

To NSW Department of Planning, Industry and Environment

Submitted via email

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Subject CWO REZ Access Scheme Issues Paper

Overview:

Infigen Energy (Infigen) welcomes the opportunity to make a submission. Infigen delivers reliable energy to customers through a portfolio of wind capacity across New South Wales, South Australia, Victoria and Western Australia, including both vertical integrated assets and PPAs. Infigen also owns and operates a portfolio of firming capacity, including a 123 MW open cycle gas turbine in NSW, a 25 MW / 52 MWh battery in SA, and 120 MW of dual fuel peaking capacity in SA. We are also constructing a 52MW / 78MWh BESS in NSW. Our development pipeline has projects at differing stages of development covering wind, solar and batteries and we are also exploring further opportunities to purchase energy through capital light PPAs. This broad portfolio of assets has allowed us to retail electricity to over 400 metered sites to some of Australia's most iconic large energy users.

- Infigen strongly supports the development of the Central West Orana (CWO) REZ, and the Government has prepared a high-quality discussion paper that captures the relevant issues. We support access frameworks that will deliver essential new resources as quickly as possible.
- Congestion and curtailment risks to date have been primarily driven by a "rate of change" problem exacerbated by policy discontinuities, missing markets, and a lack of anticipatory network infrastructure to unlock renewable resources.
 - Therefore, the primary benefit of an access regime will be to reduce the risk of uncoordinated entry; this does not necessarily require an enduring access regime within the REZ.
 - If generators pay for access rights, there will need to be an appropriate obligation and compensation regime on the network provider.
- An approach similar to Option 1 (physical access) is the simplest regime for participants, and avoids the complexity of ex-post financial settlements, counterfactuals, and credit risks.
- Financial access rights have theoretical appeal, but will be complex for investors, and may risk delaying necessary investment or ultimately result in higher costs to end use customers.
- Providing a predictable, simple, streamlined connection process will be valuable to developers.
- Infigen supports the establishment of an independent body as the REZ Coordinator and as the Consumer Trustee. We do not support the appointment of AEMO to these roles, due to conflicting obligations to different stakeholders in these new roles (when compared to the existing market operator role).

1. The issue and the need for reform

1.1 Access reform options

In Infigen's view, the most critical priority for the NEM is to develop new, low-cost, renewable energy to reduce costs to consumers and to ensure that sufficient capacity is available to replace aging coal assets. Therefore, in designing the REZs and any associated access schemes, it is critical that the Government ensure rules facilitate rapid investment, with low barriers to entry.

We consider that the NEM's open access framework has generally operated effectively to date. While "rate of change" problems emerged over the 2017-2020 period, the fact that a small number of projects proved to be (in hindsight) sub-optimal does not necessarily warrant fundamental market redesign.¹

However, as a new major REZ could create similar "gold rush" conditions, resulting in a "race" that delivers suboptimal projects that are not timed to market needs, there may therefore be a role for coordinating the REZ build.

In our view, the approach most accessible to investors is a variation on Option 1 that maintains the simplicity of the current open access arrangements. Specifically:

- In developing the REZ, a fixed upper limit of capacity is determined. This would allow for some "overbuild" of capacity, to ensure efficient use of the line.
 - Access restrictions could potentially be for a limited period. For example, the first 5-7 years are typically the most critical for project financed assets (aligning with the bullet financing period). Providing certainty for a fixed period and then moving to an open access network may provide a good balance between supporting investment decisions and ultimate network utilisation (including allowing for technology improvements over time).
 - Access limits could also be reviewed if new load or energy storage (for example) would allow for greater connections with minimal impact on existing participants.
- Additionally/alternatively, an auction could be held for "first mover advantage", similar to the physical connection model (Option 1) with a limited duration. That is, the right to develop and connect a project within (say) three years, with other projects excluded from the REZ for that period. Assuming that the REZ auction was fully subscribed, this would lead to most of the REZ capacity being utilised. After that time, new projects would have clear visibility of the level of congestion, MLFs, etc., within the REZ. We consider it unlikely that developers or banks would finance projects if there was likely to be material congestion. This protects first movers from the "rate of change" problem of 2017-2020.
- As a condition of access to the REZ, greater information sharing obligations on connection applications and proposals could be applied. For example, the REZ coordinator could be required to share details with other applicants. This could aid in coordinating projects and any shared assets, at the expense of some commercial confidentiality, which would need to be balanced through further consultation.
- We note that centrally determining an efficient mix of resources is challenging and will also somewhat depend on the volume of storage installed. Some level of congestion is likely efficient, and manageable

¹ For further information, see <https://ideas.repec.org/p/enp/wpaper/eprg2014.html>

by participants. Determining a suitable *commercial* hosting capacity (distinct from the physical limits) will be critical to ensuring efficient use of the line. We expect that this is more than the MW rating of the line, and would be contingent on the technology mix. Ultimately, a forward looking view on the basis of rapid transition and decarbonisation (as per the AEMO ISP) should be assumed and utilised for planning purposes.

1.1.1 Generator access charges

Generators will need to trade off connecting to the REZ, including any access charges, with other projects available in the shared NEM network. If generators are paying for access rights, this would be expected to provide financial protection against transmission outages – effectively shifting the risk from generators to TNSPs in exchange for purchasing that access. There would need to be corresponding obligations (and compensation frameworks) on the REZ coordinator to maintain that access, including scheduling any maintenance at appropriate times for rights holders, compensation due to outages, etc.

Generators and retailers have a deep understanding of these risks and have sophisticated financial contracts to manage them. In contrast, TNSPs are not generally in the business of managing the financial risks of major transmission lines being unavailable. In our view, the current arrangements are more appropriate – and ensure risks are placed with the party best placed to handle it. These questions were a major issue (and stumbling block) for the proposed COGATI reforms (which received little support from consumers, generators and networks).

