



11 February 2021  
Australian Energy Market Commission  
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Submitted online.

## **Integrating Energy Storage Systems into the NEM**

Stanwell Corporation Limited (Stanwell) welcomes the opportunity to respond to the Australian Energy Market Commission's (the Commission) options paper, Integrating Energy Storage Systems into the NEM (Options Paper).

This submission contains the views of Stanwell and should not be construed as being indicative or representative of Queensland Government policy.

### Introduction

Stanwell is a major provider of electricity to Queensland, the National Electricity Market (NEM) and large energy users, throughout Australia. While providing reliable and affordable energy for today, we are exploring new generation and storage technologies that will help reduce emissions while also ensuring Queensland's electricity supply remains secure and reliable.

Improving the NEM's regulatory framework to recognise and provide guidance regarding the registration and participation of hybrid and stand-alone storage facilities is important. The operational and commercial benefits that these facilities can provide to the NEM are well known and should be leveraged to their fullest extent. The issues identified in the August 2020 Consultation Paper<sup>1</sup> and this Directions Paper are substantial, and their impact will only increase as more participants uptake hybrid and stand-alone storage facilities.

Stanwell agrees with Australian Energy Market Operator's (AEMO) statement that this rule change (ERC0280) is consistent with the ESB's two-sided reform, and that this consultation process should be considered a foundational step to the longer-term reform<sup>2</sup>. Opportunities to improve the regulatory framework of the NEM today should not be forgone in *hope* that future reform will address these issues. Work completed on ERC0280 should lay the foundations for the ESB's longer-term reform.

Stanwell has provided responses to questions posed in the stakeholder feedback template at Attachment 1. The key points we have raised are:

- Stanwell considers Option 3, *modification to existing participant categories*, is the most simplistic solution to implement having regard to existing facilities, and existing participants looking to add-on a new technology type.

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<sup>1</sup> AEMC, Integrating Storage Paper: Consultation Paper, 20 August 2020.

<sup>2</sup> AEMO, Integrating Energy Storage Systems into the NEM rule change consultation paper (ERC0280), October 2020, p 3.

- We do not support Option 1 (do nothing), Option 2 (creating a new category for bi-directional resource), nor Option 4, which is a significant departure from the existing regulatory framework.
- We remain supportive of the Australian Energy Council's (AEC) proposal to lower the threshold for scheduling / semi-scheduling<sup>3</sup> and consider scheduling concepts should be applied to storage and hybrid facilities in a similar manner.
- We do not support dynamic trigger-based obligations as compliance requirements would be overly complex and costly for both participants and market bodies.
- We support maintaining 10 price bands for generation and 10 price bands for load. A total of 20 price bands provide bi-directional facilities more flexibility to decide when to generate and when to consume.
- Where possible, regulation should relax restrictions to access connection point infrastructure and data to facilitate the participant to monitor and measure the performance of its own assets.
- We support the adoption of applying a 'causer pays' approach to all market participants (Option 3).

In addition to the comments that we have provided in the stakeholder feedback template, Stanwell requests the Commission to consider the adoption of a transparent registration and exemptions process, which is discussed in more detail below.

#### Transparency in registration and exemptions process

Stanwell maintains the position that the Commission and AEMO should consider adopting a similar public disclosure process for registrations and exemptions to that undertaken by the Australian Energy Regulator (AER) during its assessment and granting of retail exemptions and retail authorisations. As noted in our response to the Generator Registrations and Connections consultation:

*"Under the National Energy Retail Law (NERL) Part 5, section 91 the AER must publish on its website a copy of a retailer's authorisation application (public not confidential version), the period for written submissions and any other information as the AER considers appropriate. Decisions to approve an application with or without conditions, or to refuse an application are also published on the AER's website"<sup>4</sup>.*

In our submission, we noted several benefits that could be achieved from the adoption of our recommendation, essentially providing clarity to existing and new participants about the registrations and connection processes.

- *"Material published would act as a reference to intending participants. Their understanding of the requirements prior to applying would better inform decision making during project design, planning, construction and operation.*
- *It could minimize the risk of AEMO being challenged with regards to fair and equitable decision making. This risk is likely to rise in likelihood given the ever-increasing number of*

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<sup>3</sup> Stanwell Corporation Limited, Generator registration thresholds, p 5.

<sup>4</sup> Stanwell Corporation Limited, Generator Registrations and Connections, p 4.

*generator applications, the establishment of zones (including and excluding projects), and potentially during transition to different technical standards.*

- *Increased transparency about new participants would enhance short term and long term operational and investment decisions of market bodies and other stakeholders.<sup>5</sup>*

Increasing transparency during the registration and exemption process was supported by several respondents to the Generator Registration Threshold consultation paper<sup>6</sup>. Respondents voiced concerns regarding how to increase transparency whilst maintaining confidentiality and AEMO's discretionary powers. Stanwell considers the AER model achieves all these facets and requests the Commission to consider this model for this rule change in relation to the registration process of hybrid and storage facilities.

