18 March 2022

Ms Anna Collyer
Chair
Energy Security Board

Dear Ms Collyer

RE: Transmission Access Reform

Shell Energy Australia Pty Ltd (Shell Energy) welcomes the opportunity to respond to make a supplementary submission to the Energy Security Board (ESB) on our proposed locational connection fee alternative for transmission access reform.

About Shell Energy in Australia

Shell Energy is Shell's renewables and energy solutions business in Australia, helping its customers to decarbonise and reduce their environmental footprint.

Shell Energy delivers business energy solutions and innovation across a portfolio of electricity, gas, environmental products and energy productivity for commercial and industrial customers, while our residential energy retailing business Powershop, acquired in 2022, serves more than 185,000 households and small business customers in Australia.

As the second largest electricity provider to commercial and industrial businesses in Australia[1], Shell Energy offers integrated solutions and market-leading[2] customer satisfaction, built on industry expertise and personalised relationships. The company's generation assets include 662 megawatts of gas-fired peaking power stations in Western Australia and Queensland, supporting the transition to renewables, and the 120 megawatt Gangarri solar energy development in Queensland.

Shell Energy Australia Pty Ltd and its subsidiaries trade as Shell Energy, while Powershop Australia Pty Ltd trades as Powershop. Further information about Shell Energy and our operations can be found on our website here.

General comments

Shell Energy thanks the ESB for the opportunity to present on our locational connection fee model at the alternative approaches to congestion management virtual seminar on 24 February 2022. We appreciated being able to discuss our proposed model in detail and to engage with stakeholders around the industry to understand their concerns and questions on our proposal. Following the feedback outlined in the breakout sessions, we consider it would be helpful to address several of the key themes we have identified in the feedback. This submission provides more commentary on these themes, outlining how our locational connection fee model would work within certain frameworks.

---

[1]By load, based on Shell Energy analysis of publicly available data.
[2] Utility Market Intelligence (UMI) survey of large commercial and industrial electricity customers of major electricity retailers, including ERM Power (now known as Shell Energy) by independent research company NTF Group in 2011-2021.

Shell Energy Operations Pty Ltd, Level 30, 275 George Street, Brisbane Qld 4000. GPO Box 7152, Brisbane Qld 4001.
ABN 28 122 259 223 Phone +61 7 3020 5100 Fax +61 7 3220 6110 shellenergy.com.au

Shell ENERGY

Interaction with Renewable Energy Zones and the Integrated System Plan

Several comments in the breakout sessions queried how the locational connection fee model would work within Renewable Energy Zones (REZ), or how it interacts with the Integrated System Plan (ISP). Shell Energy wishes to clarify the intent of our proposed model.

Firstly, Section A.4 of the attachment to our original submission explored how the locational connection fee model would operate for REZs. For a thorough explanation, we encourage interested parties to refer to this attachment.

At a basic level, a REZ coordinator would need to ensure that the REZ was designed and connected to the existing network so as not to harm the access of generators already connected elsewhere in the network. This is effectively making sure that the REZ and enabling network infrastructure is appropriately sized and has sufficient technical capabilities. If the ISP provides sufficient guidance, and the REZ coordinator works closely with the TNSP, then this should be relatively straightforward.

Assuming the REZ coordinator eventually agrees with the TNSP on the REZ's size, and the physical transmission augmentation/operational behaviour required to facilitate it (so as not to harm the transmission access of generators already connected in the network), the TNSP would calculate the cost of the necessary physical augmentation.

At this point it would be up to the REZ coordinator to determine how to fill the REZ with generators. There is range of potential approaches to do this such as auctions, tenders or other methods. The NSW Government's approach to the Central West Orana REZ offers one such allocation model.

A key point is that the REZ coordinator would be responsible for ensuring it didn't 'overfill' the REZ to the extent that it did material harm to existing generators on the network. Similarly, prior to the auction/tender/similar process, the REZ coordinator would need to make clear to all prospective REZ participants the operational requirements and/or congestion that they would face as part of a REZ designed to minimise whole-of-system costs. If the REZ and facilitating infrastructure was appropriately designed in the first place, Shell Energy considers that these conditions are unlikely to be onerous. If they were not appropriately designed, the REZ coordinator would likely bear the costs of a stranded asset.

Incentivising storage

Under our proposed model, battery energy storage systems (BESS) would be treated in the same way as any other generation facility. One advantage of BESS is that that are not dependent on weather patterns to provide generation into the grid, therefore, we would expect that in many cases the locational connection fee for BESS projects would be relatively low. As such, it is unlikely that there would be disincentives to storage locating in certain parts of the grid.

Similarly, there may be opportunities for BESS to consider locating in parts of the grid where there may be congestion or congestion could arise in the near future. BESS systems could look to strike bilateral financial contracts with generators in order to encourage them to charge at certain times of day and hedge the financial costs of charging. This is an option that is available to BESS now, and would be under our proposed locational connection fee.

Finally, the locational connection fee model could create advantages in co-locating batteries alongside wind or solar generation as a means to reduce locational connection fees. By charging batteries instead of spilling generation, there could be ways for new generators to create more efficient plant under the locational connection fee model than under current arrangements.

