



Government
of South Australia

Department of
State Development

Mr Ben Shafran
Director
Australian Energy Market Commission
PO Box A2449
SYDNEY SOUTH NSW 1235

Dear Mr Shafran,

Reference: ERC0191

2015 Local Generation Network Credits, Consultation Paper

Thank you for the opportunity to comment on the National Electricity Amendment (Local Generation Network Credits) Rule 2015 Consultation paper. The Department of State Development, Energy Markets and Programs Division (the Division) welcomes the consultative approach and submits the following comments.

The Division understands that the proponents of the rule change proposal consider that the current National Electricity Rules (NER) do not allow small-scale embedded generators to 'monetise the benefits that they collectively provide to the grid' in the form of capacity support and avoided transmission costs. The proponents suggest that the NER does not provide appropriate price signals to customers to invest in embedded generation and to export energy; or sufficient incentives to distribution network service providers (DNSP) to procure such solutions, even when they are lower cost than network investments.

To address this issue, the proponents have submitted a rule change proposal that would require DNSPs to calculate the long-term benefits that embedded generators provide in terms of deferring or down-sizing network investment or reducing operating costs; and pay all types of embedded generators a local generation network credit (LGNC) that reflects those estimated long-term benefits (netting off any additional costs).

The Division has significant concerns with the rule change proposal. In particular, it is unlikely to contribute to the achievement of the National Electricity Objective (NEO) as it will likely result in higher costs that will be recovered through increased customer network charges. Given that the amount of revenue that DNSPs can earn is regulated by the Australian Energy Regulator (AER) under the national regulatory framework, any regulatory obligations that result in

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increased costs for the DNSP will ultimately be passed onto all electricity consumers. This includes consumers that have embedded generators. Therefore, while the rule change proposal would result in a credit payment to embedded generators it is likely to also result in higher electricity prices for periods when the customers of embedded generators (for example those with rooftop solar PV systems) are importing energy from the grid.

Furthermore, the Division is concerned that the proponent's purported benefits of reduced long-term network costs and ongoing operating costs are difficult to determine, as is establishing whether the contribution of any particular embedded generator will provide the benefits. The level of complexity necessary to establish the benefits on which the proposed LGNC would be based is concerning noting that any benefits are highly dependent on factors such as the location, voltage level and type of generator that would give rise to the network cost savings.

It is also important to note that under the current NER to be connected to the distribution network, an embedded generator must pay the DNSP a connection charge. However, once connected, embedded generators do not pay any other charges to use the distribution network. That is, embedded generators do not pay the DNSP for providing the infrastructure to transport the energy that they export.

Below, our submission considers the proponent's purported benefits of meeting the NEO namely: advancing cost-reflectivity in network pricing; addressing the gap in the NER; exerting downward pressure on costs; and enabling small scale embedded generators to be integrated into the process of network planning.

Advancing Cost-reflectivity

The proponents indicate that the rule change relating to distribution network pricing arrangements focuses on increasing the cost-reflectivity of network tariffs for consumption but does not apply to exported energy. They provide that the proposed rule change will advance cost-reflectivity by providing a price signal for customers exporting electricity to the grid where aggregate demand at the local level would otherwise require augmentation in upstream portions of the network infrastructure.

However, the Division considers that cost-reflective pricing provides an incentive for consumer to change their usage and adopt technologies, such as embedded generation. In South Australia, the current network tariffs are based on how much electricity a consumer uses during a billing period. Such consumption-based tariffs do not reflect the true costs of delivering electricity to different households and do not send clear signals to electricity consumers regarding their use of the network infrastructure, particularly in peak times which are a significant driver of network costs. In accordance with the new rule requirements SA Power Networks recently submitted its Tariff Structure Statement proposal to the AER. To reflect SA Power Networks' long run marginal costs of providing distribution services the proposal seeks to introduce a monthly charge based on a customer's peak demand which will be offset by cheaper consumption charges.

In the absence of cost-reflective pricing, customers are not incentivised to change their usage during peak periods or to adopt technologies that could ease

the pressure on network infrastructure during peak times. Under the new rules however, consumers will be able to consider how, when and where they use energy which will in turn make it easier for them to consider investment decisions. Customers will be more able to value choices such as use of more efficient appliances, installation of solar panels and batteries.

Addressing a gap in the NER

The proponents claim that a gap in the NER exists whereby embedded generators cannot earn revenue commensurate with the benefits that they collectively provide to networks.

The existing regulatory framework has demonstrated that the drivers for uptake of small embedded generation in South Australia have been and continue to be very strong, with the Australian Energy Market Operator's 2015 National Electricity Forecasting Report indicating that rooftop PV installation capacity in South Australia is over 675 MW (small and large commercial and residential) and by 2034-35, rooftop PV generation is projected to reach over 2,800 GWh (over 2,600 MW).

