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Dear John

Response to SENE Options Paper

We welcome the opportunity to comment on the AEMC's SENE's options paper.

We understand the AEMC's decision to separate the SENE Rules consultation process from the transmission frameworks review to ensure the timely delivery of an outcome to address the challenges and opportunities presented by multiple, simultaneous and remote connections.

Nevertheless we believe that the SENE options should be assessed in the context of the broader network access issues which are currently under consideration in the Transmission Frameworks Review (the Review).

With this in mind, we believe that the AEMC should assess its SENE's outcomes against two access models:

- An access rights model which provides generators with certainty for the services that they will receive for the life of their assets; and
- A proactive planning model which requires a national planner to economically develop the shared transmission network.

The essential elements of these two models are explored in detail below along with a re-statement of the problem as we see it and our experience with the current challenges of connecting generators in the south-west corridor of Victoria.

1. Problem that needs to be addressed

As we understand it, the SENE proposal is driven by the challenges presented by the potential need to connect multiple generators over time and where a scale efficient connection solution would deliver value over the needs of individual generator connections. This could occur with remote connections or with connections to the grid at very high voltages. Transmission often exhibits large economies of scale which may be utilised by individual generators. From a new generation proponent's perspective, any inability to connect at an appropriate scale could be seen as a barrier to entry. However, the solution is one that requires a balance between the needs of transmission businesses, which operate in a largely regulated environment; generators, which respond to market signals and commercial drivers; and what is the best outcome from a public policy perspective.

1.1. Issues with the current arrangements

For transmission companies, the problems presented by the current connection regime stem from the bilateral negotiation process. Under the open access regime generators are able to connect at any point on the transmission system, subject to technical limitations. This may inhibit a transmission business's ability to utilise the economies of scale presented by larger transmission developments. Further, there is a level of uncertainty surrounding the commitment, timing and location of proposed generation developments that prevents a transmission business from investing ahead of when it would be required. Also, transmission businesses' planning functions have historically concentrated on meeting load requirements, not on developing an integrated network that considers the future direction of all components of the market, including generation.

Generators face challenges of their own. They are required to negotiate with monopoly businesses who are guided by a high level negotiating framework rather than detailed rules. There are no obligations imposed on TNSPs to consider anything beyond the immediate connection. Further, there has been limited ability for generators to negotiate an agreed and certain transfer capability.

1.2. Potential for a market solution

The first response to this issue should be to consider whether the market could solve this potential problem. A common understanding is that the third party access regime does not apply to transmission connection assets. However, this is subject to debate. Clarifying this could facilitate different development options. This would allocate risks to parties who are potentially better placed to manage them.

The AEMC has established arrangements to increase information provision with the objective of facilitating market solutions. The AEMC might also consider further actions to clarify the treatment of connection assets to support associated property rights. Private investments in the gas pipelines have been underwritten by access rights, however they have not necessarily realised all potential scale economies. As such, there may still be scope for a more efficient solution to be pursued.

While we consider that the current Rule change assessment process should consider the potential of market based solutions, AEMO recognises that in practice these are often difficult to realise. As such, efficient changes to the regulatory arrangements may also need to be considered. AEMO's experience in the Victorian context presents a useful case study in this regard.

1.3. The Victorian Experience

The Victorian experience provides some useful context for the problems currently confronting transmission businesses and generators.

AEMO has received a number of connection applications and enquiries from gas-fired and wind generators to connect to the Moorabool to Heywood 500kV and 220kV lines exiting Ballarat.

Ordinarily, the connection of each of these generators would require the establishment of separate terminal stations. The key question that AEMO has been considering is whether it would be more technically and economically efficient to develop terminal station 'hubs' rather than connect each generator in a separate location.

A hub can be defined as the shared network component of a terminal station on the transmission network at which multiple generators share land and electrical equipment. Hub

composition, in terms of electrical equipment, will vary for each hub, depending on the size, timing and location of potential generators in the vicinity of that terminal station.

AEMO has nominated specific connections as potential hub sites. These hubs have largely been designated based on the point at which the first party connects. In negotiations with the generator we consider and agree an arrangement to ensure that future users are able to access the land. The construction allows only for the minimum requirements but electrical configuration and physical layout permits more flexible expansion. Most subsequent connection enquiries have been seeking to connect at that point themselves, knowing that a hub is being established.

The hubs are being developed as negotiated services suggesting that, in some circumstances, it is possible to accommodate the needed changes under the current framework.

The hub approach provides many benefits to the market as a whole in comparison to providing numerous points of connection. It reduces the future number of intersection points of generators using the network. This means the existing critical circuits will have fewer total outages during construction. The generators' connections themselves become simpler, which reduces the complexity of connecting each subsequent generator. It provides a means for a superior overall technical result, especially to the 500kV system, with greater security, redundancy and less potential for interference between the connecting parties. Finally, there is the potential for a generator's costs to be reduced over time as other generator's share in the use and funding of these assets. Also, expansion is on an 'as needs' basis with construction of the minimum assets required to effect a connection. Therefore, there are no stranding risks borne by either generators or customers.

However, there are some limitations which are not addressed by the current hubs arrangements. At this stage, AEMO has not 'over-sized' transmission investments to accommodate subsequent generator connections even if there is a high probability of their connection. Therefore, we have not utilised the economies of scale that may be possible from transmission development. Also, there are still no access rights attributable to generators even where they are required to pay to facilitate their connection.

