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30/04/2021

James Hay  
Deputy Secretary, Energy Climate Change and Science  
NSW Department of Planning, Industry and Environment

Lodged by email: [rez@planning.nsw.gov.au](mailto:rez@planning.nsw.gov.au)

Dear James,

**Submission to issues paper on Central West Orana renewable energy zone access scheme**

We welcome the opportunity to respond to the New South Wales (**NSW**) Government's issues paper on the access scheme being developed for the Central West Orana renewable energy zone (**REZ**) to deliver the NSW Government's Electricity Infrastructure Roadmap (**Roadmap**).

TransGrid is the operator and manager of the high voltage transmission network connecting electricity generators, distributors and major end users in New South Wales (NSW) and the Australian Capital Territory. Our network is also interconnected to Queensland and Victoria, and is instrumental to an electricity system that allows for interstate energy trading. Our responsibility is to operate and manage the transmission network safely, securely and efficiently in the long-term interests of consumers.

We strongly support the NSW Government's objective to develop an access scheme for the REZ in order to provide increased investment certainty for generation and storage infrastructure to support the development of the REZ. Increased investment certainty will facilitate more generation and storage investment in the REZ which will result in lower prices to electricity consumers.

This submission sets out our views on issues that need to be considered in the development of the access scheme for the Central West Orana REZ. This includes those issues raised in the NSW Government's issues paper and other issues that the NSW Government should consider in the development of the access scheme for, not only, the Central West Orana REZ but future REZs to be developed as part of the NSW Government's Roadmap too.

With over 60 years' experience as the transmission operator and manager in NSW and the ACT, we look forward to partnering with the NSW Government to assist it in delivering on its reform objectives.

If you would like to discuss this submission, please contact me or Neil Howes, Manager, Policy Reform Office at [neil.howes@transgrid.com.au](mailto:neil.howes@transgrid.com.au).

Yours sincerely

Eva Hanly  
**Executive Manager, Strategy Innovation and Technology**

## 1. Summary

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We welcome the opportunity to respond to the New South Wales (**NSW**) Government's issues paper on the access scheme being developed for the Central West Orana renewable energy zone (**REZ**) to deliver the NSW Government's Electricity Infrastructure Roadmap (**Roadmap**).

We strongly support the NSW Government's objective to develop an access scheme for the REZ in order to provide increased investment certainty for generation and storage infrastructure to support the development of the REZ. Increased investment certainty will facilitate more generation and storage investment in the REZ which will result in lower prices to electricity consumers.

With over 60 years' experience as the transmission operator and manager in NSW and the ACT, we look forward to partnering with the NSW Government to assist it in delivering on its reform objectives.

This submission sets out our views on issues that need to be considered in the development of the access scheme for the Central West Orana REZ.

It is structured as follows:

- > Section 2 sets out our views on the issues raised in the NSW Government's issues paper.
- > Section 3 sets out our views on other issues that the NSW Government should consider in the development of the access scheme for the Central West Orana REZ and future REZs.

## 2. Issues raised in the NSW Government's issues paper

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This section sets out views on issues raised in the NSW Government's issues paper. We have only addressed the issues that are relevant to our role and experience as a transmission network service provider (**TNSP**).

### 2.1 Objectives and evaluation

#### 2.1.1 Issues paper

The NSW Government is seeking to develop an access scheme for the Central West Orana REZ.

The issues paper sets out some objectives and evaluation criteria for the access scheme, including:

- > Coordination of generation, transmission and storage investment.
- > Optimising the utilisation of the REZ shared transmission infrastructure.
- > Providing certainty for generation and storage projects connecting to the REZ.
- > Improving competition and keeping downward pressure on consumer energy prices.
- > Timely implementation to meet the Central West Orana REZ timeframes.
- > Minimises departure from the National Electricity Law (**NEL**) and National Electricity Rules (**NER**), where possible.

#### 2.1.2 Our view

We strongly support the NSW Government's objective to develop an access scheme for the Central West Orana REZ in order to provide increased investment certainty for generation and storage infrastructure to support the development of the REZ. Increased investment certainty will facilitate more generation and

storage investment in the REZ which will increase competition between generators which will contribute to lower prices to electricity consumers.

We agree with the NSW Government's objectives and evaluation criteria.

