Major Energy Users Inc.

8 November 2019

The Commissioners
Australian Energy Market Commission
PO Box A2449
Sydney South NSW 1235

Sent to: AEMC by online lodgement

Dear Commissioners

Coordination of Generation and Transmission Investment
Proposed Access Model Discussion Paper
Renewable Energy Zones (REZ) Discussion Paper
EPR 0073

Major Energy Users Inc (MEU) is pleased to provide its thoughts on the issues raised in the Discussion Papers for Coordination of Generation and Transmission Investment proposed access model and renewable energy zones.

The MEU was established by very large energy using firms to represent their interests in the energy markets. As most of the members are located regionally and are the largest employers in these regions, the MEU is required by its members to ensure that its views also accommodate the needs of their suppliers and employees in those regional areas. It is on this basis the MEU and its regional affiliates have been advocating in the interests of energy consumer for over 20 years and it has a high recognition as providing informed comment on energy issues from a consumer viewpoint with various regulators (ACCC, AEMO, AEMC, AER and regional regulators) and with governments.

The MEU stresses that the views expressed by the MEU in this response are based on looking at the issues from the perspective of consumers of electricity but it has not attempted to provide significant analysis on how the proposed changes might impact generators, TNSPs and other stakeholders.

The MEU supports better coordination of new generation and transmission investment. In previous submissions to the AEMC on this issue, the MEU has provided its views on various aspects which are worth repeating:

- Generators must accept that their locational decisions need to be balanced between the improved generation outcomes that the location might provide and

the costs of augmenting the transmission network to provide the generator with firm access to the market. Currently the signals from the negative outcomes from location setting only include the costs to connect to the shared network, the loss factors that apply and the risks of congestion preventing delivery of some of the output from the new generator. The MEU considers these signals are quite weak and must be strengthened.

- Consumers should not be exposed to the costs of a generator's location decision to relieve the congestion that the locational decision causes. If there is a market benefit delivered through the relief of congestion, the cost of the transmission augmentation should be paid for by the beneficiaries of that augmentation rather than being automatically transferred to being a consumer cost.
- A generator should be able to invest in the transmission network and by doing so, to have a property right in the increased access that it pays to have created. This property right should be limited only by the reasonable ability of the transmission network to maintain the access.

These same aspects have been applied to assessing the proposals of the access model and the REZ.

Dynamic Regional Pricing (DRP) and Financial Transmission Rights (FTR)

While the MEU tends to support the concept of Dynamic Regional Pricing (DRP), it also has some concerns about its efficacy in strengthening locational signals.

The AEMC has highlighted that the current arrangements do not provide a strong locational signal for new generation. This means that any signal needs to be known and be quantifiable **before** the new generator makes a decision to invest in a specific location. The MEU sees that DRP will provide a locational signal **after** the new generation commences operation but it is less clear how the DRP provides a signal to an intending new generator of the financial impact for alleviating the costs of any transmission congestion at the planned location before the new generator is in operation.

While the new generator might be able to assess the likelihood of its dispatch if its marginal cost of generation is lower than that of an existing generator at the same location, but if the marginal costs are similar, this locational signal is less tangible.

For example, in a renewable energy zone (REZ), the same sort of generation (eg wind, solar, etc) will elect to locate because of the conditions which led to the selection of the location as a REZ[1]. So the first renewable energy generator might locate in a REZ and there might be no congestion. When the second renewable energy generator of the

[1] Most REZs are relatively specific to a particular technology (eg wind, solar). Few REZs have multiple renewable technologies included and even where this occurs, the different technologies tend not to be collocated within the REZ.

same type locates within the REZ, this might well introduce congestion because the marginal costs and timing of the generation dispatch will be similar. The costs of this congestion will be unknown as both generators will be keen to maximise their dispatch and both would have similar maximum limits for their purchase of financial transmission rights (FTR). The MEU questions if the DRP and FTR process provides any ex ante signal to optimise the locational decision for the generation investment other than “Not Here!”

