Stakeholder Feedback Template

This template has been developed to enable stakeholders to provide their feedback on the Emerging Generation and Energy Storage stakeholder paper.

AEMO encourages stakeholders to use this template, so they can have due regard to 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.

Stakeholder submissions will be published on AEMO's website unless they are clearly marked as being confidential. Submissions should be sent to eges@aemo.com.au by Day DD MMM 2018.

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Questions		Feedback
Section 2 – Energy Storage System (ESS) definition		
1	Do you have any views on whether a definition of ESS should be included in the National Electricity Rules (NER)?	Yes, we consider a definition of ESS should be included in the NER to recognise the technology class and the market benefits it provides.
2	Do you have any views on whether a definition of ESS should be generic and encompass technologies other than batteries, for example, pumped hydro?	Yes the definition, where embedded into the NER, should be generic and technology neutral to support all forms of energy storage. It should also remain consistent with international definitions to enable competition and continual technological improvements in the Australian market. Keeping the definition in line with these principles will futureproof the NER and NEM operational processes for new ESS technologies.
3	Do you have any views on AEMO's suggested definition of ESS?	AGL is broadly comfortable with the definition proposed by AEMO at this stage. As part of the proposed Stream 1 work program, we encourage AEMO to ensure the definition in its rule change proposal is compatible with other NER and NERL references. For example, an assessment of the term 'energy' and 'site' is likely necessary to ensure the proposed ESS definition fully captures the role and function of ESS. In addition, while the existing proposed

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		definition currently focuses on the primary function of ESS, it does not reference other value services that may be provided to market, such as reactive power (VARS), generation start up, network support or ancillary services etc. For simplicity, AEMO could amend the proposed definition by adding in reference to 'ancillary and auxiliary support'. AGL also notes that any NER definition of ESS should also be compatible across the transmission and distribution systems in line with the reference to 'national grid'. AEMO should therefore consider if the ESS definition works for DER resources (including Virtual Power Plants and Electric Vehicles), and installations on an exempt/embedded network.
Section 2 – Integrating ESS		
4	Do you have any views on the appropriate participation model for integrating ESS into the NEM?	AGL supports AEMO's recommendation to further explore the creation of a Bi-directional Resource Provider participant category, on the basis that this option appears to provide the most flexibility to participants seeking to install a stand alone ESS or a hybrid generation system with an ESS.
5	Would the proposed aggregation model 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.	While further details on the aggregation model (Option 2a) is required to make this assessment, AGL believes there are a range of benefits that should be further explored. Benefits are likely to include reduced administrative and system resources, and reduced complexity associated with registration, bidding and dispatch.
6	Do you have any views on AEMO's proposed approach to implement a single participation model to integrate ESS and other 'new' business models into the NEM?	AGL encourages AEMO to progress the option with a degree of caution, until full details on the operation of the new proposed category are tested with stakeholders. AGL has some queries related to this model, including the following:

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		• While stand alone ESS and hybrid generation systems with an ESS could be registered under this category, it is unclear if participants could make modifications to its registration at a later date (i.e. for example, link or delink the registration of the resources captured by a hybrid generation system in line with operational or commercial preferences). • It is unclear if the category would be mandatory for hybrid generation systems. We note that doing so may unintentionally add additional complexity and cost for some market participants, and also may erode some benefits of a co-located ESS (for example, under curtailment/constraint conditions, the ESS should be used to remove/address the constraint). • Further information on the proposed bidding and dispatch requirements is requested, noting the restriction of 10 price bands. We note this needs to be tested further with our Trading team; • Additional flexibility should be provided to ensure the model supports multiple ESS technologies within the same connection point (i.e. for example compressed air + metals based battery). AGL welcomes AEMO's view on this matter; and • Further clarity is required on the information and data requirements associated with registration in this category? Is this requirement at the site level or is individual data/information required from the ESS?
7	Do you have any views on the key requirements AEMO has identified for an ESS participation model?	Refer to response to question 6.
Section 2 – NER recovery mechanisms		
4	Do you have any views on how to integrate ESS into the NEM's recovery mechanisms? If so, please provide them.	AGL supports AEMO's view to charge non-energy recovery and NEM participant fees and costs to ESS operators. With respect to TUoS charges, AGL believes that system charges should apply to all point-in time system loads, including to ESS, as a general rule of thumb.