As the Central West Orana REZ is the first REZ to be developed under the NSW Government's Roadmap, and indeed in the National Electricity Market, the effective and timely subscription and delivery of this REZ is critical to help to build stakeholder confidence and enable the efficient delivery of future REZs. The Central West Orana REZ project is important to demonstrate that new transmission can be successfully coordinated with new generation and storage and establish an operational, commercial, regulatory and financial model which future REZs can build on and refine.

The NEM is a highly complex system and the NEL and NER contain clear rights, obligations and protections to ensure that the reliability and security of supply is maintained in line with the needs of consumers. We strongly support the principle of minimising departure from the NEL and NER where possible. We consider this is important to ensure the continued safe, secure and reliable operation of the network as a whole and to avoid unnecessary commercial disputes between parties, as discussed in more detail in section 3 of this submission.

## **2.2 Access scheme models**

### **2.2.1 Issues paper**

The NSW Government is consulting on three shortlisted access arrangement models for the Central West Orana REZ zone that protect generators from the existing open access regime:

- > Limited physical connection (option 1): This model specifies a limit of installed capacity for generators located within the geographic REZ boundary and removes the opportunity for future 'free riders' where that would reduce the access of existing generators to export outside of the REZ.
- > Financial compensation (option 2a): This model enables generation projects to purchase priority rights to access the grid and export their generation ('Tier 1'), and non-priority rights ('Tier 2'), both on a 24x7 basis. A project that holds Tier 2 rights would be required to financially compensate a project holding Tier 1 rights for income losses where the Tier 2 rights holder constrains the Tier 1 rights holder in the REZ. An overall limit would be placed on the installed capacity of projects that can connect as with option 1.
- > Enhanced financial compensation (option 2b): This model provides the same arrangements as option 2a, except that it allows the access/export rights to vary at different times of the day, with one example being hourly (rather than each 30min/5min wholesale electricity market price interval).

We understand that the three access models all assume that whilst access within the REZ geographic area is limited, the transmission network outside of the REZ zone (at the connection point) is governed under the existing NER. This means that generators inside the REZ zone may be constrained from dispatch due to congestion outside of the REZ zone.

### **2.2.2 Our view**

#### **The limited physical connection model (option 1) is the most appropriate access model for the Central West Orana REZ**

Of the three shortlisted access scheme models, our view is that the limited physical connection model (option 1) is the most appropriate access model for the Central West Orana REZ given the NSW Government's delivery timeframes for the completion of this REZ. In particular, we understand that the NSW Government's objective is to have the transmission investment for the Central West Orana REZ 'shovel ready' by the end of 2022 and that the REZ is energised such that generators can connect to the REZ from late 2024.

The limited physical connection access model is more suited to the timeframes required to deliver the Central West Orana REZ than the other shortlisted options because it is simpler to implement and can be more easily understood and considered by generators and storage providers in making investment and operational decisions. A simpler and more easily understood access scheme model will provide greater investment certainty for generators and storage providers, which will facilitate uptake of the REZ in a more timely fashion.

We submit that the addition of complimentary financial instruments to the access scheme for the Central West Orana REZ could be considered, in the future if it was considered there would be a consumer price benefit in doing so.

### **Installing a cap on installed generation capacity above that of the shared transmission capacity**

In the issues paper, the NSW Government seeks stakeholder views on whether connected generation capacity could be capped above the capacity of the REZ shared transmission infrastructure under option 1 and how generation and storage capacity be set or capped to optimise REZ shared network utilisation without introducing too much constraint risk.

On the basis that the Central West REZ is expected to deliver a mix of wind and solar generation, we support the NSW Government's proposal to set the cap on installed generation capacity in the REZ at a level greater than the transmission transfer capacity.

The level at which the cap is set should be determined by having regard to the:

- > Expected generation profile of individual projects in the REZ as well as for the REZ as a whole. We note that the mix of generation and storage in the REZ will be determined through a competitive tender process.
- > Principle that there should be an efficient level of potential 'excess energy' to promote efficient utilisation of the REZ shared transmission infrastructure.
- > Extent to which storage providers, which are successful in the competitive tender process for the REZ, commit to storing and dispatching electricity.
- > Cost of system strength remediation that will be required to support the level of installed capacity under the cap.

### **Confirmation is needed on the physical limit to the access scheme**

It is our understanding that the access scheme will only apply to the infrastructure located up to a designated connection point on the transmission network. In seeking to provide investment certainty, the NSW Government should also clarify how the access scheme is intended to deal with:

- > New shared transmission network infrastructure associated with the REZ such as transmission lines, substations and switching lines.
- > The existing shared transmission network infrastructure located inside the REZ geographic area (the open access arrangements currently apply to this infrastructure).

