

Tuesday, 9 February 2016

John Pierce
Chairman
Australian Energy Market Commission
PO Box A2449
Sydney South NSW 1235
Lodged Electronically

Dear Mr Pierce,

RE: ERC0191 Local Generator Credits Rule Change, Consultation Paper Submission

The Clean Energy Council (CEC) works with Australian renewable energy businesses across all technologies to accelerate the transformation of Australia's energy system into a clean energy system.

With some 1.5 million households now generating electricity with solar PV, an emerging energy storage market, and expectations for significant cost declines expected short term, Australia's electricity markets are undergoing a dramatic transformation.

This rule change should be considered in light of a changing paradigm and a more efficient use of 'distributed energy resources'. The CEC agrees with the rule change proponents that failing to recognise the benefits these technologies provide will lead to inefficient investment in networks. However, this 'missing price signal' needs to be considered in light of existing imperfections in price signals.

The proposed rule change is a positive step towards creating a transactive platform on which Distribution Network Service Providers (DNSPs) can engage with customers to reveal shared benefits for consumers generally. Although the CEC supports the exploration of this option its success will be dependent on effective regulation and a centralised approach to the calculation methodology. It is possible that transaction costs may easily outweigh benefits if this is not well managed.

The remainder of this submission provides the CEC's responses to Commission's questions in relation to this rule change. Please contact the undersigned for any queries regarding this submission.

Sincerely,



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Previous work demonstrating the benefits of efficient integration of embedded generation

The 2014 report summarising the Smart Grid Smart City project¹ identified significant potential savings from the introduction of smart-grid technologies and smart meters and price signals that drive consumer behaviour. Although the planned approach to network and customer side investments envisaged by this study is impractical, the rule change would create a mechanism to drive customer participation in revealing these potential savings for all consumers.

Assessment framework

The CEC does not see the need this rule change to contemplate reliability and security of supply under the assessment framework. A DNSP's powers to plan their networks and manage supply reliability and security as expected by the NER would not be diminished by this arrangement. Conversely, the rule change would create additional levers to pull in the form of a response from local generators, increasing the capacity to ensure supply can be met reliably.

Perceived issues with current NER

As acknowledged by the Commission and the proponents a significant amount of work has been undertaken on developing a more integrated approach towards embedded generation. However, it should also be noted that rule changes and market reform activities that led to these changes were premised in a paradigm where the only means of supporting the network from generation was through participant-participant negotiations. The broad contribution from large numbers of distributed small-scale generators was not considered.

Rather, customer-DNSPs relationships of this nature have not been encouraged by these reforms. One example is the RIT-D where a network augmentation cost threshold of \$5 million is applied and lower cost asset replacements or augmentation is excluded. The assumption behind these reforms was that of a single large generator or load being contracted by a DNSP for a discrete solution.

Alternatives such as that promoted by the proponents have not been investigated due to a perception of administrative burden being too great (given the status quo of one on one negotiation with every customer). The proposed aggregation and portfolio effects envisaged by the proponents largely overcome this issue.

Avoided transmission use of system (TUoS) charges is another area which is not effective under the current rules. Experience with the current avoided TUOS system shows a lack of

¹ <http://www.industry.gov.au/Energy/Programmes/SmartGridSmartCity/Pages/AdditionalInformation.aspx>

consistency across the market, poor information transparency and generally meaningless results, leading to generators having no access to the benefit they are providing.

Given that local generators do not make any use of transmission network, price signals that include this service are clearly inefficient. A reformed approach to avoided transmission use of system (TUOS) charges is an important step.

As highlighted by the Commission National Electricity Rules cl. 6.1.4(a) prevents use of system charges being applied to exported electricity. This clause enables the fundamental relationship between consumption and regulated network expenditure needed to meet reliability standards. The proposed rule would prevent network augmentation being charged for through the LGNC, consistently with this clause.

This arrangement could be considered to conflict with a move towards cost-reflective pricing reforms. However, changes to introduce network charges on exported energy must only be done with a clear definition of the service being offered. For example, similar arrangements for supply reliability, delivery of proposed capacity upgrades and penalties applied to DNSPs for non-compliance must all be defined for such charges to be introduced.

Determining avoided costs

The CEC's ARENA-funded Future Proofing in Australia's Electricity Distribution Industry project recently published a study in this space. Completed by EY, with significant stakeholder engagement, the study evaluated and designed a methodology for DNSPs to apply to calculate the network benefits of small scale embedded generation. This is recommended reading for the Commission and is available at <http://fpdi.cleanenergycouncil.org.au/reports/value-of-small-scale-generation.html>.

The study did not consider the mechanism to deliver benefits to customers (the rule change objective). Rather, it focussed on a framework for calculating the long-term benefits which would support the effort of the AER and DNSPs in designing the proposed methodology. The study has demonstrated that introducing a framework for evaluating network benefits is possible and would be only require an evolution of the current planning systems applied by DNSPs. It also sets out a framework whereby a DNSP can make significant reductions in the computational effort of these calculations.

Importantly, the study drew on international case studies which highlighted that the benefits of these technologies go beyond a simple deferral of augmentation investment. Other services, such as power quality and voltage management are also relevant and need to be considered in the context of any methodology. Research case studies from the UK and the United States are considered and documented and should provide a valuable resource for the Commission.

Operating and maintenance costs should include asset replacement. Measures which can be incentivised to respond to peak demand charges can increase the life expectancy of some

network assets. For example, voltage management and peak demand reduction offered at the customer level can reduce temperature stresses on transformers which will subsequently extend their life expectancy. Distribution transformers are considered high cost to maintain at the end of their life and planned replacement is more frequent. Replacement would be deferred, and may even be a lower cost due to smaller unit sizes being required. These costs and savings from deferral are lumpy, well understood and easily calculable.

Specificity of calculations

The CEC expects that the specificity of the calculations and the administrative effort to implement this rule change are directly related. In order to ensure that these costs are minimised the AER should be responsible for specifying, managing and regularly refining the calculation methodology. A formula should be prescribed by the AER's guideline that should be as specific as possible, allowing individual DNSPs to only provide input data to make the calculation while documenting the source and reasoning for this data.

Given that DNSPs would be conducting a wealth transfer between customer types there is little incentive to ensure accurate information is provided. Additionally, methodology must take care not to create the opportunity for a DNSP to calculate new costs outside of the regulatory determination. This approach should be designed to ensure that the regulator is confident that any savings or costs are material and justified.

Care must also be taken to prevent DNSPs from passing through costs of missing reliability standards to individual customers, when the effect of a generator portfolio shares this risk across the DNSPs planning and customers generally. The AER should be responsible for approving standard form contracts under which customers can be contracted and have LGC applied (similar to the approach for Basic and Standard connection agreements under Chapter 5A).

An approach whereby the AER has a strong role would also create a more confident investment environment for households and businesses accessing LGC, than allowing a monopoly supplier to have far reaching control over setting LGC credits.

Potential benefits of the proposal

Improved price signals for small embedded generators, over and above avoided TUOS, addresses a clear gap in the current market and the proposed approach requires careful consideration.

The creation of a new relationship between customers and DNSPs also has important benefits for the market in identifying opportunities for innovative solutions to network benefits. Despite depressed demand growth in the current market the introduction of these changes will have significant market-readiness benefits for a time when strong demand growth returns.

Potential costs of design, implementation and administration

Implementation and administration costs of the proposed rule change should be minimised by aligning the procedures for setting tariffs with those for calculating the local generator credits as proposed by the proponents. Additionally, centralisation of the calculation methodology as far as possible with the AER would lead to efficiency gains across all DNSPs.