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		Maintaining a technology agnostic principle within the usage charge regime will maintain competitive neutrality by treating all generators and loads in the same manner. Application of a blanket TUoS exemption on all ESS would have the same effect as a subsidy on ESS, creating a market distortion and unfair technological advantage. However, we also recognise the complexities associated with ESS, the different ways in which an ESS can be used (i.e. generator, customer, transient source or hybrid), and the unique benefits it can provide to the wider system. As such, in line with AEMC and AEMO views, AGL supports the need for a closer review on network charging arrangements applicable to ESS and its different modes of operation, across the transmission and distribution systems.
Section 3.1 – The application of performance standards to a generating system or load in an exempt network		
5	Are there other options to address the issue identified for connecting plant in an exempt network?	No response
6	Are there other costs, risks and benefits associated with the options presented? If so, please indicate what these are.	No response
7	Which option to address the issue is your preferred option? Why?	While option 1 seems reasonable, it is unclear how the proposed changes will enable AEMO to verify an installation and maintain compliance of performance standards, noting that AEMO will not have full visibility of these systems because they remain connected to exempt networks. AGL therefore encourages AEMO to ascertain if the benefits for this change will outweight the costs and actually address the stated problem. AEMO should also seek to quantify the problem to determine if a solution is worth pursing.
Section 3.2 – Providing NEM information to project developers		

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8	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?	No – as identified by AEMO, the current Intending Participant category is available to Generators who actually intend on participating in the NEM. However, a developer's objective is likely to obtain NEM information for the purposes of building a generating station for sale prior to NEM registration and operation. A developer is therefore fundamentally not an Intending Participant. Instead, the developer should located a suitable purchaser in advance of building a generating plant. This purchaser could register as the Intending Particpant and access the NEM information on the developers behalf. AGL also points out that if AEMO allowed developers to become Intending Participants, the NER and NERL may no longer have legal force on the developer, once the generating system had been built and sold to a third party. Specifically, the developer may still retain and act on the NEM information obtained from AEMO, without any corresponding safeguards to protect the use or transfer of that information. This presents risks that developers may build additional generating systems that could compromise system security, or breach confidentiality requirements, in the absence of regulatory oversight. A further review is necessary to determine how market registration processes can eliminate these risks if developers are enabled to become Indending Participants.
9	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?	No response
10	Referring to section 3.5.3, 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?	No response

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11	Are there other costs, risks and benefits associated with the options presented? If so, please indicate what these are.	Yes – see above.
Section 3.3 – Separation of operational and financial responsibility		
12	What is the market benefit associated with allowing the separation of operational and financial responsibilities?	Separating operational and financial responsibility at a generation system level will support the use of new business models, including Special Purpose Vehicles. Enabling such change may encourage greater investor and offtaker arrangements for large scale generation projects which may be otherwise difficult to commercialise. In addition, being able to engage directly with AEMO on market functions (bidding, dispatch and settlement), without having to maintain responsibility for the overall compliance or maintence of the generating system is likely to also be attractive.
13	What are the risks associated with allowing the separation of operational and financial responsibilities?	While also being a benefit, the disconnect between generating system and generating unit compliance management, technical standards management and general maintence all presents risks which will need to be managed. In addition, other areas of concerns may include offtaker default, offtaker generating asset sale at the system or unit level (and subsequent change of operating model), and site operation of an AEMO market direction (such as a curtailment or constraint event). While we believe a number of these issues could be resolved through robust contractual arrangements, further thought with respect to ongoing regulatory and compliance management is required.
14	Are there other models of separate operational and financial responsibilities that should be considered?	No response.
Section 3.4 – Logical metering arrangements		

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15	What is the market benefit associated with using logical metering arrangements?	Logical metering arrangements provide market participants with the ability to install a metering system that will support the special site conditions present at the facility.
16	What are the risks associated with allowing the use of logical metering arrangements?	AGL does not support the wide spread use of logical metering arrangements. Doing so would allow an increased number of generation systems, which are likely capable of installing compliant metering systems, to install metering which would be non-compliant with the NER Rules. As noted, the main driver is anticipated to reduce metering installation/operational costs and/or faster build and registration. However, in our view, allowing an increasing number of non-compliant metering systems by approving special exemptions will create a perverse market incentive as Intending Market participants seek registration without facing the full costs of operating under the NER. In addition, allowing the wide spread use of logical metering arrangements would increase overall market costs as a result of an increase in estimated meter reads, reassignment of electrical losses, and market administration functions.
17	If logical metering arrangements are permitted to be used instead of a NEM compliant metering installation, who should pay for this? Please identify any cost recovery arrangements that you consider appropriate.	The Intending Participant should pay for all costs associated (or attributed) with a non compliant metering solution, where a special circumstance for its use has not been identified and approved by AEMO. See section 16 for a selection of known costs.
Other Comments		
23	Do you have any further comments?	No response