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Re: Generator Technical Performance Standards – Draft Determination

Renew Estate and Wirsol are pleased to submit the below feedback on Australian Energy Market Commission's (AEMC) draft rule determination on the Technical Performance Standards for Connecting Generators.

Renew Estate and Wirsol are project partners in developing large-scale solar farm projects across Australia. Wirsol, as the asset builder and asset owner and operator, has committed an investment of over \$750m in 2017 developing a pipeline of utility scale solar PV projects across Australia. Wirsol is a substantial global renewable energy player. The partnership between Renew Estate and Wirsol was announced in July 2017 and with plans to develop 1 GW of renewable energy in Australia by 2020.

Our priority as we continue to develop generation projects in Australia with respect to these changes to the Rules is for clarity and efficiency in the connection process. We see there being opportunities to make some changes to the proposed Draft Determination in this respect, as outlined below, that can assist all parties including proponents, network service providers and AEMO by aligning expectations in the connection application process.

In our view the draft determination does not include enough detail in some areas on how a proponent will adequately demonstrate compliance with the proposed access standards or on what AEMO will accept as justification for a negotiated access standard. We also think that a period of more than 8 weeks will enable a smoother transition to the new rules, and not jeopardise existing investment in the system.

A clearer, more efficient process enables more generation to connect and to connect in compliance with the technical standards that will maintain a secure and reliable network supply.

Negotiating Process for Connections

Supporting Evidence for Negotiated Access Standards

We wish to clarify what sort of evidence would be acceptable to AEMO as to why a proposed negotiated access standard is or is not appropriate. In the new Section 5.3.4A (b1)(3) it states that regard must be given to:

“the commercial and technical feasibility of complying with the automatic access standard with respect to the relevant technical requirement”

This would imply that commercial considerations will be taken into account however during the stakeholder engagement session on 26th of June, AEMO representatives stated that they will be assessing the negotiated access standard only on its technical feasibility and impact on system security and quality of supply. This contradicts what is written in the draft rules, that commercial feasibility will be considered. For example, suppose a project is proposing a negotiated access standard for S5.2.5.1 Reactive Capability. If power system studies demonstrate that the automatic reactive capability is not required to meet power system security or that the with the proposed level of reactive power that the solar farm is able to meet each of its technical access standards, but AEMO or the NSP deems to achieve the automatic access standard an additional 2 inverters are required, is this automatic access standard required to be met? The justification against automatic would be that automatic



increases the project budget by \$600,000. This would reduce the return on the project and could make the project not financially viable. This is a high-level example, but we are unclear as to whether this is something that would be accepted by AEMO as a valid evidence for why the automatic access standard is not required.

An example of our concerns would be that generators are being asked to fill the reactive power capability gap that previously fell to the responsibility of NSPs. The decision of whether to approve a set of GPS or not should be based only on the current committed generation, the “shallow” generator connection framework. It should not be based on an assumption of further generators connecting in the future or NSP planning decisions.

Assessment of the capability of generators to meet the existing technical standards should not be used by AEMO or the NSP as an opportunity to ensure the “future proofing” of the network.

NSP / AEMO GPS Review Process

There is also a concern from a proponent point of view that the NSP and AEMO review steps are not being undertaken in parallel as intended by the Rules due to the interpretation of the clause 5.3.4A(d). This clause states that the NSP must consult “as soon as practicable” with AEMO on AEMO advisory matters.

In practice there is often a significant delay between submission of a complete set of GPS to an NSP and the NSP passing that on to AEMO for their review. This means that the review process which should take 30 business days, with the 20 business days for AEMO review happening concurrently (provided the GPS is complete), is in fact taking closer to 50 business days (and normally much longer) with the two processes running in series.

It’s key that these processes run in parallel to receive review comments/feedback on the GPS at the same time so that this can all be incorporated together if the GPS requires revision. AEMO and the NSP have different focuses in their reviews and will often have different review comments. The current practice where AEMO and the NSP reviews the GPS submission in a serial manner is inefficient for all parties and often leads to several rounds of rework.

Renew Estate requests that the wording of 5.3.4A(c) is changed from “Consult with AEMO as soon as practicable in relation to AEMO advisory matters” to “Consult with AEMO within 5 business days in relation to AEMO advisory matters” to clarify this obligation of the NSP to pass on a set of negotiated GPS to AEMO if it is complete.

Reactive Power Control

The change to the access standard in clause S5.2.5.13(b)(2A) means that to meet the automatic requirements the plant must have the capability to operate in all control modes (voltage, reactive power and power factor) and the ability to switch between them.

This requirement introduces a significantly higher number of studies that need to be performed, with most studies needing to be repeated for different modes of control and setpoints. This multiplies the quantity of compliance studies by 3 at least. If there are other generators nearby which also have the ability to operate in different modes and switch between them then these permutations would also need to be considered. This quickly multiplies into an unreasonably high modelling burden. Renew Estate would take the view that this automatic access standard is unreasonable and not practical to demonstrate.

In practice the NSP specifies the control mode which the generator must operate. The NSP should advise the generator at the time of the connection enquiry the operating mode and the generator should then demonstrate compliance with that operating mode. At the same time the Releasable User Guide should be updated to require the operating mode to be specified so that any nearby generators should have their operating modes available. For existing generators who have released their Releasable User Guide then AEMO should publish the operating mode on their website.



Continuous Uninterrupted Operation

The new requirement to ride through multiple voltage disturbances as part of the requirements for S5.2.5.5 including up to 15 disturbances during a 5-minute window for the automatic access standard and 6 disturbances for the minimum access standard is a significant change.

We seek clarification on how this can be demonstrated adequately by proponents. How will this be tested via power system modelling? Will there be an indicative sequence of events that is applied? Is this sequence of events selected by the proponent or will direction be given by the NSP?

For proponents to have confidence that this requirement can be demonstrated, more clarity is needed on the types of disturbances that NSPs/AEMO wish to see modelled. This could be through the Rules or perhaps through an AEMO guideline on what would and would not constitute acceptable sequence of disturbance events.

Transitional Arrangements

The transition period must give a proponent who has started their modelling process under the existing rules a reasonable opportunity to complete that process. Proponents would have spent a significant amount of money in undertaking design studies prior to submitting their application. While it is true that parties are aware of the changes that are coming when the final rule change determination is released, the actions to model and comply with the proposed technical access standards cannot commence until they are confirmed and released at the start of October. Therefore, the transitional period should give proponents an opportunity to continue under the existing rules if the modelling process had commenced before October. This is important to prevent wasted resources in superseded modelling results and to prevent delays in the financial close process.

In our view a more realistic transition window would be 16 weeks. This gives approximately 4 weeks to complete any modelling that had already commenced and another 12 weeks for NSP/AEMO review, with the understanding that they will be receiving a high volume of applications at this time and may take longer to complete the review process. This would allow for a reasonable period which covers Christmas and New Year for all parties to achieve a smooth transition.

Yours faithfully,

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