certainty to the AEMO for operational control. The proliferation of a dynamic system would only drive up cost within the market.
2	Would a dynamic approach to scheduling obligations, for example shifting between scheduled and semi-scheduled obligations based on the state of charge of the storage unit, be appropriate, and how should this operate?	No
3	Could the same approach be taken to scheduling load where storage is added to a Market Customer's site, or should different considerations apply?	Follow a process similar to DR, where the storage facility can be managed under MSGA/BDRP contract with appropriate notice of required participation given (e.g. day ahead).
<b>Question 5: Number of price bands (p. 21)</b>		
1	Do you agree that 20 price bands would be appropriate for grid-scale batteries or would another number of bands be more appropriate?	Keep it simple, yes 20 is fine.
<b>Question 6: Dispatching hybrid facilities (p. 21)</b>		

Questions		Feedback
1	Are there certain configurations of hybrid facilities that cannot, or should not, be dispatched at a single connection point?	No configurations should be managed thru a single DUID.
2	What benefits are achieved by dispatching a hybrid facility at a single connection point, and what issues arise?	Issue – transparency beyond meter via single connection may not be consistent with non-energy cost recovery strategy.
<b>Question 7: Performance standards (p. 22)</b>		
1	What issues may arise if performance and access standards are set at the connection point for hybrid facilities? Would these standards need to be amended to provide appropriate flexibility for hybrid facilities?	As Storage Assets are inherently DC and require a DC to AC PCS unit, low level connection requires can be simply fulfilled with the right technical requirements at connection. AEMC can rule that all PCS unit must have Synthetic Inertia capability, hence in real-time contribute to strengthening the grid. Band grid following PCS units.
<b>Chapter 3 – Recovery of non-energy costs</b>		
<b>Question 8: Options for the recovery of non-energy costs (p. 27)</b>		
1	Which option do you consider to be the most appropriate for the recovery of non- energy costs from market participants? Please provide detail on why it would be the most appropriate option.	Option 3 – all participants pay
2	Are there any other factors the Commission should consider when deciding how non-energy costs should be recovered from market participants?	-
3	Are there any implementation issues the Commission should consider?	Data requirement where at metering points will require two channels (incoming and outgoing) and at 5 minutes = a lot of data.

Questions		Feedback
<b>Chapter 4 – Additional issues relating to storage</b>		
<b>Question 9: Network service provider connection points (p. 34)</b>		
1	Do you support the solution outlined in this options paper for resolving the potential issues with establishing standards for NSP owned energy storage?	No due to the increased cost to AEMO and NSP (Retail systems for energy markets). These Regulatory changes will increase cost to consumers.
2	If not, do you consider there to be other potential solutions for resolving this issue?	Tender out the Retail functions to third parties and bundle connection requirements into the Agreement – as per examples given.
<b>Question 10: DC coupled systems (p. 38)</b>		
1	What capital, operational or efficiency benefits do DC-coupled systems provide participants and the NEM as a whole, and how might these benefits help consumers in line with the NEO?	Reduction in losses hence reduction in costs that flow thru to consumers.
2	Do you support amending the NER to permit the registration and operation of DC-coupled systems? If so, how should they register and operate?	Register DC couple systems as Firm Generation, proponents will look to an energy market which values firm supply (ESB would take a back seat). Encourage an energy (kWh) market for renewables not a power (kW) ancillary services market. Create Synthetic Inertia.
<b>Question 11: Provision of ancillary services (p. 40)</b>		
1	Do you support AEMO's proposal to redraft ancillary services provisions in Chapter 2 of the NER to make it more consistent with the services approach to regulation currently being considered by the ESB's two-sided market work? Please explain why or why not.	PCS unit capable of Synthetic Inertia will provide similar benefits attributed to Baseload Power units. Millisecond technical requirements will be fulfilled (kVAR) lessens the need for energy (kVA/kW) and ancillary markets would develop for only real services. Consumption and production side equations could give way to real-time participatory services. Network Fault System will need refining, which is required as more energy is moved within the DNSP level. Large capacity systems will give way to distributed system at fringe of grid. Roof top Solar and residential batteries will be our largest aggregated asset class.