Further, even if the new generator, knowing that its marginal cost is less than that of the existing generator, decides to locate upstream of a potential point of congestion effectively caused by the new generator, its decision could have a detrimental impact on the overall market.

For example, the existing generator might be one which provides electricity at a lower cost than another generator remote from where the new generator proposes to locate. The congestion caused by the new generator could result in loss of a low cost supply generator through early closure due to insufficient volume of sales with the end result the more expensive remote generator not being dispatched less often than in the past, potentially preventing the regional price from falling through the introduction of a lower cost generator.

Once the new generator is operational, the DRP concept provides some value as it provides a clear valuation of the impact of the congestion on the market. The MEU sees that one of the benefits of the DRP is that it would provide some financial input to assess the value of any congestion that occurs, although the MEU also notes that AEMO already carries out analysis of the costs of congestion where this occurs.

The proposed access model allows for a generator to bid at auction for right of access as a tool to manage its financial exposure on the basis that, if the access is not available because of the centra dispatch process, the generator gets some compensation via the differential between the DRP and the Regional Reference Price (RRP).

So while the DRP and FTR process provides some measure of confidence that the new generator might be able to hedge against congestion, it is still faced with a number of unknowns before it can make its the decision to invest. Specifically:

1. Whilst in a REZ, the likelihood of additional new generation of the same type and marginal cost is high, neither the timing nor the extent of any further generation is known. This introduces a risk of future competition for the limited transmission resource and this impact is unknown.
2. The costs of the congestion are unknown although some assessment might be possible based on technical fundamentals but bidding practices by other generators will limit the ability to accurately forecast the costs for managing the congestion risk.

3. The impacts of the dynamic loss factors are unknown both in temporal terms and magnitude, and will reflect significant volatility making assessment of them most challenging
4. The costs of obtaining the hedge for access and for losses are unknown.

It is clear that the costs of congestion and losses will vary considerably depending on regional demand, location of the new generator, the degree of competition for access at each location, the dispatch profiles of existing generators, and assumptions about the impacts of dispatch profiles of other generators joining in the future. With this in mind, the MEU considers that without having a clearer picture of the magnitude of the costs for managing the risks faced, identifying a value for the hedges needed to manage the risks (noting that the hedge will not ensure that the generator will still receive full value for its output) will be challenging for an investor as it examines the options for establishing a size and location for its new generation investments.

The MEU considers that the introduction of the DRP and FTRs has some benefits to the market, in that it provides a mechanism for the better management of congestion **after** it occurs when new generation has been added to the market.

Despite the **ex post** benefits of the DRP and the associated FTRs, the MEU remains unconvinced that the proposed process provides any better certainty on an **ex ante** basis than the current arrangements do to assist an investor in making its decision on when, where and what size it should determine for its investment. So the value of the DRP and FTR process as a signal for new generation investment is effectively non-existent.

It is not clear from the Discussion Paper whether FTRs will be used as part of the RIT-T process to justify an augmentation to relieve congestion. This aspect is very concerning to the MEU as the MEU can see that generators all seeking firmer access to the shared network will be tempted to push the value of FTRs to very high levels. If the RIT-T process includes the value of FTRs as part of the market benefits assessment for the proposed augmentation[2], the MEU points out that once the congestion is relieved, the value of the FTRs will fall to zero, effectively resulting in the costs of the augmentation exceeding the benefits to the consumers that funded the relief of the congestion – effectively a transfer of wealth from consumers to generators.

The AEMC has stated that the purpose of the new tools (DRP sand FTR) is to provide better locational price signals and greater certainty that new generation assets will be profitable after they commence operation, but it has proposed a model to deliver these outcomes through a market based approach which is quite complex. While an aspiring investor can already access advice from AEMO as to the likelihood of congestion occurring if the investor proceeds with its new generation at a specific location, the

[2] The MEU considers that under the current rules, the FTRs could be considered to be a transfer of wealth from generators to consumers via the cost of transmission paid for by consumers, and therefore should not be included in the RIT-T.

access model (based on DRP and FTR) does little to provide a stronger signal or more accurate costs for an intending generator that might arise should congestion occur.

