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14 May 2010

Australian Energy Market Commission
PO Box A2449
Sydney South NSW 1235

Project Reference Code: ERC0100 - National Electricity Amendment (Scale Efficient Network Extensions) Rule 2010

Dear Sir/Madam,

Infigen Energy thanks the Australian Energy Market Commission (AEMC) for the opportunity to comment on the AEMC's Consultation paper in regard to National Electricity Amendment (Scale Efficient Network Extensions) Rule 2010.

Infigen Energy is the largest owner of wind energy facilities in Australia and is 7th largest owner of wind farms in USA with a total installed capacity globally of approx 2,200MW.

In general, Infigen Energy is very supportive of the proposed introduction of SENEs into the National Electricity Market and believes that this initiative will assist Australia in meeting the challenges associated with Climate Change. In particular, a properly designed and implemented SENE will incentivise energy markets participants in overcoming many of the hurdles presently faced by renewable energy proponents wishing to develop sites that are remote from the current electrical power system, particularly in respect of first movers being disadvantaged by prohibitive connection charges and network augmentation fees.

Our specific responses to the questions raised in the consultation paper are provided on the following pages.

We would be pleased to discuss our submission with you in the future, so please do not hesitate to contact me should you have any questions.

Sincerely,

A handwritten signature in black ink, appearing to read "Geoff Dutailis".

Geoff Dutailis

Chief Operating Officer

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In general, Infigen Energy considers that the risks associated with SENEs could be further reduced through the use of an independent technical review of the proposed SENE design to ensure the SENE is not over designed or 'gold plated' at the outset, but provides suitable flexibility for further expansion in the future should this be required.

Question

1: Will the proposed framework improve efficiency in the construction of connection assets?

Infigen Energy is of the view that the proposed SENE framework will result in improved efficiency in the construction of connection assets by providing economies of scale where appropriate in that assets will be optimally sized in terms of capacity and capability to permit likely expansion in the future and readily accommodate new connections. Infigen Energy agrees that appropriate market mechanisms will be required to allocate and re-allocate capacity rights to the connected parties as the network develops.

1.1 Under the existing Rules, are inefficiencies likely to arise as a result of the significant new investment in renewable generation?

- Infigen Energy believes that significant new investment in transmission and distribution networks will be needed to accommodate the connection of the significant quantities of new renewable generation mandated by the expanded RET scheme. Once the "simpler", shallow connection options are exhausted in high renewable resource areas, new renewable generation assets will generally have to be located in areas remote from the main power system. Infigen Energy agrees with the AEMC that the existing Rules do not adequately deal with the issues, such as:
 - a lack of incentives on NSPs to build scale efficient network extensions for connections.
 - the connection of multiple generators in proximate locations;
 - the (variable) time period over which generators might seek connection (at a location); and

1.2 If so, do the costs associated with these inefficiencies justify amendments to the Rules?

Ultimately the costs of providing power system assets are borne by the end user via increased charges. On this basis Infigen Energy believes that it is the best interests of all market participants to promote efficient and prudent development of the power system. Infigen Energy considers that the proposed SENE Rule Change is justified on this basis.

1.3 Do you agree that the proposed Rule change will lessen the risk of the inefficient duplication of assets?



Infigen Energy considers that the implementation of the SENE Rule changes will assist in reducing the risk of inefficient duplication or augmentation of connection assets by promoting efficient development in the first instance.

Further, we would like to take this opportunity to query the 3rd bullet point in Section 4 of the Consultation Paper. What is the basis of the “annual charge payable by generators”? Is this simply an annualised charge to cover the generator’s share of the capital cost of the SENE, or is this another charge? Infigen Energy believes that the cost allocation to a SENE should be identical to that applying to an identical prescribed network asset, and the NSPs should not be permitted to earn more revenue (i.e. measured as an acceptable return on equity) from a SENE than it would from an identical prescribed service asset. This aspect requires further clarification

2 Will SENEs be efficiently sized and located so as to minimise risk to consumers?

Infigen Energy considers that the review and control mechanisms proposed by the AEMC will provide some means of ensuring that SENEs are efficiently sized, with AEMO reviewing NSP proposals and the AER effectively having a veto. However, the AEMO review process may not be appropriate in some jurisdictions, specifically Victoria, where AEMO is also the NSP. Some alternative form of review may be required in such jurisdictions.

2.1 Are NSPs likely to construct SENEs that are efficiently sized and located? Is there a significant risk of over-investment?

