5 February 2015

Mr John Pierce
Australian Energy Market Commission
Level 6, 201 Elizabeth Street
Sydney NSW 2000

Lodged via www.aemc.gov.au

Dear Mr Pierce,

RE: Local Generation Network Credits Rule 2015 (Ref ERC0191)

GDF Suez Australian Energy (GDFSAE) welcomes the opportunity to comment on the Australian Energy Market Commission's Local Generation Network Credits (LGNC) rules change. GDFSAE sets out an overview of the key aspects of this rule change prior to a more detailed discussion.

Overview of the key principles and concerns

1. Customers in aggregate must have a reasonable prospect of receiving net benefits from an LGNC scheme by increased economic efficiency of the supply and distribution sectors and without underwriting additional risks.
    a. As a result the focus should be on the National Electricity Objective and customer benefits that are likely to be "real" (those with a high probability that they will be realised).
2. Network constraints tend to be local and require local solutions.
    a. Local network issues and local augmentations require local generation options; hence network price signalling also needs to be local.
    b. Price signalling that is smeared across network areas will over signal in areas where there is no local benefit and hence result in increased costs to consumers.
    c. Smeared price signals would also understate the value of the local generation in areas of need, and may cause it not to go ahead, which maybe also inefficient.
3. Network options must be assessed on an equal basis.
    a. Network augmentation options are likely to be quite firm in terms of costs and network performance, and also be enduring.

b. Local generation options tend to be more transient, with a higher risk of non-delivery unless adequate backup (or diversity) is also secured. Additional risks are likely to be introduced, such as fuel availability (or resource availability in relation to wind and solar PVs, battery reliability, etc.).
c. It is imperative to assess various options on an equal footing and ensure that customers do not pay for rectification of a problem multiple times. (i.e. pay to defer and then pay to build the network solution as well).
d. The benefits provided by local generators to networks need to be clearly identified.
    i. Networks are not built to provide energy but to provide capacity.
    ii. Benefits provided by local generation may be valuable in providing capacity (generation at a time of network stress) but the energy they provide at other times may not be economically efficient (or may cause other problems in the network which will increase cost to customers).

4. The design of a scheme must not serve to "privatise the benefits and socialise the losses".
    a. Generators should not be able to capture the benefits and allow for the customers to underwrite potential costs.
    b. Under the proposed rule change the customer picks up the payments for local generation (via networks). In the event of a non-delivery of the benefits the customer pays for the network augmentation as well as the opportunity cost of losing their supply.
    c. Risks should be allocated to parties best placed to manage them. For instance, local generators should meet the network augmentation costs in the event they fail to deliver service that has already been funded by consumers. As an option, these penalties could also include opportunity costs (calculated as energy not served * value of customer reliability).
5. New regulatory approaches should be pursued only after it is demonstrated that the existing arrangements are significantly deficient.
    a. No case was established to demonstrate this is the situation with existing rules.
    b. Changes to network pricing have not yet taken effect.

What are the proposed customer benefits?

GDFSAE is concerned that in its current form, it is unlikely that there will be a benefit to consumers as a result of this rules change. In the best case, there may be no impact on customers if the

scheme delivers the outcomes sought. In this case payments to networks are replaced by equal payments to local generators which will amount to a wealth transfer between networks and local generators. In this case the arrangement won't deliver any costs savings to customers.

However, the most likely outcome is that customers pick up additional risks of the local generators not reducing network expenses, having a less reliable network and paying for the augmentation anyway (maybe even at escalated prices due to it having to be rushed). The customer essentially is at risk of paying to resolve the same problem removed twice.

The benefits of local generation also appear overstated since in practice the network augmentation costs will not be avoided but only delayed. In this case, the appropriate signal is the time value of money and not the long-run marginal cost of a network.

Local nature of constraints and benefits

Network constraints and augmentation requirements tend to be localised, and an efficient local pricing signal is needed. The cost reflective network pricing is moving in this direction but faces strong political headwind in some jurisdictions.

For a local generation project to be technically viable as an alternative to network augmentation, it would have to be essentially firm. That is, the network would need to be certain that the generation is there when required (capacity and energy).

However, local generation is not necessarily reliable and if a diversity of generation is used to "firm-up" its availability, it is usually not local. Some technologies are capable of diversification at the local level but are aligned to a common energy source (e.g. solar or wind) and may not be able to provide the network benefits sought. For example, a number of solar photovoltaic installations could mitigate failure risk compared to a single PV installation, but it will not increase availability to meet the winter evening demand. Likewise, localised wind generation is impacted by the wind strength as a common factor and gas fired plant may have a common supply issue (gas availability, physically or economically).