We note there may be other benefits to connecting to the REZ – including greater certainty around competing projects, more rapid and lower risk connection, and access to higher quality renewable resources. These value streams would form the basis for any auction bids, as described above.

We note, however, that any additional costs placed on generators will ultimately be passed onto consumers. More importantly, this can be disproportionate and can *increase* total consumer costs. For example, if transmission access charges for a 1000 MW REZ were \$3/MWh, this would increase the cost of new entrant generation and hence wholesale prices by ~\$3/MWh, translating to ~\$200m in additional annual costs to NSW consumers (based on 65,000 GWh per year). This is 20x higher than the actual transmission cost of ~\$10m (1000 MW x 8760 x 35% capacity factor x \$3/MWh), and would be a wealth transfer from consumers to incumbents – primarily coal generators.

1.1.2 Use it or lose it provisions

Some form of “use it or lose it” provisions seems appropriate, assuming that the government will work with the REZ network planner to avoid connection delays and any auction revenues do not represent the full cost of the REZ. We note that access rights create a risk of hoarding; this has been observed in gas pipelines, where participants reserve tenements which they don’t yet require. This could impact on the delivery of state renewable energy targets.

We note that enforcement of such provisions will typically increase (pre-FID) development costs, which is a significant barrier to entry. For example,

- Auctions only open to sufficient advanced/shovel ready projects would reduce risks, but would also force developers to invest in projects that may not be able to proceed if unsuccessful at auction.
- Bid bonds provide a strong incentive to deliver, but are a material risk/cost to early-stage projects.

We suggest further targeted consultation would be valuable here.

We expect that generator closure/mothballing is unlikely for new VRE projects (or energy storage), so a minimum utilization requirement may not be of benefit.

1.1.3 Loads and storage in the REZ

Currently, energy storage in the NEM is financed on the basis of FCAS revenue plus regular, daily arbitrage. As such, access to peak periods is critical, and we do not consider the ESB's suggestion that batteries would accept solely tier 2 access (and not generate, at least pro-rata with other resources, at times of peak pricing if that coincided with local congestion).

While storage can, in theory, allow for greater line utilization, in practice the value of charging from *locally* constrained energy may be relatively small compared to charging at times of low regional price. (At the extreme, it is unlikely to be least-cost for storage in the REZ to firm the output of the entire REZ to be flat).

We consider further modelling may be valuable to explore an efficient storage time, and impact on access rights.

1.2 Financial access rights

The paper provides a good analysis of option 2 (financial transmission rights). For VRE projects, typically the last MW of projects are less valuable (as VRE is, to some extent, correlated and wholesale prices are lower at high output times). Therefore, firm access has declining value, and so some mix of Tier 1 and (lower cost) Tier 2 access may be efficient for projects. (This would be implicitly delivered under Option 1 through existing tie-breaker NEM dispatch rules.)

We note that while this approach has theoretical appeal (including opportunity for greater market-drive price discovery, valuation of storage, etc.) its complexity may be a barrier to investors.

We provide the following comments on issues not raised in the paper:

- The price participants would be willing to pay for Tier 2 access would depend on the generation mix in the REZ, the expected volume of energy storage, and the volume of other Tier 2 rights sold. There is a risk that if the volume of Tier 2 rights is not set correctly, the value placed on them would be zero. In theory, an auction could allow the market to determine an efficient (REZ revenue maximising) volume and price of Tier 2 rights, but this would be complex.
- Will access rights be allocated to a project or to a participant? For example, if a participant buys 100 MW of Tier 1 rights for a wind farm, are they allowed to build a subsequent solar project and share that firm access? This would determine the level of expected firmness Tier 2 participants should expect.
- If there are constraints within the REZ, how will a fair counterfactual be determined? This would be complex and may lead to disputes.
- If the access rights are considered financial derivatives, this may place additional compliance requirements and costs on participants.

Comments on issues raised in the paper:

- More granular rights would, up to a point, deliver more efficient network usage, if rights can be efficiently allocated through linked auctions (similar to AEMO's settlement residue auctions). Therefore Option 2B (or a similar approach) is likely to be preferable to 2A.
- The term of any financial access rights is critical; this was explored extensively in the COGATI consultation, where the challenge of both short-duration rights (providing limited certainty) and long-duration rights (limited future competition) have been identified.
 - Limiting access to project life would potentially discriminate between different technologies, and result in inefficient long-term behaviour.
 - Assuming that the build costs of REZs are shared between generators, consumers, and governments, allocating rights for 25 or 30 years would balance benefits to projects with returning the line to consumers in the long-term (including the option of selling further access in the future).
- Delays in payment will increase timing risks for market-facing gentailers. They would be required to make payments to AEMO for load but could face delays in receiving compensation payments from Tier 2 projects. Additional prudential requirements on Tier 2 generators may be costly, while the counterparty risks for Tier 1 generators may increase financing costs.
 - Embedding the compensation framework in the AEMO settlements procedure would, while complex, reduce the credit risks and costs for participants.
- If financial rights were implemented, there may be benefit in both short- and long-term trading of firm rights, particularly as participants gain more experience with their specific projects and the overall REZ. A Central platform would also provide a mechanism for trading any access rights that are returned under a "use it or lose it" provision.

Conclusion:

We look forward to the opportunity to continue to engage with the ESB. If you would like to discuss this submission, please contact Dr Joel Gilmore (Regulator Affairs Manager) on [REDACTED] or [REDACTED].

Yours sincerely

Ross Rolfe
Managing Director