Shell ENERGY

Multiple projects

We noted a number of comments asking how the model would operate for multiple projects seeking to connect at once. We consider this to be an important question and we wish to better explain how our model would address such a scenario.

Firstly, we see that it would be important for AEMO, or the TNSP to have an obligation to inform the various parties seeking to connect at a similar part of the network. In this way, prospective generators could work together to find a single efficient investment rather than multiple piecemeal investments. This would allow for coordinated investment in generation and transmission infrastructure in line with the original aims of transmission access reform.

It could also allow for a set of generators to invest in a network project with additional capacity to allow for a new generator to come in and access the asset through the provisions of the Dedicated Connection Asset rule change.

The lumpy nature of transmission investment

Another theme that emerged was concerns that due to the lumpy nature of investments in transmission infrastructure, there may be a first mover disadvantage, as the first generator will pay the costs of augmentation, allowing more generators to come in and free ride.

We do not consider this to be a risk with our model, as any generator committing to significant network augmentations would have a property right attached to that investment and asset as the network would be considered a Dedicated Network Asset. As such a generator could make a return from a network augmentation that then allowed other generators to connect in the future. Access arrangements would be determined as a Dedicated Network Asset Service Provider as per the Dedicated Connection Asset rule change final determination.

There may also be possibilities for co-investments, where a new generator takes a stake in a network augmentation, with a TNSP, or other private investor taking another stake and providing the capital for a Dedicated Network Asset investment.

Addressing disorderly bidding

Shell Energy considers that disorderly bidding is more of a perceived problem than an actual problem. One of the historical drivers for disorderly bidding was the 5 minute dispatch and 30 minute settlement structure, which incentivised bidding to the market price floor after a price spike. With the market now operating under 5-minute settlement, there is little scope for disorderly bidding of this kind.

Further, bidding to the market price floor is not in and of itself, disorderly bidding. There are legitimate reasons for generators to bid at the price floor such as to maintain minimum load levels, or minimum run times, or ensure generation to cover contract levels. Simply dismissing all bidding at the price floor as disorderly bidding misses the physical realities (and financial impacts) of the market. It is also important to remember that some level of congestion is an efficient response. Similar to the reliability standard that applies to the NEM, designing a transmission network that offers no congestion would be far more costly.

To the extent that disorderly bidding may be a problem in some parts of the network, we consider that our model will address this by solving the physical drivers of it. Creating a structure that incentivises better locational decisions for generation investments, and network augmentation or agreements to be constrained off during trading intervals when congestion occurs will reduce the scope for disorderly bidding.

As other transmission access reform alternatives have suggested, changes to tie-breaking rules may be able to address any remaining problems with disorderly bidding if a solution is deemed necessary.

How it operates in radial network

Several comments and questions raised during the breakout sessions and discussion during the seminar queried how our model would work in a radial network. We consider that the locational connection fee model works smoothly for both radial and meshed networks. For example, a generator or group of generators that have funded network augmentation(s) to reduce or remove congestion would receive firm access across any congestion point(s) they have funded to augment equal to the capacity of the augmentation they have funded. To achieve this outcome the generator(s) could be placed on the right-hand side of the constraint equation associated with the network flow paths they have augmented with generators who have not contributed remaining on the left hand side.

It should be noted that having paid to fund network augmentations to remove congestion under system normal conditions, the issue of congestion is less of a concern. Providing firm access in return for funding would then benefit the funding generators when an outage occurred as these would be the last generators to be constrained off. For example, if there were fifty generators in the constraint and 5 have funded a network augmentation, there are still 45 gens that can be constrained in the constraint equations to manage network flows.

Alternatively, the Rules could include a framework for financial adjustments at settlement between generators who have paid for firm access and those without firm access.

Time and cost of engaging with TNSP

One issue that attracted several queries was how the costs of engaging with the TNSP would be borne. This is a reasonable question and one worth discussing in greater detail.

In our view, we see that it will be important to devise a framework in the Rules that allows for applications to be dealt with in a timely and efficient manner to avoid lengthy delays in investments. In this respect, the framework would require network service providers to respond to enquiries within specified timeframes similar to for the existing connections framework. At this stage we are unable to propose a detailed method to allow this to occur, but we consider it should be a priority should this model be developed further for consideration.

In terms of costs, we consider that there would be some costs involved for both developers and TNSPs in order to undertake modelling and assess different options to avoid 'material harm' on existing projects. One of Shell Energy's aims for this model is that these costs be kept relatively low to avoid creating a barrier to investment. Again, how this would occur should be determined if this model were to be progressed for further investigation.

Conclusion

Shell Energy would welcome the opportunity to engage with the ESB or other stakeholders to address questions about our locational connection fee model. For more detail, please contact Ben Pryor, Regulatory Affairs Policy Adviser (ben.pryor@shellenergy.com.au or 0437 305 547).

Yours sincerely

[signed]

Libby Hawker
GM Regulatory Affairs & Compliance