Lack of symmetry between benefits and costs

The LGNC scheme is proposed to be optional so that generators could choose if and when they participate. However, there is a lack of symmetry, where the local generator receives the benefits but none of the charges should they end up as a net contributor to a network problem. In this way, the customers are being forced to take on the risks of increased costs to networks.

Clarify the benefits sought, capacity vs energy vs timing

The terminology used by the rules change proponents is confusing and incorrect in relation to the fundamental benefits of the scheme. In their documentation, they refer to export of energy where the network augmentation is related to capacity. It would be more appropriate from a network capacity perspective to refer to the local generation as conditional average (or minimum) generation capability at critical times to the network.

Notion of a feed in tariff for local generators

Paying local generators using a network "feed-in tariff" would be distortionary and economically inefficient, unless these were locational tariffs and were paid only to firm generation and on a location specific basis. These tariffs would also need to be coupled with penalties for non-delivery of the agreed generation availability. Unless the embedded generators are exposed to penalties, the customer essentially underwrites the availability risk of these generators as well as the network augmentation.

Based on the detail provide it appears most likely that the feed-in tariff arrangement would result in increased costs to consumers as the tariff payments are unlikely to be matched by corresponding benefits. Thetime element missing under this arrangement is a significant deficient.

Complexity, cost and who pays remains an issue

Analysis of potential network benefits of local generation is complex. The cost of the analysis should rest with the project proponents and any aggregators in case of small projects.

Local generation needs to be exposed to the risk of non-delivery penalties. This can be achieved at an individual generator level or possibly more efficiently at an aggregator level.

In summary, GDFSAE has a firm view that there are sufficient means of incorporating local generation into network development based on the existing market design and network arrangements without needing to resort to new and additional rules. The customer benefits of this rule change are highly uncertain and most likely will cause cost increases to customers. For this reason, the rules change does not appear to satisfy the National Electricity Objective.

Answers to the individual questions asked in the consultation document are presented in the appendix.

GDFSAE trusts that the comments provided in this response are of assistance to the AEMC in its deliberations. Should you wish to discuss any aspects of this submission, please do not hesitate to contact me on, telephone, 0417343537.

Yours sincerely,

David Hoch
Regulatory Strategy and Planning Manager

Appendix

Question 1 Assessment framework

1. Would the proposed framework allow the Commission to appropriately assess whether the rule change request can meet the NEO?

Yes

2. What is the relevance, if any, of reliability and security for the purposes of assessing the proposed rule (or a more preferable rule)?

Reliability and security impacts are key assessment considerations.

3. What changes, if any, to the proposed assessment framework do you consider appropriate?

Incorporate a careful examination and allocation of risks and benefits as articulated in our response.

Question 2 Perceived issue with current NER

1. Are the current NER provisions (including changes that have been made but not yet come into effect) likely to provide appropriate price signals for efficient embedded generation? That is, do the NER provide incentives to individually or collectively (including through small generation aggregators) invest in and operate embedded generation assets in a way that will reduce total long-run costs of the electricity system?

Yes - The current provisions have the potential to reduce network costs over time. These provisions need to be allowed time to work and should only then be assessed to see if refinements and additional measures are needed.

2. Do the current NER provisions (including changes that have been made but not yet come into effect) appropriately incentivise network businesses to adopt both network and non-network solutions to achieve efficient investment in, and operation of, the electricity system that minimises long-term costs?

Yes

3. If your answer to questions 1 or 2 is 'no', what is the specific area in which the current NER provisions do not achieve these outcomes – for example, is the issue with the current provisions only related to embedded generators of a certain type or below a certain size, or is there an issue for all embedded generators?

Not applicable

Question 3 Determining avoided costs

1. What are the factors that influence the long-run network costs that can be avoided through embedded generation? For example, do these cost savings depend on the location, voltage and type of generation?

In addition to the parameters mentioned in the question, a critical consideration is the degree of firmness of this generation in relation to times of critical network stress and constraints.

2. Can embedded generation materially reduce DNSPs' ongoing operating and maintenance expenditure? If so, to what extent do these cost savings depend on the location, voltage and type of generation?

Networks provide firm capacity and for embedded generation to materially reduce network costs it must provide firm capacity, at the required location and voltage level. It must be noted that some forms of generation are unable to provide firm capacity in their own right.