### **Capacity of the broader transmission network**

We understand that the NSW Government does not intend to make any commitments to the capacity of the broader transmission network for the generators in the Central West Orana REZ. We agree with this approach as it is important that TransGrid is able to comply with our rights and obligations under the NER as planner and operator of the shared transmission network in NSW and the ACT.

## **2.3 Design issues with access models**

### **2.3.1 Issues paper**

The NSW Government is seeking views on a number of design issues associated with the access scheme for Central West Orana REZ, including:

- > Whether access rights provided by the scheme should be tradeable.
- > How storage should be treated in the design of the access scheme, including whether storage should be required to purchase access rights and whether the operation of storage should be incentivised.
- > Whether load should be integrated into the REZ and whether it should be incentivised to locate in the REZ.
- > The inclusion of 'use it or lose it' provisions.

- > Managing the interface between the Central West Orana REZ access scheme and common dedicated connection assets (**DCA**), or dedicated network assets (**DNA**).<sup>1</sup>

### 2.3.2 Our view

#### **The ability to trade access rights is an important feature of the access scheme**

We consider the ability of generators to trade access rights could be a valuable feature of an access scheme as it will encourage generators that do not need the capacity to trade the right of that capacity to a REZ generator which can utilise it. This will provide for more efficient utilisation of the REZ.

#### **The access scheme needs to facilitate the multiple benefits that storage can provide**

Storage will facilitate the most efficient utilisation of the REZ shared transmission infrastructure, which will result in lower prices for electricity consumers. Our view is that storage assets should be viewed in two categories – those within the REZ (upstream of the connection point to the broader transmission network) and those outside of the REZ (downstream of the connection point to the broader transmission network).

##### *Storage within the REZ*

Within the REZ, the NSW Government should enable storage solutions to be part of the generation mix. Enabling storage solutions within the REZ will result in greater utilisation of the REZ shared transmission infrastructure which will result in the more efficient outcomes for consumers.

To promote innovative and more efficient outcomes for consumers, the market should have the flexibility to determine the generation mix within the REZ. For example, proponents may choose to build solely wind or solar generation assets, intermittent generation combined with storage assets or solely storage assets. The most efficient outcome will be obtained by maximising flexibility for the market.

##### *Storage outside of the REZ*

With the increasing levels of renewable generation that will be facilitated through the NSW Government's REZs, there will be consequential system impacts that will need to be carefully planned for and managed. One example will be needing to replace the inertia provided by coal fired power generation but not provided by renewable generation.

In addition to storing and dispatching electricity, storage technology can also efficiently provide energy services required to support the electricity system such as system strength, voltage control and inertia. The required system services solutions resulting from the development of the REZ should be planned and co-ordinated on a system wide basis. This will ensure that it is undertaken at the least possible cost to consumers as it will enable, not only the renewable generation being provided as part of the REZ to be taken into account, but also wider energy system changes such as changing supply and demand patterns and increasing interconnection between NEM regions. These system services can, and should, be undertaken by the primary TNSP in the region to ensure the security and reliability of the whole system is maintained. Close adherence to the NEL and NER will address any concerns around the use of market power.

#### **The connection of load in the REZ will increase the utilisation of the REZ shared transmission infrastructure**

We support the connection of load in the REZ as this would increase the utilisation of the REZ shared transmission infrastructure, which will result in more efficient outcomes for consumers.

Our view is that:

- > Load should be able to connect to the shared transmission infrastructure, in the same way that they can connect to other parts of the shared transmission network.

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<sup>1</sup> The Australian Energy Market Commission (**AEMC**) has made a draft rule which would establish a new regime for 'designated network assets', and which would replace the concept of 'large dedicated connection assets' in the NER.

- > To the extent that marginal loss factors apply, there should be a big enough incentive for load to locate in the REZ.
- > Tariffs should be structured so that the load pays for their fair share of the costs of the infrastructure.

### **‘Use it or lose it’ provisions should be included in the access scheme**

We support the inclusion of ‘use it or lose it’ provisions in the access scheme. The inclusion of this provision would ensure that capacity not used by a participant, would be available to a participant that would use the capacity. This will result in more efficient utilisation of the REZ shared transmission infrastructure, which would ultimately result in lower prices for consumers. Our view is that generator and storage providers should also have the option to trade out of the access scheme.