There are also some differences between the Victorian experience and some of the situations contemplated in the SENE's Options Paper which may not make the experience directly translatable, namely, the existing capacity of the existing network and the potential distance of generator connections from the hub. The generators are predominantly locating at a point where there is significant spare capacity on the shared transmission network. Most of the generators connecting in Victoria are also located next to or within a short distance from the transmission system. We are aware that other potential generator clusters in the NEM are being considered remotely from the transmission system.

2. AEMC's Options

Turning to the AEMC's options, there are a number of advantages and disadvantages of each of the AEMC's options. We have outlined some of these below:

- Option 1 – Eliminates the first mover problems and provides financial access to generators for the SENE. However the arrangements are complex and do not work well with the requirements on the shared transmission network. It also places a significant stranding risk on consumers.

- Option 2 – Has fewer complexities than Option 1 and eliminates the first mover problems. However, its implementation is less desirable without the financial access. As with Option 1, it places significant stranding risks on customers.
- Option 3 – This option reduces the risk to consumers associated with Options 1 and 2 and builds on the existing framework. However, it has not addressed the fundamentals around the obligations and incentives on TNSPs to deliver a socially beneficial outcome.
- Option 4 – Option 4 shares the same problems as Option 3 but has a better cost allocation than Option 3.
- Option 5 – Shares the problems of Options 3 and 4 as well as potentially introducing delays in the connection of generators pending the outcome of a Regulatory Investment Test-Transmission (RIT-T) assessment. However, it has some better cost allocation principles than the existing framework.

In general, most of these options require the successful application of the RIT-T or cost-benefit analysis before an investment can proceed. This provides worthwhile assurance that any costs imposed on customers are expected to provide overall benefits and therefore customers should be better off as a result.

The Rules already enable the justification of a shared network extension to a new generation rich area if the RIT-T is applied and it identifies net market benefits.. However the application of a full RIT-T in these cases would be very difficult and arguably impossible for a regional TNSP to apply. Therefore, ways to simplify or constrain the test to address local efficiencies using information supplied in the National Transmission Network Development Plan should be considered.

We also note that the options appear to require the justification of the full project value on commitment of the first generator. This approach may reduce the cost of connection to the first generator but at the expense of increasing the risks imposed on customers. A more economic approach, and one that is in keeping with the options value enabled under the RIT-T, is to focus on the staged delivery of a transmission development. At the time of the first connection the augmentation could be designed to enable future connections such that further transmission expansion would only occur if and when subsequent generation developments eventuate. In addition, some benefits or cost saving could arise from making the construction of the SENE assets subject to competitive tender provided that a funding proponent has the option to build the asset itself subject to technical standards under the NER and any jurisdictional instruments.

We would also reiterate the need to eventually link consideration of the SENEs with the Transmission Frameworks Review. There would be no value in developing expensive connection assets for generators if, once connected, they faced unmanageable congestion risks on the shared network. We therefore believe that the AEMC should carefully explore and consider its SENE options against the two models outlined below and following consideration and exploration of these models in the Review implement its SENE's approach.

2.1. An Access Rights Model

Network Expansions

Network expansions would occur for one of two reasons:

- Where it is determined to be economic to augment, via an economic cost benefit test; or
- Where a generator connects in a constrained area.

In the case of new generation connections, if it connects in a congested area it will have the option to be registered at a service level equivalent to the existing network's capability or negotiate a service level based on network augmentations. Augmentations required to satisfy the request would be assessed by the National Transmission Planner and charged to the generator.

Network Payments

Where the augmentation has occurred for economic reasons customers would pay for that expansion.

New generators would be required to pay for any augmentations to the transmission network arising from their connection.

Role of the TNSP

TNSPs would continue to be responsible for economic augmentations.

However, for generation connections TNSPs will be exposed to some amount of network congestion that arises via a service performance incentive scheme. One option could be to triggered by the volume of short-payment that occurred over a period of time in comparison to previous years' levels.

Role of the National Transmission Planner

The National Transmission Planner would be required to verify and approve ratings of the transmission network pre and post a connection. This would be used by the Australian Energy Regulator (AER) when setting service performance incentive scheme.

Changes to the connection regime

The connection regime would need to recognise that the connections are no longer bilateral, rather they will incorporate some multilateral elements. A queuing policy or spare capacity auction off may be needed to ensure that new connections are dealt with appropriately.

Effect on the market

A financial adjustment would need to occur post energy settlement. The purpose of this financial adjustment is to reconcile the service standards of individual generators with spot market dispatch outcomes.

2.2. A Proactive Planning Model

Network Expansions

Network expansions would occur where it is considered economic to augment, via an economic cost benefit test. This test would be applied by TNSPs in the case of load growth and by the National Transmission Planner to meet new generator connections. Expansions for new generation would be constructed via a competitive tender process.

Network Payments

Where the augmentation has occurred for economic reasons customers would pay for that expansion. Generators would only be required to pay for the shallow cost of their connections plus some amount for the shared transmission network.

Role of the TNSP

As noted, TNSPs would continue to be responsible for economic augmentations to meet load growth.

Role of the National Transmission Planner

The National Transmission Planner will ensure that the implications of new connections on the deeper transmission network would be considered and any investment decisions would be coordinated with the connecting parties. Expansions to the shared network would essentially be to a generator's 'front door'.

Changes to the connection regime

Access standards would be set out in the NER and negotiations would be with the National Transmission Planner.

Effect on the market

Generator bidding and dispatch would be unchanged.

If you have any questions regarding this submission please do not hesitate to contact me on (08) 8201 7371.

Yours sincerely



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