Infigen Energy is of the view that NSPs can benefit financially from inefficient duplication, ‘gold plating’, and/or oversizing of connection assets (including SENE assets) by being able to levy additional connection charges. As a result, some form of independent review of the design of these assets should be available to proponents to validate the reasonableness of proposed charges.

2.2 Are the risks associated with asset stranding outweighed by the potential efficiency gains from efficiently sized network extensions?

Infigen Energy considers that the risk associated with stranded assets will be managed to a degree by the controls and measures that have been proposed by the AEMC.

Infigen Energy believes that the risk of asset stranding can be further reduced through prudent design and development of SENE networks, whereby substations/switching stations are laid out to permit ready expansion in the future, but with only minimal assets installed at the outset. Similarly, transmission lines should be designed to allow for ready expansion and for the addition of additional switching/sub stations along their length at the outset, although not all assets would be installed at the outset (for example a double circuit design with multiple transpositions, but only one circuit strung at the outset).



It is also worth noting that there is presently a degree of overcapacity designed into the power system at present to allow for future load growth and the costs of this are recovered via the General Usage charge. This cost is levied equally on all users and as such is not a significant burden on any individual. Similarly, the unallocated costs of SENE networks would be levied on all network users and as such the cost of stranding should not be significant on any individual should this occur.

On the other hand, if the SENE rule changes are not implemented, Infigen believes the Government's expanded RET target will not be achieved – or achieved in of efficient manner. Large, remote generator construction requires significant grid augmentation that one proponent can not afford as the AEMC has correctly noted in the discussion paper.

2.3 Does the Rule change, as proposed, provide sufficient checks and balances to minimise risks to consumers?

As discussed above, Infigen considers that the checks and balances are quite reasonable. Of course, it is not easy to strike the perfect balance – building underutilised SENEs will potentially be quite expensive, and this risk needs to be managed.

However, on the other hand, if the “bar” is set too high, SENEs will not be approved or constructed resulting in insufficient renewable energy investment and/or inefficient and expensive grid connections. The Victorian Parliament passed the Electricity Industry (Wind Development Act) 2004 over six years ago which essentially enabled “SENEs” to be built in the Distribution Network. However, no companies have taken advantage of this legislation to date. The common wisdom in the Victorian electricity industry is that the Government set such stringent requirements to qualify for this legislation that companies found them unrealistic--- resulting in no generators or customers benefiting from this legislation.

3 Are alternative risk mitigation measures more appropriate?

Infigen Energy considers that the approach taken in the draft rules are the most appropriate risk mitigation measures for the SENEs.

3.1 Who benefits from SENEs and who is best placed to manage the risk of asset stranding?

Infigen Energy considers that the customers ultimately bear the costs and risks associated with network and generation investment via the charges they pay. As such, the consumer will ultimately benefit from SENEs through reduced greenhouse emissions (mostly due to the expanded RET scheme) and reduced transmission prices (due to the SENEs). As in the case of all network investment, including SENEs, the AER should represent the customers and manage risk on their behalf. Infigen Energy believes that the risk mitigation steps proposed for SENEs are appropriate.



As consumers will bear the underutilised cost of a SENE in the first instance, Infigen Energy believes that the cost recovery approach adopted for a SENE should be identical to that used for a prescribed asset. Since SENE revenue to the NSP is underwritten by consumers and generators, with minimal risk to the NSP, the cost recovery process should adopt the same approach, disclosure and rigour that is applied to prescribed assets.

3.2 *Should the framework include a more explicit economic efficiency test? If so, what form might it take?*

The discussion paper does a very good job of explaining the inherent difficulties of incentivising NSPs to size and locate SENEs efficiently, and we would agree this is highly problematical. NSPs do not necessarily have an incentive to optimise designs, rather they benefit commercially through overdesign and gold plating, if permitted. Independent technical review of proposals and designs should be undertaken to minimise this risk and the costs levied on all parties. Infigen Energy considers that SENE design should be the subject of independent review (noting that it is proposed that AEMO review capacity and location).

The RIT-T process is very slow and laborious, and would not be appropriate for the relatively rapid roll outs of SENEs and their associated renewable generation required to meet the Government's expanded RET target.

3.3 *Would a market-based approach to the sizing and location of SENEs be more appropriate? If so, what form might it take?*

Again, Infigen considers that the Consultation Paper's discussion of the difficulties of "open seasons" or purchase of "options" to be persuasive, and are unlikely to result in superior or more efficient outcomes.

