Ref: JL:C2059319

4 February 2016

Mr John Pierce
Chairman
Australian Energy Market Commission
PO Box A2449
Sydney South, NSW 1235

Dear Mr Pierce

RE: AEMC Consultation Paper – National Electricity Amendment (Local Generation Network Credits) Rule 2015 (Reference ERC0191)

Essential Energy welcomes the opportunity to provide feedback on the AEMC's consultation paper – National Electricity Amendment (Local Generation Network Credits) Rule 2015 (the consultation paper).

Essential Energy is very much aware of the potential benefits that embedded generation can provide to address network constraints. However, to realise such benefits at least cost, it is imperative that proponents are provided efficient investment signals to appropriately guide the deployment of embedded generation for the benefit of all NEM customers, not just the proponents of embedded generation.

We believe the proposed rule change would likely result in inefficient deployment and investment in embedded generation, increased network charges and cross subsidisation of network prices between customers. As such, it will not contribute to the NEO in promoting the long term interests of consumers with respect to price, quality and reliability.

In summary, the proponents seek to have a local generation network credit (LGNC) to benefit all embedded generators, not just those in locations that provide real value to the network. Essential Energy believes this is unfair for consumers, as not every customer can afford to be a participant. It is also unlikely to lead to reduced network costs, thereby creating further cross subsidisation of network prices between customers. We believe that existing market reforms will naturally lead to those embedded generators who provide value to the network being appropriately rewarded.

The potential risk that distorted incentives may bring to the efficiency and equity of Australia's electricity systems was highlighted in the joint CSIRO and ENA report published in December 2015. Where incentives lead to suboptimal distributed resource deployment, it will lead to higher residential bills in the long run and stronger disparity between the bills of customers with and without technology, particularly those with and without solar PV[1].

Presently, customers without embedded generation are already penalised through increased network prices if new embedded generation triggers additional augmentation expenditure. These same customers also pay increased network charges to accommodate the reduction in energy consumption and its resultant impact on DNSP revenue that embedded generation brings about. The proposed rule is seeking to add a third layer to this cross-subsidisation in network tariffs. As such, we suggest real caution in considering this proposed rule change.

It is peak demand that drives network augmentation expenditure so it is only possible to defer or avoid network augmentation expenditure by reducing peak demand. Where embedded generation can be specifically matched to network constraints, it can reduce peak demand and potentially result in the deferral or avoidance of costly augmentation expenditure. As such, it is important that the drivers for

[1] CSIRO and ENA, *Electricity Network Transformation Roadmap – Interim Program Report 2015-25*, December 2015, p9 and Ch 2.

network augmentation be accurately reflected in network pricing to promote both the efficient use of the network and to drive efficient investment in non-network alternatives where they provide the least cost solution to address network constraints.

We believe there are alternatives the industry could consider to address the proponent's issue that would provide more equitable outcomes for consumers. For example, a cost-reflective embedded generation feed-in tariff could be proposed and determined as part of Tariff Structure Statement (TSS) and annual pricing proposal. At this stage, such a tariff remains practically unfeasible to both design and implement given the absence of advanced meters in NSW, however we consider the distribution pricing rules under Part I of Chapter 6 do allow for feed-in tariffs. This may, however, require a minor rule amendment to remove or clarify clause 6.1.4(a) which prohibits Distribution Use of System (DUOS) charges for the export of electricity. Of course, it is vitally important that such tariffs be implemented in parallel with more cost-reflective consumption tariffs as any misalignment in cost-reflectivity between consumption and generation tariffs will result in imbalanced incentives and inefficient outcomes.

In summary, we request that the AEMC carefully considers the following points:

- The electricity network must be built to meet the peak demand. Paying small scale embedded generators a credit for generation outside this period does not equate to network savings as the necessary network infrastructure is already in place. Instead, such a scheme would lead to cross subsidisation between customers – rewarding those who can afford to invest over those that cannot afford to invest or are unable to participate in their own embedded generation (renters and those in apartments). This would also lead to inefficient deployment and investment in small scale embedded generation.
- Given the size of Essential Energy's network, any LGNC would have to take location into account. Generators in areas of the network that are not in constraint or where embedded generation exceeds local network requirements should not be rewarded to the detriment of generators in locations where their input would indeed be of value to the local network. However, as the group of embedded generators as a whole is split into smaller constituents, the benefit to the network from the firm capacity they provide in aggregate diminishes. As the ability for embedded generation to provide firm capacity diminishes, the value of embedded generation to the network also falls, such that any LGNC would likely be negligible or nil where the network costs outweigh the benefits of the embedded generation.
- Given that most small scale generation is from solar PV, and most solar PV generation occurs outside times of peak system demand, the associated network costs related to any LGNC for many locations would outweigh any benefits. This is because the network infrastructure is already in place to meet peak demand. This would again lead to any LGNC being negligible or nil.
- Network areas with no demand constraints in the foreseeable future would receive no benefit from embedded generation and may, in fact, incur additional network augmentation costs in ensuring the associated network is able to deal with the voltage rise caused by the embedded generation. Under the Rules, this additional cost is recovered from all customers, including those without embedded generation. This creates additional cross-subsidisation between customers.
- We consider it unlikely that there would be many opportunities where current or forecast capacity constraints could be adequately addressed by the spare capacity of local embedded generation. As a result, individual customers would pay for an embedded generation installation and connection and the DNSP would build the infrastructure it would have built in the absence of that distributed generation. This is a duplication of costs and creates no network cost savings at all. At the same time, local embedded generators may still be paid a LGNC, leading to higher network prices and creating further inequity between consumers.
- As the proposed LGNC is unable to become a charge on the generator, it will prevent the implementation of full cost reflective pricing for parts of Essential Energy's network, likely driving the inefficient uptake of embedded generation and resulting in cross subsidisation of network tariffs.

- Potential investors in embedded generation would factor the current LGNC rate into their investment decision, yet the LGNC rate will necessarily change from year to year and from location to location. This will require education of consumers and embedded generation installers accordingly, to reduce the potential for inefficient deployment and investment in small scale embedded generation. This would create additional administrative costs that must be considered in the assessment of the proposed rule change.
- There would be significant time, effort and on-going costs for DNSPs to calculate and maintain the LRMC calculations for each LGNC. Such calculations would be complex, vary from year to year, and require detailed assessment. Once again, Essential Energy's network area is so vast that these would be required by location, voltage level, time of day, and type and availability of the generator. These costs would be required to be included in the LGNC cost base.
- We believe that existing market reforms and developing technologies will achieve a similar or better result without creating negative impacts for other network customers:
    - The rise of battery technology coupled with the cost-reflective distribution pricing rule will allow embedded generators, who can afford to invest in the technology, to store their energy and use it in peak periods when tariffs are high. The associated saving to the generator in this instance would far outweigh the price of any LGNC. This result is also preferable as it doesn't burden other network consumers with higher costs.
    - In the absence of batteries, the introduction of cost reflective tariffs will see embedded generators (who are not party to generous legacy government solar rebates) shift some of their electricity usage to times where they benefit from their own generation – again, the saving in network tariffs would exceed any LGNC.
    - The small generation aggregator framework has reduced barriers to small embedded generators participating in the NEM. Increasingly, these aggregation services will buy up local generation in areas where it has value and sell it on to a third party. Again, the price paid to the owner for the electricity generated is likely to be higher than any LGNC.
    - Where there is a significant amount of embedded generation at an appropriate location in a DNSP's network, the DNSP can contract directly with the embedded generator for those network support services. This would again provide a better return to those generators than what could be offered by a LGNC.
    - Improving technology will see DNSPs begin to invest in embedded generation where it provides a cost effective network solution. This will naturally tie in with the CESS and EBSS schemes that reward DNSPs for implementing non-network solutions where they are more efficient than a previously proposed network investment.

The variance between summer and winter peak demand on Essential Energy's network is specific to location, network level and time of day. For example, over the last year, Essential Energy's network wide peak demand occurred during winter, however, at lower levels of the network, zone substation peak demand varied between the winter and summer season. Therefore if the proposed rule is accepted, for such a charge to be considered fair, the LGNC would need to be specific to location and aligned to local peak demand through peak, shoulder and off-peak time periods across the seasons.

Essential Energy is concerned that the proposed LGNC structure will not permit the real network benefits of embedded generation to be realised, resulting in lost opportunities to defer or avoid network augmentation expenditure through the implementation of potentially lower cost solutions.

Overall, we consider the potential costs and negative impacts of the proposed rule will likely outweigh any perceived benefits. We believe that the continuing development in technology markets combined with the natural market forces arising from reforms to date, or the introduction of a cost reflective embedded generation feed-in tariff will reward embedded generators who provide real value to the network at little or no additional cost to consumers. Essential Energy, therefore, would support expediting the assessment of this rule change to allow industry to focus its resources on completing and implementing the Power of Choice reforms and addressing other emerging matters.

Essential Energy would welcome the opportunity to discuss the issues raised above. Please contact Natalie Lindsay if you require any further information. Natalie can be contacted on 02 6589 8419 or via email Natalie.lindsay@essentialenergy.com.au.

Yours sincerely

Patrick Harsas
Chief Financial Officer