The Division notes that the NER's small generation aggregator framework rule enables small embedded generators to aggregate and sell their output through a Market Small Generator Aggregator. The Consultation paper cites Reposit Power, which is active in South Australia, as an example of such an Aggregator. The increasing advent of battery storage will bring forward further competition in this market.

The Division notes that the collective benefits that small-scale embedded generators provide are reflected in a distributor's revenue requirements through a reduction in augmentation expenditure. That is, where a network constraint has been resolved by the installation of small-scale embedded generators as provided through the various NER mechanisms available, the distributor will not require capital expenditure for the augmentation of the network constraint that would be needed if the embedded generators were not there. Less expenditure on network augmentation will result in lower network charges to all electricity consumers, meaning that customers installing embedded generators are rewarded through lower network charges for imported energy.

An example of this can be seen in SA Power Networks' 2015-2020 revenue determination. As part of its initial regulatory proposal to the AER, SA Power Networks estimated that its forecast demand-driven capital expenditure for the 2010-2015 period was 36% below the allowance approved by the AER. SA Power Networks provided that this difference was due to a flattening of global demand due to general economic downturn, energy efficiency measures and significant uptake of solar PV generation¹. Accordingly, the AER's final decision approved a demand-related capital expenditure for augmentation of around 21 per cent less than the actual expenditure in 2010-2015 and significantly less than the previously approved². This example demonstrates that the existing NER

¹ SA Power Networks Regulatory Proposal 2015-2020, page 208

² Australian Energy Regulator, Final Decision on SA Power Networks Determination, Attachment 6 – Capital Expenditure, page 6-67

already allows for the impact of embedded generation, such as solar PV, by reducing the revenue that is recovered from all consumers than would be otherwise.

Therefore the Division is of the view that the proposed rule change does not contribute to the NEO as the current rules already address the proponent's concerns.

Downward pressure on costs

The proponent has identified that even if LGNCs are designed so as to send exactly the right signals to embedded generators, it is likely that the proposal will result in at least a small increase in average electricity prices for all consumers.

The Division however is concerned that due to the complexity associated with the rule change the magnitude of any consequential price increase could be significant.

The Division notes that the proposed methodology for the introduction of LGNC may actually increase a DNSP's total costs and average electricity prices for consumers. Even if LGNCs are designed so as to send efficient price signals to embedded generators, and the forecast long-run network cost savings are achieved, a DNSP's total costs would be expected to increase as they pay LGNCs that were equal to the long-run network cost and/or operating cost saving (resulting in no reduction in its total costs), plus the additional costs of designing and administering LGNCs. As LGNCs are proposed to be paid out as negative network tariffs, and as distribution tariffs are designed to recover each DNSP's total revenue allowance over the regulatory period, this would result in higher network charges for consumers.

The Division notes and agrees with the various operational and implementation costs that have been identified by the AEMC in its Consultation Paper, which could have a significant impact on the DNSP.

Furthermore, the Division considers that the current benefits of small-scale embedded generators already result in reduced network prices through a reduction in augmentation network costs as explained above.

Integration into the network planning process

The proponents claim that the rule change will create a platform for certain non-dispatchable generation sources that can be integrated into the network planning process and therefore contribute to the NEO.

The Division notes that the existing NER arrangements already cater for such arrangements. The NER requires information on the Distribution Network Service Provider's demand management activities, including a qualitative summary of:

- non-network options that have been considered in the past year, including generation from embedded generating units;
- actions taken to promote non-network proposals in the preceding year, including generation from embedded generating units; and

- the Distribution Network Service Provider's plans for demand management and generation from embedded generating units over the forward planning period.

In addition, the NER places obligations on DNSPs relating to the distribution annual planning process which includes preparing forecasts for maximum demand and having regard to, among other things, the estimated total output of known embedded generating units. DNSPs are also required to prepare a Distribution Annual Planning Report (DAPR) in accordance with the information requirements under NER Schedule 5.8. SA Power Networks' DAPR substantially integrates the forecasting of small embedded generators, particularly solar PV generation on the network and subsequently its zone substation and connection point forecasts. It also is important to note SAPN's embedded generators guide for connection identifies the technical requirements for small (and large) embedded generators connected to its distribution network.

The Division considers that no further NER changes are necessary to demonstrate integration of embedded generation on distribution networks. Therefore the proposed rule change does not contribute to the achievement of the NEO.

I trust that this information assists the AEMC with its assessment of the proposed rule change and adequately demonstrates that the existing NER provide a sufficient framework for embedded generation. Should you require any further information or have any questions, please contact Rebecca Knights Director Energy Markets, Department of State Development on (08) 8226 5500.

Yours sincerely,



Vince Duffy
Executive Director
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