Jess Boddington
Project Leader

Australian Energy Market Commission

Coordination of Generation and Transmission Investment – Access Reform, Discussion Papers

11 November 2019

Dear Ms Boddington,

Aurizon Network Pty Ltd (**Aurizon**) welcomes the opportunity to respond to the Australian Energy Market Commission (**AEMC**) Discussion Papers on the Proposed Access Model (**Paper 1**) and Renewable Energy Zones (**Paper 2**).

It is evident from the Discussion Papers that the AEMC has given considerable thought to addressing the challenges of a rapidly transitioning energy market and has undertaken a constructive and inclusive consultation process on implementing reforms aimed at ensuring this transition occurs with the long run interests of all consumers as the central tenet.

As a large load customer, Aurizon is indirectly impacted by changes to wholesale electricity pricing and the introduction of dynamic locational pricing. In this regard, Aurizon welcomes the AEMC's acknowledgement that load customers are not as price responsive to locational prices and production locations decisions are largely independent of the cost of electricity. In this regard, Aurizon Network supports the proposal for non-scheduled participants to continue to face the regional price.

Aurizon's prior submissions have stated that affordable and reliable electricity supply is essential to maintain the competitiveness of electricity as a fuel source for locomotives using the Central Queensland Coal Network (**CQCN**), given rail operators ability to substitute diesel locomotives for electric locomotives. Recognising that renewable generation sources will play an important role in the decarbonisation of transportation meeting the objective of affordable and reliable electricity supply requires that generation investment is coordinated with transmission investment.

Aurizon's primary concerns relate to the incentives and potential for generation investment to impose inefficient costs on consumers through investment in the wrong technology in the wrong location with subsequent overinvestment in transmission network infrastructure. This is largely a consequence of the proponent not being directly exposed to the costs or risks of transmission augmentation. As the problem is largely related to investment in renewables, Aurizon supports the AEMC's position to defer consideration of Transmission Planning and Operation and address the issues regarding development of Renewable Energy Zones (**REZ**) as guided by the Integrated System Plan (**ISP**).

Notwithstanding this support it remains a concern to Aurizon that the proposed reforms may not be in the long run interests of consumers given the lack of consensus among market participants on the right model and the costs and benefits associated with the various approaches. Consumers would have more confidence in the reform proposals where there was a greater degree of alignment among market participants. Robust assessment of the costs and benefits of the reforms and simulation of market conduct and the associated distributional impacts will be therefore be essential to building this confidence.

Central to the reforms is the interests of generators in respect of the price they receive for the electricity they supply to the market and the amount of electricity they are able to supply given constraints. The latter largely being a function of generators not possessing firm rights of network access as prevails in other network industries where the holder of those rights also pays for the use of the network. It is therefore an intrinsic assumption that effective coordination of investment in the transmission network requires generators to pay for establishing rights to capacity from the augmentations to the transmission network, above that required to meet reliability standards.

If these reforms do not deliver a significant improvement in the affordability and reliability of electricity supply, there is a real and increasing risk that our customers will shift to diesel powered locomotives overtime as the differential between traction costs increase as electric network transmissions costs increase. To add to this Aurizon will be required to make significant capital investments over the next 3 years as a large volume of feeder stations throughout the CQCN come to the end of life. If this shift were to occur the environmental impact is the equivalent to 500,000 additional electric vehicles required in Queensland to offset this loss[1]

The Proposed Access Model

Paper 1 proposes to introduce:

- Dynamic regional pricing for scheduled market participants;
- Dynamic loss factors in wholesale prices to ensure that the most efficient generator is dispatched taking into account losses; and
- A volume weighted average price (**VWAP**) for the reference price on which non-schedule load customers would be subject.

Aurizon is largely supportive of the proposed access model where it is can be reasonably demonstrated that the benefits from the improvements in dispatch to the more efficient generator outweigh the significant costs and risks of introducing the reform. Aurizon notes these benefits are likely to be minor if there is little change in marginal and locational prices given the costs of disorderly bidding do not appear to be material.

As the VWAP is effectively a virtual node incorporating dynamic loss factors it remains uncertain how this will interact with marginal loss factors (**MLFs**) and whether this might result in redistribution effects between regional and metropolitan customers where the losses are factored in both the wholesale price and the MLF. In addition, the AEMC worked examples from the October workshop show that the VWAP is required to support financial settlement but

[1] Aurizon (2017) Delivering for the Long Haul: 2017 Sustainability Report, p. 37. Available at https://www.aurizon.com.au/-/media/project/aurizon/files/sustainability/sustainability-reports/fy2017-sustainability-report.pdf

it does not show the impact of divergence between MLFs and dynamic loss factors on the settlement balances and therefore revenue adequacy. It is difficult for stakeholders to assess the impacts of adopting a VWAP without an informed position on how it will interact with MLFs.

