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The Chairman
Energy Security Board
C/- CoAG Energy Council

Sent by: email to info@esb.org.au

**Renewable Energy Zones – Interim
framework
Consultation Paper January 2021**

Major Energy Users Inc (MEU) is pleased to provide its thoughts on the issues raised in the consultation paper relating to the planning for Renewable Energy Zones.

The MEU was established by very large energy using firms to represent their interests in the energy markets. With regard to all of the energy supplies they need to continue their operations and so supply to their customers, MEU members are vitally interested in four key aspects – the cost of the energy supplies, the reliability of delivery for those supplies, the quality of the delivered supplies and the long-term security for the continuation of those supplies.

Many of the MEU members, being regionally based, are heavily dependent on local staff, suppliers of hardware and services, and have an obligation to represent the views of these local suppliers. With this in mind, the members of the MEU require their views to not only represent the views of large energy users, but also those interests of smaller power and gas users, and even at the residences used by their workforces that live in the regions where the members operate.

It is on this basis the MEU and its regional affiliates have been advocating in the interests of energy consumers 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.

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Some general observations

As a headline observation, the MEU agrees with the concept of developing Renewable Energy Zones (REZs) as this provides clear guidance as to the lowest cost development of the transmission network to provide strong connections for new entrant variable renewable energy (VRE) generators. Where the MEU has a problem with the current approaches for the development of the REZs is the allocation of cost.

The MEU considers that as the generators are the beneficiaries of the REZs, they should pay the costs associated with their connection to the shared network and the impacts their connection has on the shared network. MEU members report that they have to carry the costs and risks associated with their locational decisions and they get no “free rides” from their customers and have asked, legitimately, why energy regulators consider that consumers should bear any risk or cost as a result of generator locational decisions.

The MEU points out that a new entrant consumer which requires a new connection, that new entrant consumer has to pay not only for the new dedicated connection asset but also for the costs incurred for any augmentation required in the shared network to allow the new connection to have a firm supply. The MEU considers that treating new entrant generators the same as new entrant consumers is equitable and appropriate. In the absence of having to absorb the bulk of the costs caused by a new generator connecting to the network, the MEU points out that there is only the marginal loss factor and the proximity to the shared network that drives the locational decisions of a VRE generator, allowing the generator to locate in the optimum location for it based purely on the energy source.

The MEU accepts that the REZ concept is a sound approach as it provides incentives for the VRE generators to co-locate in resource rich locations. This concept was first suggested in 2010 when the “scale efficient network extensions (SENE)” approach was proposed. Ultimately, it was recognised that SENE as initially proposed in the rule change proposal was inequitable on consumers who were expected to not only fund the extensions to serve VRE generators but take the risk on the cost, the timing of take up of the capacity provided and the potential for there being redundant assets. The current proposals for REZs suffer from the same problem. Unless VRE generators are required to pick up the costs of their connection directly, as was proposed under the Optional Firm Access approach¹ (and discontinued by AEMC in 2015), then the approach in the current review will still expose consumers to risk and cost that they have no ability to manage.

Generators are free to locate where they will, and for VRE this is presumably where they consider to be resource rich and so generate the maximum amount of

¹ Where the OFA was seen to be in conflict with the market structure was that if a generator invested in new transmission assets, it would have firm access rights to the capacity they paid for, for the life of the transmission assets. The MEU continues to consider that where a party pays for assets to provide it with a service, that party should have rights to their use as this approach is what MEU members experience in their own markets.

energy for the lowest cost. Consumers have no control over these locational decisions and yet are expected to carry the costs for these locational decisions in terms of both providing augmentations to the network (eg as was the case for the WestVic project) to allow better access to the market for “stranded” generators and to provide system strength (eg as in SA where consumers fund the four synchronous compensators required because of VRE locational decisions). This raises the core question as to who should bear the cost and risk of generator locational decisions.

The MEU recognises that, perhaps if consumers provide “free” access to generators located in a REZ, then the generators involved might provide their product at a lower cost to the market. Equally, the MEU recognises that even if they can get lower connection costs, there is no guarantee lower prices will eventuate if the generators can benefit from higher prices generated in the spot market.

It is clear that generators are the main beneficiaries from REZs but that consumers might gain some benefit through lower prices. This raises a critical question – is the benefit consumers might gain from lower spot prices offset by the higher prices they will incur through funding the REZs. The MEU considers the risk and cost consumers are expected to accept is not outweighed by the benefits they might get and therefore a new approach is needed which requires generators to contribute the major portion of the costs of the REZs and for other impacts of generator decisions such as system strength.

Objective #1

The MEU agrees with the ESB that there needs to be control of new connections to minimise the uncoordinated connections of new VRE generators.