### Conclusion

In conclusion, Stanwell supports enhancing the NEM's regulatory framework to recognise and provide guidance regarding the registration and participation of hybrid and stand-alone storage facilities. We do not consider drastic deviations from the regulatory framework are required to address the issues identified through ERC0280. We support the adoption of transparent, technology neutral solutions that allow for participants and AEMO to efficiently dispatch and operate the energy system in a secure and reliable manner.

Stanwell welcomes the opportunity to further discuss the matters outlined in this submission. Please contact Jennifer Nielsen on (07) 3228 4155.

Yours sincerely,

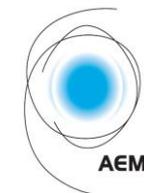


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Manager Market Policy and Regulatory Strategy

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<sup>5</sup> Stanwell Corporation Limited, Generator Registrations and Connections, p 4.

<sup>6</sup> Australian Energy Regulator, p 4. Clean Energy Council, p 2. Origin Energy, p 2. AGL, p 9. Wind Projects Australia p 1. ERM Power, p 6.



## 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.

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Questions	Feedback
<b>Chapter 1 – Registration and participation framework</b>	
▪ <b>Question 1: Registration and classification (p. 17)</b>	
1	<p>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?</p> <p>Stanwell supports Option 3, as we consider many of the issues raised in this rule change process (ERC0280) can be addressed through the modification to existing participant categories. Whilst Option 3 may be more challenging in terms of amending all of the participant categories, it presents the most optimal solution for dealing with new participants and existing participants that own and operate hybrid and storage facilities or are looking to add-on new technologies. Option 3 could be made to maintain performance standard arrangements whilst becoming more flexible to incorporate future two-sided market reform measures.</p> <p>Option 2, creating a new category for bi-directional resource providers appears as the simplest option for incorporating new hybrid and storage participants, however Stanwell foresees a number of issues arising with regards to the management of existing participants, including those looking to add-on hybrid and storage facilities. Stanwell considers that if Option 2 is pursued participants may argue that grandfathering rights should be considered which would create an administrative burden for market bodies and competitive advantages between existing and new participants. Regulation that does not foster a level playing field should be avoided.</p>

Questions		Feedback
		<p>Despite not supporting a separate category for bi-directional resource providers, Stanwell considers there is merit in the NER clearly defining what a bi-directional service is and what a hybrid facility is; noting the current description of a hybrid facility is “a mix of technologies behind the connection point”<sup>7</sup>.</p> <p>Stanwell does not support Option 4 or Option 1. Option 4 is a drastic deviation from the NEM’s existing regulatory framework which has not yet been proved as being necessary. Option 4 would create substantial changes for participants and AEMO. Option 4 is an unnecessary step too far for today’s issues and the foreseeable future.</p> <p>With regard to Option 1, throughout ERC0280 rule change process, the Commission, AEMO and many respondents have clearly identified deficiencies in the regulatory framework regarding the participation and registration process for hybrid and storage facilities. Stanwell supports addressing these issues through ERC0280, as opposed to waiting for ESB reforms, which may or may not address the issues in a timely manner.</p>
<p>▪ <b>Question 2: Classifying MSGAs (p. 18)</b></p>		
1	<p>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 provision of market ancillary services by MSGAs be maintained?</p>	<p>Stanwell does not support Option 4. Please see our response to Question 1 above.</p>
<p>▪ <b>Question 3: Existing storage participants (p. 19)</b></p>		
1	<p>Should existing storage participants be transitioned to a single participant category (as they are currently registered as both a Market Generator and Market Customer)?</p>	<p>No comment.</p>

<sup>7</sup> AEMC, Integrating Energy Storage Systems into the NEM, Consultation Paper, 20 August 2020, p i.

Questions		Feedback
<p>▪ <b>Question 4: Scheduling of hybrid facilities (p. 20)</b></p>		
1	<p>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?</p>	<p>Stanwell does not consider that the Commission should consider whether a facility should be dispatchable based on the portion of generation versus load.</p> <p>Stanwell was, and remains, supportive of the Australian Energy Council (AEC) proposal to lower the threshold for scheduling / semi-scheduling<sup>8</sup> and considers that scheduling concepts should be applied to storage and hybrid facilities in a similar manner.</p> <p>As noted in our response to the AEMC Semi-scheduled Dispatch Obligation rule change, Stanwell considers that where a participant can control generation, and in this case load as well, the participant should be categorised as scheduled, which gives AEMO the best chance possible to accurately forecast and manage the power system.</p>
2	<p>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?</p>	<p>Stanwell contends that dynamic trigger-based obligations are <b>not</b> appropriate. Dynamic trigger-based obligations would create additional complexity and costs for the participant to remain compliant, for AEMO to manage the system and for the AER to monitor and enforce obligations. It also has the potential to create unintended competitive advantages between technologies and potential loopholes that could be taken advantage of.</p> <p>The only possible scenario where dynamic trigger-based obligations might be suitable is in an environment where participants facilities are fully automated and are controlled and optimised by NEMDE, removing a significant portion of compliance obligations from the participant.</p>
3	<p>Could the same approach be taken to scheduling load where storage is added to a Market Customer's site, or should different considerations apply?</p>	<p>Stanwell does not support this approach. Stanwell contends scheduling concepts should be applied to all facilities based on megawatt (MW) threshold.</p>
<p>▪ <b>Question 5: Number of price bands (p. 21)</b></p>		
1	<p>Do you agree that 20 price bands would be appropriate for grid-scale batteries or would another number of bands be more appropriate?</p>	<p>Stanwell supports preserving 10 price bands for generation and 10 price bands for load for bi-directional facilities. We consider that a larger number of price bands (20 in this case) provides bi-directional facilities with flexibility when it comes to operational and commercial decisions regarding when to generate and when to consume.</p>