Market power and Switching

Aurizon agrees with the AEMC's views regarding the potential for market power issues to arise, albeit with low probability, and that the current AER wholesale market monitoring functions could be enhanced to monitor market conduct.

The AEMC has also noted that some market participants could effectively arbitrage the VWAP and the locational price by frequently switching between being a scheduled and unscheduled market participant. The costs associated with a non-scheduled load customer becoming a scheduled load are significant and the incentives to engage in this behaviour are expected to be low. Similarly, a load customer may have commercial and operational legitimate reasons for switching and the benefits of being scheduled may not be permanent or may be seasonal. Therefore, a blanket waiting restriction of 12 months for switching may be a blunt instrument which impacts efficient market behaviours where demand response may be desirable. Aurizon suggests the problems identified by the AEMC would likely occur on the supply side and would recommend a more targeted approach to addressing perverse switching incentives on the demand side.

Renewable Energy Zones

The AEMC makes a distinction between the types of connections where a cluster of generators share connecting infrastructure. The emphasis of Paper 2 is to present a model that seeks to facilitate renewable energy zones that require both augmentation of the shared transmission network and also share connections assets, otherwise referred to as Type B REZ.

Aurizon considers that all incremental transmission investment that is associated with extending the existing shared network should be fully funded and paid for by generators within the connecting cluster. For avoidance of doubt this would include any infrastructure works associated with connecting the cluster to the existing shared network. The only distinction between a cluster and single generator being that each generator will require its own connection to the infrastructure common to connecting that cluster to the existing shared network. The common connecting infrastructure shared by generators in the cluster should be treated as incremental investment not forming part of the shared network.

Paper 2 seeks to resolve the 'free-rider problem' of how a generator who is partially funding augmentations to the shared transmission network will obtain the necessary rights to the capacity associated with that augmentation.

The preferred model posited by the AEMC largely seeks to integrate a market model with the central planning model processes of the RIT-T and ISP. Under the RIT-T process the investment in the shared network unrelated to maintaining the reliability standard, such as easing congestion and providing firm transmission rights to generators in the REZ, would need to be supported by additional market benefits. This potentially leads to issues where the value of the transmission rights obtained through the market-based model do not reflect the value of the congestion, or the market benefits have been grossly overstated, leaving consumers to bear the costs of the augmentation.

In circumstances where the investment in the transmission network is lumpy and involves excess capacity the value of the transmission rights obtained through an auction are expected to be low. In addition, there appears to have been limited ex-post evaluation of whether the

market benefits from prior RIT-T processes and subsequent investment were realised and therefore what reliability consumers should attach to the benefits that would be obtained from funding augmentations to the shared network to relieve congestion. This problem can potentially be overcome by establishing a reserve price for the long-term hedge determined through the RIT-T process. Where sufficient hedges are unable to be sold at the reserve price then investment would not proceed or would proceed as a negotiated transmission service or through some form of funded augmentation and 'deep connection' charging.

Aurizon is therefore supportive of the statements by Origin Energy[2] that '*ultimately it is the robustness of the RIT-T and ISP process that will minimise the cost and risks borne by consumers. Any concerns around inefficient transmission investment are most appropriately addressed by ensuring that both the ISP and RIT-T manage the inherent risk of asset stranding and over-investment* '. Presently these processes are dominated by stakeholders whose incentives may not be aligned with the interests of consumers. This is likely to be the case particularly where investments are dependent on market benefits to satisfy the RIT-T for investments which relieve congestion to facilitate additional generation.

Aurizon supports the direction of the proposed reforms but notes further work will be necessary to determine the efficient allocation of cost and risk of investment in the shared network associated with Type B REZs.

Aurizon welcomes the opportunity to further engage in these reforms and welcomes the AEMC's approach to stakeholder engagement. If you wish to discuss further, please do not hesitate to contact myself, or Dean Gannaway (dean.gannaway@aurizon.com.au / 07 3019 2055).

Kind sincerely,

Steve Straughan
Head of Network Customers

[2] Origin Energy Limited (2019) Coordination of Generation and Transmission Investment Directions Paper, Submission to the AEMC, 2 August.