So while the access model provides a better approach to allocating costs and/or access once congestion occurs, it will do little to provide the basis for better coordination of generation and transmission investment as the costs that will result cannot be calculated with greater certainty than is currently possible until after the investment has been made.

Renewable energy zones (REZ)

The concept of the REZ is that it is located in a geographic region of higher efficiency generation for various types of renewable energy. This effectively means that the generation in each REZ is likely to have similar marginal costs and timing of dispatch such that the majority of the generation in each zone will be delivering their power at the same time and have similar cost drivers. Unless the transmission system is designed to carry all of the output from a single REZ, then there is likely to be congestion as each REZ builds up its generation potential.

A type A REZ is where a group of generators band together to fund their combined connection assets and have a single connection point to the shared network. This raises two questions

1. Why would one firm agree to joint funding of connection assets with another firm when they are in competition?
2. While it might be possible that two or more firms might agree to co-jointly build sufficient connection assets if the work is to be done at the same time, the next question becomes how do they address the temporal issue so that the connection assets are sized for the later inclusion of additional generation seeking to connect? While later augmentation by one of the inaugural group might be accommodated with this arrangement it is harder to accept that they will do it for a future competitor.

The Discussion Paper on the REZ considers that the issues surrounding a type A REZ are addressed as far as possible within the current arrangements set out in the rules. The MEU agrees.

However, the type A REZ is still left with the problem that even though there is a single point connection of all the generators in the REZ to the shared network, congestion at some time could become a problem. In the short term there might be no congestion in the shared network from the REZ but as the amount of generation increases within the type A REZ, congestion become more likely. This increase in generation leading to the congestion could result from one of the firms implementing its expansion thereby impacting the others or by a new generator entering the REZ. This issue is effectively addressed by the AEMC as a type B REZ.

A type B REZ is where there are new connections to the shared network requiring augmentation to the shared network to reduce or eliminate congestion, and this is where the Discussion Paper considers there is a solution through changing the rules.

The fundamental concerns raised in the Discussion Paper are that augmentations funded by:

- Consumers can still result in congestion and impose a limitation through the requirement to demonstrate that the benefit of the augmentation exceeds its costs (the RIT-T process)
- Generator(s) will suffer from a "free-rider problem" and a "dispatch problem".

The MEU agrees that under the current rules, these are significant concerns and have to be addressed.

The Discussion Paper proposes that of five generalised approaches to address the problems identified, it considers that four probably will not resolve the problems identified but the Paper expresses favour for an approach using a market based solution where a generator can make a financial contribution to reduce congestion in the shared network and receive

> "…some guarantee about its financial return for making that investment" (page 33)

The MEU notes that, in the preferred option provided in the Discussion Paper, once the generator has funded the augmentation to enable it to have more firm access to the shared network, the generator then effectively has bought the right to bid at an auction for a "long term transmission hedge" which gives the generator a degree of certainty over its dispatch and to receive the RRP for the life of the generator. This is effectively "double dipping", where the generator apparently will pay for an augmentation and then pay again to be able to use it. The MEU points out that the cost of this "double dip" will be recovered from consumers through higher generation prices.

The MEU considers that if a generator funds an augmentation then it should have the automatic right to have firm access on the additional capacity provided without having to pay again for the right to use it; this property right should exist as long as the network assets are available to provide the service[3].

The MEU considers that an augmentation built through a contract between the network and a generator will be more expensive for consumers than if the augmentation was made as a regulated investment as the generator will seek to recover this elevated cost of the network investment from consumers. With this in mind, the MEU considers that the AEMC needs to identify a mechanism which enables the augmentation to be made as a regulated investment. As posited in the MEU response to the Directions Paper, if

[3] Because of this property right, the generator funding the augmentation should have the right to sell that capacity to another party at a later stage if it so desires.

a generator is prepared to accept the costs of an augmentation, the AER (after approving the augmentation as a regulated asset) should be able to allocate the costs of using the augmentation to the generator as the beneficiary of the augmentation[4]. The MEU cannot understand why this is concept is consistently rejected when it is used elsewhere in similarly regulated network service provision.