However, implicit in the discussion in objective #1 is an assumption that the REZ will be committed and built so that generators proposing to connect will participate in an auction process to get the right to establish their connection in the REZ. Such an approach exposes consumers to significant risk in that, independent of generator interest, the coordinator would have to determine the size of the REZ without having any clear expression of interest from generators or commitment from them. This exposes consumers to a number of risks in that the coordinator could overestimate the size of the REZ and/or the rate of take up of connections, leaving consumers carrying the cost for more time than expected and the potential for the cost of any redundant capacity. The MEU considers that having consumers take this risk is the easy option but is totally inequitable.

The MEU points out that the proposed coordinator should carry out its duties without requiring consumers to be exposed to cost and/or risk.

The MEU considers that presumably it will state governments that will appoint the coordinator for each state, noting that they also might jointly agree to a single coordinator. The MEU notes that the ESB suggests that an option could be that

AEMO could take on this role. The MEU is concerned at this proposal. The coordinator needs to be independent of AEMO and the regional TNSP as both have “an interest” in the outcome – AEMO because it is the developer of the ISP, has identified the REZs and is the TNSP for Victoria and the regional TNSPs all have a financial interest in maximising the development of REZs.

Objective #2

The MEU is uncertain as to why there have to be certain separate criteria (geographical, financial, technical) for a new entrant generator to seek to “bid” for the right to connect in a REZ.

Effectively the new entrant will only bid for a connection in the geographical location that it considers meets its needs to meet its investment criteria and the NEM rules already determine the technical requirements for connecting generators. While having project finance might appear to be a useful prerequisite, the MEU points out that a project developer might not be able to access finance unless it has a firm commitment for unimpeded connection rights coupled to the ability to export the full output of the proposed plant – the MEU highlights that recent experiences of new VRE generation of being constrained off due to network constraints has made financiers much more aware that firm access rights have to be in place prior to confirming finance.

The MEU considers that rather than the coordinator assessing the criteria nominated, a more certain solution would be that the proponent needs to pay a significant deposit on the firm access it bids for, and that the right to retain this commitment of access has a limited life to complete the development phase (eg that finance is committed within (say) 12 months). At the end of this limited period, the full price for the access become payable. Failure to make the full payment would result in loss of the deposit. Such an approach provides much greater certainty of access take up and limits risk to consumers

The MEU notes the discussion on the need for the generation mix to be managed by the coordinator but the MEU points out that only the issue of storage might be an issue. While the assumption is that each REZ should look to exhibit some diversity in output, in reality all forms of VRE can operate coincidentally (eg the wind blowing at the time of peak solar generation) so managing the mix has minimal significance. The exception is for storage within the REZ as storage can allow more VRE in the REZ as the storage absorbs output at peak times and can release this stored energy at low output periods, effectively increasing the capacity of the REZ for the same network capacity.

Objective #3

The MEU is pleased to see that the ESB has identified that consumers will bear significant risk and cost as a result of its proposed approach to REZ development and proposes approaches to minimise this cost and risk.

The MEU considers that where an augmentation provides joint benefits to consumers and generators, then socialising part of the costs is equitable. For example, the interconnectors, EnergyConnect and VNI West, provide benefits to consumers through reliability and security measures but a significant portion of the costs is attributed to providing VRE generators with access to the shared network, so the costs for this benefit should be borne by them. In the case of a REZ, almost all of the costs are to benefit the generators using it, implying that the VRE generators connecting through the REZ should carry all (or at least most) of the cost, accepting that consumers might get some benefit from the increased competition provided by the new entrant VRE.

The MEU also notes that the approach proposed by the ESB in its paper not only imposes significant cost and risk to consumers, it also has elements of inequality between existing VRE generators and those VRE developers considering connecting at a REZ. The MEU considers that the ESB needs to examine this inequity but considers that this is an issue to be further explored by VRE generators themselves.

Options of access within a REZ

The ESB posits five evaluation criteria for assessment of the options (page 37) and while the MEU agrees will all of these, it points out that the criteria exclude two important aspects – the view of consumers that they do not see they should be exposed to any cost or risk for providing VRE generators with a benefit and the view of generation developers that they will need certainty of cost and duration of the access right to match the life of their investment. Any assessment of the options needs to reflect these commercial realities rather than assessing the criteria purely in terms of how they might impact the market.

The ESB paper makes a telling point (page 16):

“...the current market design does not provide strong enough signals to encourage generators to locate in an optimal place from a whole-of-system perspective.”

The MEU agrees but points out that a core reason is that if a generator does locate in an optimal place in the transmission network, it has no long-term certainty that it will retain access to an uncongested shared network and so be able to export its product without constraint. If generators were able to invest in the network and retain the rights to use the assets they pay for, then the signals for optimum location would be much stronger. As long as there is an inability for generators to have firm access if they pay for assets to be provided, then generators will rightly fear that their decision to locate in a particular part of the transmission network could result in a limitation on their ability to export to the full capacity of their generation assets. While the MEU accepts that firm access might not be possible at all times due to the impact of being in a meshed network, allowing investment by generators coupled to access rights to what they pay for will be a better outcome than auctioning financial rights, especially where these

financial rights have limited duration. Both the discussion paper and the AEMC CoGaTI approach fail to recognise that if a generator has an expected life of 20-30 years, it needs certainty of access for this period and not to be required to buy access at a later time for an unknown price.