### **Managing the interface between the Central West Orana REZ access Scheme and common dedicated connection assets /dedicated network assets**

Our view is that the access scheme for any dedicated connection assets (**DCA**) or dedicated network assets (**DNA**) connected to the shared infrastructure should be consistent with the access scheme for the Central West Orana REZ.<sup>2</sup> In this light, we support the principles that the NSW Government proposes to adopt to develop arrangements to provide consistency between the access schemes for the Central West REZ and DCAs/DNAs.

## **2.4 Other coordination initiatives**

### **2.4.1 Issues paper**

The NSW Government is seeking views on whether a process to coordinate connection assets for multiple projects would be of interest noting a coordinated approach to developing these connection assets, which would connect in at shared network REZ hubs, is likely to be more efficient than individual point-to-point connections.

It is also seeking views on whether an improved and streamlined network connection process could be applied in the Central West Orana REZ, including whether centralised approaches to connections and system services would be beneficial.

### **2.4.2 Our view**

#### **There are challenges associated with coordinating connection assets**

We support the NSW Government’s objective to achieve efficiencies through coordinating generator and storage provider connection assets to the REZ shared transmission infrastructure via REZ hubs.

Our first-hand experience is that there are challenges associated with coordinating generation and storage connection assets as it pertains to the development of REZ hubs, given the competing agendas and development timeframes of different providers. We would welcome the opportunity to assist the NSW Government in designing systems and processes that could resolve these challenges.

#### **A system wide approach to system services will result in the most efficient outcome for consumers**

We support system-wide and coordinated approaches to providing system services as we consider this approach will result in more efficient outcomes for consumers. System services are most efficiently provided when considered on a whole of network basis due to the highly complex and interdependent nature of the network.

We note this approach is consistent with the Australian Energy Market Commission’s (**AEMC**) draft rule determination on our request to change the National Electricity Rules, which provides for a whole of network approach to system strength services in the national electricity market (**NEM**).

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<sup>2</sup> The Australian Energy Market Commission (**AEMC**) has made a draft rule which would establish a new regime for ‘designated network assets’, and which would replace the concept of ‘large dedicated connection assets’ in the NER.



### 3. Other important issues to address in developing the access scheme

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In addition to those issues identified by the NSW Government, we consider there are other important issues that the NSW Government needs to address in designing the access scheme for the Central West Orana REZ and future REZs. We outline these issues below along with how we recommend they be addressed.

#### 3.1 Assigning the REZ Administrator function

In its issues paper, the NSW Government suggests that a newly created function of REZ Administrator would be established to administer the access scheme on an ongoing basis.<sup>3</sup> We also understand that the REZ Administrator would set the cap on generation and storage capacity in the REZ as well as determine the technology mix for the REZ.

In our role as jurisdictional planner and operator, we have obligations and rights under the NER that ensure that the system as a whole is managed to the prescribed security and reliability standards. This is a highly complex role that we undertake to ensure that electricity supply is maintained to NSW consumers.

With this in mind, we consider TransGrid would be well placed to perform the REZ Administrator function. Our reasons are:

- > The market will be looking for investment certainty from an experienced operator.
- > The REZ Administrator would need to understand a range of technical matters relating to the operation of the network as a whole to ensure that the reliability and security of the system is not compromised.
- > It is essential that there is only one system operator in NSW and the ACT. The added complexity associated of having multiple parties involved in the operation of the network increases the risk of unintended reliability and security concerns.
- > A single, experienced operator is critical in times of crisis or emergency.
- > One system operator will reduce overall costs to consumers by reducing complex interfaces between operators.

#### 3.2 Clarity between the REZ access scheme and broader system open access model

TransGrid has rights and obligations under the NER which ensure that the system as a whole can be operated most effectively for consumers. We are also provided protections given there are likely to be occasions, such as unforeseen events (e.g. bushfire or flooding) or AEMO instructions, which mean that the capacity from a REZ needs to be constrained.

In developing the access scheme, it is critical that the rights, obligations and protections in the NER are afforded to the network operator in the REZ and the REZ Administrator for the REZ. These parties, along with TransGrid as the network operator for the transmission system in NSW and the ACT, should not be liable for any curtailment in the REZ in any circumstance.

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<sup>3</sup> The NSW Government sets out that the REZ Administrator will be appointed as part of the declaration of each REZ by the Minister.