On the other hand, Infigen considers that in order to decrease the potential of long term stranded assets, some sort of up-front financial commitment (i.e. a deposit) may be appropriate. As the Consultation Paper indicates, a high up front payment could serve as a market barrier resulting in inefficient outcomes. Therefore, the deposit should be kept in a reasonable range of potentially around \$800-1000/MW of "reserved" SENE capacity requested.

In addition, in the AER's assessment of the 2nd, 3rd, etc. generator proposing to connect to a SENE, the AER could "reasonably" evaluate the management experience, financial capacity and track record of each proponent to form a considered view as to the likelihood of the company actually financing, constructing and operating the generator connected to the SENE, and connecting on schedule.



4 Will generators be able to connect to the SENEs in the most efficient configuration?

In order to maximise the benefit to the market and minimise the cost to consumers, a generator, or a customer should be able to connect to the SENE in the most economic manner available that meets the technical requirements of the Rules, system security, and quality of supply and reliability of supply to other users. The design of a SENE should not mandate inefficient connections.

4.1 Should the draft Rule allow for configurations other than a "hub and spoke"?

Infigen Energy believes the Rule should permit multiple forms of connection and this can be readily achieved through prudent design, and staged development. See also comments to Question 2.2

4.2 If so, how could the charging arrangements best promote efficient locational decisions by generators and by NSPs in locating SENEs?

Infigen Energy considers that a similar "cost reflective network pricing" approach to that used for allocating transmission network charges to NEM participants could be used to allocate SENE costs to connecting parties and network users.

4.3 Should the costs of the SENE be spread across all generators irrespective of where they locate?

In addition to the comment above, there are other benefits of being the generator closest to the shared network. For example, the closest generator to the shared network will have the highest MLF (lowest transmission losses).

5 Will capacity be efficiently allocated to connecting generators?

Infigen considers that suitable mechanisms exist to allocate SENE capacity to connecting generators. The simplest means of doing this would be via a capacity purchase arrangement (\$/MW of capacity) which would entitle the purchasing generator access to that level of SENE capacity at all times. The \$/MW figure would be determined so that when the full capacity of the SENE has been purchased, the total cost of the SENE would be recovered.

5.1 Will the framework promote the efficient allocation of capacity on the SENE?

Infigen believes that an approach similar to that proposed above will promote efficient allocation of capacity. Generators would be reluctant to overstate their requirements as they would be required to pay for capacity they are unable to utilise efficiently



5.2 *More generally, will the SENEs framework result in efficient outcomes in the wholesale market?*

As SENE are needed to more efficiently develop and connect renewable generation, Infigen Energy considers this will be the case. Securing capacity for a generator's SENE investment is necessary to facilitate SENE investment as it will provide investor certainty and avoid 'free riders' connecting to the SENE later on.

5.3 *Could an interruptible generator connect to the SENE? If so, what arrangements would need to be in place to ensure the full cost of the SENE can be recovered?*

To enable efficient use of SENE interruptible generators should be permitted to connect to a SENE on an opportunity basis once the SENE has been fully allocated. This would permit better utilisation of the SENE assets which at times would not be fully utilised due to the relatively modest capacity factors associated with wind based generation. However, for the time they are connected and using the SENE they would be required to pay a SENE usage charge (in \$/MW-hr) which would be refunded proportionately to those generators with capacity entitlements.

6 *How could loops to the shared network and load connections to SENEs best be accommodated?*

In the interests of network operation, reliability and security of supply, Infigen considers that SENEs should be permitted to operate in parallel with the existing shared network, providing that the resultant connection does not decrease SENE capacity below its stand alone level.

If the shared network is out of service the SENE participants could be paid a network support payment to the degree that the SENE supports the shared network. If the SENE is out of service any available shared network capacity could be utilised by the SENE generators to the extent possible and allocated to proportionally to the SENE participants.

6.1 *Should SENEs be "ring fenced" from the shared network to enable the framework to operate? If so, should a time limit apply to such ring fencing arrangements?*

See comments above

6.2 *Alternatively, how could SENEs best be incorporated into the shared network? In particular, how could the challenges arising from capacity rights to the former SENE best be addressed?*

Infigen Energy considers that some SENE assets will ultimately be used to connect customers in remote areas who will not presently connect due to prohibitive costs, and as such some SENEs will be converted to prescribed assets. Under such circumstances the generators that have purchased capacity rights should be entitled to retain those rights. This could be achieved under the access arrangements available at present under Rules 5.4A and 5.5.



Alternatively, the Generator could be compensated for the conversion of the SENE to prescribed assets, not only by reduced SENE charges but in recognition of the capital investment made by the connecting generators, by means of obtaining an equitable share in the revenues obtained by the former SENE.