Question 4 Specificity of calculations

If LGNCs of some form were to be introduced:

1. What is the appropriate degree of specificity in the calculation of avoided network costs and, if relevant, operating and maintenance costs? For example, should different calculations be made for different voltage levels and/or geographic locations and, if so, what would be the criteria for distinguishing between levels/locations?

The benefits are likely to be highly localised and it is imperative to have sufficient granularity to allow locational pricing. Penalties for non-delivery will have similar locational drivers.

How often should this calculation be updated, recognising that the potential network cost savings can increase and decrease significantly over time as demand patterns change and network investments are made?

Annual updating as part of the annual planning review is considered pragmatic.

Question 5 Potential benefits of the proposal

2. Compared with the current NER provisions, would the proposal:

(a) Provide superior or inferior price signals to embedded generators (including small-scale embedded generators) to incentivise them to invest in and operate those assets efficiently, thereby reducing long-term total system costs?

The existing arrangements which include the prospective cost reflective network pricing to small consumers and generation/load aggregators should be adequate signalling under the existing arrangements. Only when there is regulatory failure in some area should other options be examined.

(b) Provide superior or inferior incentives to DNSPs to adopt efficient network and non-network solutions (including small-scale embedded generation) so as to reduce long-run total system costs?

We don’t believe this model would provide superior incentives as generators are not required to provide firm capacity

(c) Have any potential beneficial or detrimental effects on any non-price attributes of the service, such as network reliability and/or security of supply?

There is a potential detrimental effects are that non-form generation under the proposed scheme may displaces existing firm generation and deliver lower reliability of supply to customers.

(d) Reduce or increase the prices consumers pay for electricity?

Current arrangements (including the prospective changes mentioned above), have the potential to reduce costs to consumers. Given the rapid technological changes (PVs, batteries, future electric vehicles) and reducing costs, the usage of networks is likely to experience many changes. The current focus on the LGNC appears to be a second/third order issue.

3. To what extent do your answers to 1(a) to (d) depend on:

(a) To whom LGNCs are applied (eg whether it is applied to all embedded generators or whether there are criteria based on a generator's capacity, availability and/or location)?

Capacity, availability and location are critical in determining whether local generation can provide the benefits sought.

(b) The degree of specificity in the calculation of avoided network costs (ie whether separate calculations are made for different voltage levels and/or locations) and how often it is updated?

Benefits are very specific to location and voltage levels and calculations also need to be very specific as a result.

(c) The proportion of the estimated avoided network costs that are reflected in the LGNCs paid to embedded generators?

There are two levels of “discounting” suggested as follows:

i. Reduce the payment in proportion to the uncertainty of delivery in comparison to the certainty of a network asset (ie if only 50% firm, then reduce the payment to 50% of the LRMC)
ii. Reduce the payment on proportional to the number of generators needed to deliver the expected benefit (ie if N generators are needed, then the payment would be reduced to 1/N each).

3. If you do not consider that the proposed rule would enhance the NEO, are there potential alternative approaches that may do so?

As mentioned in our submission earlier, it is important to allow the current rule changes, particularly the CRNP, to deliver behavioural changes. Similarly the deployment of new technologies is likely to be rapid and does not need to be “second guessed” by pre-emptive regulatory changes which are unlikely to effective.

Question 6 Potential costs of design, implementation and administration

1. What changes would DNSPs and other parties need to make to their existing systems and processes to enable the design, implementation and administration of LGNCs? To what extent does this depend on:

(a) To whom LGNCs are applied (ie whether it is applied to all embedded generators or whether there are criteria based on a generator's capacity, availability and/or location)?

It is likely that processes and assessment will be complex, time consuming and costly. It is important to ensure that all costs related to the LGNC activities are captured, charges made cost reflective and that such charges are not met directly by the customer or networks. These costs should be levied against project proponents at various stages (project assessment, registration, administration and verification of performance, penalties for non-delivery etc)

(b) The degree of specificity in the calculation of avoided network costs (and, in turn, LGNCs) – ie whether separate calculations are made for different voltage levels and/or locations?

See answer to 5.2 above

(d) How often the calculation is updated?

See answer to 5.2 above

(e) How often the LGNCs need to be paid?

One way of managing the non-delivery of services on behalf of customers would be to pay the local generators only after they have delivered the expected service.

2. What are the likely costs associated with undertaking the changes described above and how are these likely to vary depending on the factors set out in 1(a) to (d)?

Not in a position to comment.

3. How do these costs compare to the expected benefits of the proposed rule change?

Without further analysis, we are not in a position to provide a definitive conclusion. As it stands there are doubts the cost of implementing the new rules, the risks to consumers, and the additional costs are commensurate with the supposed benefits.