The MEU can accept that a generator locating in a REZ might fear that the REZ will be “over-stocked” with generation and therefore be exposed to congestion as new generators are added to the REZ. A generator that pays for assets to be provided to allow it to export its product would expect to have first rights to the use of those assets. If these assets are paid for by a third party (eg consumers), there is no certainty that a generator which has made an investment decision based on 20-30 years expected asset life, will assume that the assets provided by that third party will be available to it for the life of the generation assets, then the generator faces a significant risk. While access rights might be available for purchase to minimise that risk, the price required at any time in the future might make that generation investment uneconomic as other generators attempt to seek access in the same location.

The ESB posits four options for managing the REZ (page 35):

1. Connection access protection model – New connection requirements could apply to subsequent connecting generators to maintain a defined level of power transfer capability for generators that participate in a REZ.
2. Financial access protection model – the REZ generator would be financially compensated for not being dispatched during periods of congestion by subsequent entrant generators within the REZ who were dispatched.
3. REZ as a region – The REZ could be established as a separate NEM region, either using the status quo access and pricing arrangements, or with locational marginal pricing and financial transmission rights.
4. Early allocation of financial transmission rights – A congestion hedging mechanism would be made available exclusively to REZ generators. This model is dependent on the introduction of LMPs and FTRs at a known point in the future.

The MEU considers that to protect the interests of consumers, the risk of providing the REZ should lie with the beneficiary (ie the generators located within it) and not with consumers. To protect the long-term interests of the generator², the generator needs certainty that its access to the market will not be taken by another generator at a later stage or for having to pay an unknown price in the future to maintain that access.

The MEU considers that options 3 and 4 do not provide sufficient certainty to the generator that they will receive both the regional price they need to secure the investment and the access they require to deliver their product to the regional market on which their price is based. It needs to be recognised that even if a

² ie the ability to be able to export at rated capacity for most of the life of the asset at a price that the generator considers the market will provide over the long term

generator might accept the risk of a lower regional price based on the REZ as a region or based on a locational marginal price (LMP), another counterparty will have to take the risk on the price differential between the price the generator gets and the regional market where the demand is. The MEU members report that retailers do not take the risk on inter-regional price variation, so why would retailers be prepared to take the risk on risk on the difference between a LMP and the regional price. While the concept embedded in options 3 and 4 might appear to be reasonable, first-hand experience is that there are no counterparties prepared to take this risk now, so why would they change for a REZ?

The MEU considers that options 1 and 2 have potential to be operable as they are similar to a generator having certainty of being able to deliver its product to market based on the generator either paying for an access right for the life of its asset (either by paying for the assets they use or buying a right) or having a form of indemnity if they lose physical access. However, the generator will need to know what this cost will be before making a commitment for an investment and that this right will have to last for the life of the generation asset. This approach is very much akin to the OFA model where a generator knows what its costs will be through paying for the access it needs upfront.

Overall, the MEU considers that the concepts embedded in the Interim REZ framework still do not address the needs of generators for certainty to be able to export nor the concerns of consumers about the risks and costs they face.

Conclusions

The MEU considers that generators in a REZ will need to make the major part of the costs of the network provided to allow their export. If they contribute, they will expect that this contribution will provide certainty of access to match the life of their investment. The MEU considers that the OFA approach provides a solution to the concerns raised in the ESB paper.

The MEU supports the concept of a REZ development coordinator who would base a REZ development of expressions of interest backed up by deposits to “secure a place” in a REZ. The coordinator could look at develop a REZ in stages to minimise the risk on network over-investment.

The ESB paper focuses on the development of REZs. However, locating a REZ at the periphery of the shared network will result in potential congestion in the shared network if output from a REZ exceeds the capacity of the shared network. What is absent from the ESB paper is any consideration of the need for deep connection augmentation to manage the REZ output. This then raises the issue of who pays for the deep connection augmentation and how this augmentation will be sized. The MEU considers that this deep connection augmentation still needs to be paid for by the beneficiaries (ie generators) and suggests that this cost be funded by generators making a TUoS payment to reflect the costs incurred.

Further, the MEU points to a concern that is not addressed in the discussion paper. What occurs if a generator connects to the shared network between a REZ and the load centre? This new (rogue?) generator³, when it is exporting, has the potential to cause congestion and so limit the output of those generators that have located within a REZ. This issue needs to be addressed as well.

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 0417 397 056

Yours faithfully



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³ The term “rogue” is used to highlight that this generator has decided not to use the benefit of a REZ but is still allowed to connect to the shared network, posing future risks of congestion when it operates at the same time as those generators located within a REZ