<sup>8</sup> Stanwell Corporation Limited, Generator registration thresholds, p 5.

Questions		Feedback
		<p>Stanwell also considers that where possible the cost of updating NEMDE to manage netted MW, which would be negative at times, should be avoided.</p> <p>Despite potential operational efficiencies that might be gained from reducing the number of bids and rebids that a bi-directional facility may have to undertake, we consider the risk of mis-using a negative sign in front of a MW could be quite detrimental for compliance, causing significant errors in bidding and rebidding.</p>
<b>Question 6: Dispatching hybrid facilities (p. 21)</b>		
1	Are there certain configurations of hybrid facilities that cannot, or should not, be dispatched at a single connection point?	No comment.
2	What benefits are achieved by dispatching a hybrid facility at a single connection point, and what issues arise?	No comment.
<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?	<p>Whilst acknowledging that it may be easier for AEMO and network service providers to measure and monitor performance standards at connection points, it creates several issues for participants. Namely, participants cannot access, measure and monitor data pertaining to their asset without great difficulty. Where possible, regulation should relax restrictions to access connection point infrastructure and data in order to facilitate the participant to monitor and measure the performance of its own assets.</p> <p>Performance standards set at the facility enhance a participant's ability to maintain, monitor and measure their own performance against standards, while AEMO and network service providers still receive SCADA data necessary for their operations.</p> <p>Noting the regulation already permits performance standards at the asset level where agreed between the required parties, and the anticipated increase in storage and hybrid facilities, Stanwell considers that AEMO and network service providers will likely need to adopt a more flexible approach to cater for different facility operators and owners connected to the same connection point.</p>

Chapter 3 – Recovery of non-energy costs		
<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.	Stanwell acknowledges that an inconsistency exists in the way participants fees and charges and non-energy cost recovery apply across market participant categories. Stanwell supports <i>Option 3: Apply 'causer pays' approach to all market participants.</i>
2	Are there any other factors the Commission should consider when deciding how non-energy costs should be recovered from market participants?	No comment.
3	Are there any implementation issues the Commission should consider?	No comment.
Chapter 4 – Additional issues relating to storage		
<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?	Stanwell supports resolving potential issues related with establishing standards for NSP owned energy storage and agrees that AEMO is uniquely placed to effectively participate in the technical standards negotiation process. However, it is not clear that AEMO is the only party that could undertake this role, and whether it would be the most cost-effective solution. As noted by the Commission, if AEMO assumes the role, "it would likely involve significant establishment and ongoing costs" <sup>9</sup> .
2	If not, do you consider there to be other potential solutions for resolving this issue?	<p>Prior to making a final determination, Stanwell considers costs of AEMO undertaking this role should be compared against the cost of engaging independent third parties (such as legal firms) and have regard to the number of occasions this process is likely to be undertaken. This should provide sufficient evidence whether outsourcing or establishing the function with AEMO is the most suitable and cost-efficient option.</p> <p>Either way, Stanwell considers that AEMO or an independent third party should participate in the technical standards negotiation process. Where possible, it is preferred that AEMO maintains its existing advisory role and a third party negotiates the technical standard process. AEMO could be a last-resort negotiator if there were no suitable third parties to undertake this role.</p>

<sup>9</sup> AEMC, Integrating Energy Storage Systems into the NEM – Options Paper, 17 December 2020, p 35.

<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?	No comment.
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?	<p>Stanwell regards DC coupled systems as a form of a hybrid system; that is “a mix of technologies behind the connection point”<sup>10</sup>. We agree that the NER should permit the registration and aggregation of these systems, however they are configured, as long as they meet the required technical and performance standards.</p> <p>Stanwell supports a single set of performance obligations being applied to hybrid facilities. We agree with AEMO’s view that it is “reasonable to require these systems to operate as scheduled generators because proponents generally adopt them to provide intermittent generation with energy shifting capacity, implying the facility operator is able to control the provision of energy and FCAS”<sup>11</sup>.</p>
<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.	No comment.

<sup>10</sup> AEMC, Integrating Energy Storage Systems into the NEM, Consultation Paper, 20 August 2020, p i.

<sup>11</sup> AEMC, Integrating Energy Storage Systems into the NEM, Options Paper, 17 December 2020, p 38.