The Discussion Paper posits that as transmission investment is "lumpy" it is quite possible that any increased transmission capacity will exceed the specific needs of the generator funding the augmentation, resulting in spare capacity which provides a "free-rider" outcome where other generators at the same location benefit from this spare capacity created by another generator. The free-rider outcome arises because of the allocation practices of the costs for transmission services. The MEU considers that the issue of the "free-rider" problem is readily resolved if the total costs for the augmentation can be allocated by the AER to all of the beneficiaries. So the generator paying for an augmentation to provide firm access for its product would have allocated to it the capacity it paid for and all other generators using the balance of the capacity of the augmentation would each pay their share of any surplus capacity created.

The MEU is not supportive of the proposed approach outlined by the AEMC in the Discussion Paper as:

- The model does not appear to address that there is already existing capacity in the network. This existing capacity is effectively "owned" by consumers (as they pay for it) and allocation of this capacity should be through an auction process to get the highest price for its use (eg via the FTR process)
- Generators are exposed to the exercise of monopoly power by the TNSP and if the augmentation is unregulated, there is no mechanism for the generator to appeal the pricing offer and/or conditions imposed by the TNSP for the augmentation[5]
- Not being a regulated augmentation, the costs of the augmentation funded by generators will be higher than necessary (both in terms of cost of capital and by depreciation of the assets over a shorter timeframe) and this higher cost will be transferred to consumers through higher generator prices
- There is a secondary cost from the auction of the access rights which will be passed on to consumers, although it is assumed that the amounts paid at the auction would be returned to consumers through transmission prices

The MEU has reviewed the other four proposed solutions and agrees with the AEMC that they all have significant drawbacks and are not fit for the purpose identified for the reasons provided by the AEMC.

[4] As was explained is the case in New Zealand at the 8 July 2019 CoGaTI forum in Melbourne
[5] MEU members have experienced first hand that monopoly service providers can and do exercise their market power to increase the cost of network augmentations and impose unnecessarily harsh contract conditions.

The MEU does not support the option proposed by the AEMC and suggests an approach to augmentation for a type B REZ which is based on the beneficiary pays concept which has been successfully used in New Zealand.

The MEU approach would have the generator(s) seeking firm access to request the TNSP to carry out a RIT-T process for the augmentation sought, with the RIT-T process funded by the generator(s) seeking the firm access. The concept would have the augmentation carried out as a regulated asset with the TNSP being subject to AER oversight as occurs now for augmentations. As the RIT-T process produces a valuation of the benefits of the augmentation, any shortfall between the cost of the augmentation and the assessed benefit would be recovered as a capital contribution payment from the generator(s) which benefit from the augmentation.

In return, the generator(s) providing the funding would get firm access rights only to the **additional** capacity provided by the capital contribution from the generator(s) for the life of the assets. If the provided capacity exceeds that capacity sought by the generator(s), the surplus capacity and the existing capacity would be allocated to other generators through an auction process (FTRs) as this reflects that the existing capacity is “owned” by consumers.

The MEU model has some similarity to the AEMC proposed model for REZs but provides a lower cost outcome and reflects that consumers might also be beneficiaries. The MEU model also makes it possible for governments or other third parties to make a capital contribution to reduce the cost carried by the generator(s).

The MEU approach reflects the New Zealand model already in operation where the beneficiary pays for an augmentation and which appears to be operating satisfactorily

The MEU is happy to discuss the issues further with you if needed or if you feel that any expansion on the above comments is necessary. If so, please contact the undersigned at davidheadberry@bigpond.com or (03) 5962 3225

Yours faithfully

David Headberry
Public Officer