DRAFT RULE DETERMINATION
NATIONAL ELECTRICITY AMENDMENT
(CONNECTING EMBEDDED GENERATORS) RULE 2013

1 Summary

The Commission's draft determination is to be welcomed in addressing some of the issues raised by the rule change proponent - ClimateWorks Australia, Seed Advisory and the Property Council of Australia. However, there are still some issues to address and better regulate the embedded generation connection process in a fair and equitable manner. This submission is made in response to the above consultation paper on the Australian Energy Market Commission's draft rule determination on the above ClimateWorks Australia, Seed Advisory and the Property Council of Australia rule change request.

5 Connection Process

The definition of 'fast track' or 'agreed' projects must be clearly defined and be based on performance criteria, not specific equipment criteria or left to the DNSPs discretion.

The proposed rule change sets out a maximum of 95 days for 'fast track' or 'agreed' projects but does not set out any maximum timescale requirement for 'non fast track' projects. This is too open ended and the rule change must set out a reasonable maximum timescale requirement for 'non fast track' projects. Such 'non fast track' projects must be based on performance criteria and not left to the DNSPs discretion.

The preliminary enquiry stage is a welcome process for new bespoke projects but the embedded generation proponent must be allowed the choice to skip this stage and shorten the timescale to connection where it is a similar or repeat connection with the same or similar attributes as an earlier preliminary enquiry stage. This could apply where a chain of buildings, ie, a supermarket chain, has similar embedded generation proposals connected to the same network with similar connection attributes.

6 Technical Requirements for Connection

Automatic Access Standards

Access or technical standards for connecting embedded generation to distribution networks should be developed forthwith. Other countries have had such standards in place for decades and there really is no excuse for not developing such standards in a timely manner. In the UK, the G59 standard for connecting embedded generation to the distribution networks up 100MW has been around since the

1990's. The latest version of the G59 standard[1] could act as a model for an Australian standard for connections up to 30MW.

Automatic Right to Export

Rather than the Commission rejecting the proponent's proposed rule change the 'automatic right to export' should be replaced with the 'right to export subject to the network being able to safely handle the export from an embedded generator'. The purpose of this proposed change is to provide the right to export and to address DNSPs concerns but at the same time putting a mechanism in place to deter potential obfuscation, unwarranted refusal to export without a valid reason or anti-competitive behaviour by DNSPs.

Embedded generation, particularly for cogeneration or trigeneration, connected 'behind the meter' and not allowed to export electricity could truncate the generation capacity to 10% or less of the host building's electricity consumption in relation to the host building's thermal energy consumption or export potential. This would limit the DNSP's loss of network charges revenue to 10% or less of the host building's electricity consumption.

Embedded generation connected 'behind the meter' and allowed to export could increase the generation capacity by up to 100% of the host building's electricity consumption and further reduce DNSPs network charges revenue.

For example, a large office building operating 15 hours a day, 5 days a week with a 2MW capacity could avoid most of its network charges, a 65% saving on network charges covering the peak and shoulder periods, if it could generate all of its electricity on site. Capacity throughout the year ranges from 0.2MW to 2MW but the physical space would allow the installation of a 4MW trigeneration system. If the building was able to export electricity via the distribution network it could supply nearby buildings, including other buildings that the host energy centre building owner owns, and maximise its 'behind the meter' electricity supply to the host building by up to 100% and therefore avoid network charges for the peak and shoulder periods of around $500,000 a year. The DNSP network charges revenue would be reduced by an equivalent amount.

If the building was not allowed to export the trigeneration system would be truncated to 0.2MW and reduce its network charges by only $50,000 a year instead of $500,000 a year. The DNSP in not allowing the export would have avoided a loss of network charges revenue of $450,000 a year. The DNSP could then subsequently incur additional capital expenditure in augmenting its network to address growth and peak power receiving a fixed rate of return which all of the DNSPs customers will have to pay for in increased network charges when this expenditure could have been avoided by allowing a larger trigeneration scheme to export which would also reduce peak power through replacing electric chillers with thermal chillers. The latter would benefit all DNSP customers whereas the former would disbenefit the DNSPs customers. This is the point that the proponents were trying to make in justifying not contributing towards shared network augmentation costs, particularly where a network benefit was being delivered to all DNSP customers.

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[1] UK Energy Networks Association G59-3 Recommendations for the Connection of Generating Plant to the Distribution Systems of Licensed Distribution Network Operators 2013
http://www.chpa.co.uk/medialibrary/2013/04/16/4fc8d190/draft%20G59-3%20master%20March%202013DS_190313_DCRP_PC.pdf

In such a monopoly environment the ability to export power needs to be properly regulated and not left to DNSPs sole discretion to allow or not allow exports to deter potential anti-competitive behaviour by DNSPs as they are vested interests in not allowing exports that impact on their revenue. This process should also be backed up by an 'independent engineering expert' provision in the rule change to provide expert appraisal for a technical dispute regarding exports and to ensure fair play for both embedded generation proponents and DNSPs. The embedded generation proponent should also have the right to challenge DNSPs who refuse to allow exports where it can be shown that embedded generation could export electricity into the DNSP's network.

The Productivity Commission makes the point in its report 'Electricity Network Regulatory Frameworks' 2013[2] that the spiralling network costs in most states are the main contributor to the 70% average electricity price increases since 2007, partly driven by inefficiencies in the industry and flaws in the regulatory environment. The Productivity Commission goes on to say that it is important not to blame network businesses for the current inefficiencies since they are only responding to regulatory incentives and structures that impede their efficiency. The above example is one of the regulatory inefficiencies that need to be addressed.

The Commission also seems to be unaware of the Australian Government report 'Inclusion of Energy Generation in Building Energy Efficiency Standards[3] since it is not referred to in the draft determination or 'Power of Choice' review. The study carried out by Energetics covered Zero and Low Emission Energy Generation (ZLEG) comprising both renewable energy and low carbon cogeneration and trigeneration.

The report sets out the technical potential of ZLEG for new and existing buildings if the Building Code of Australia was used to foster ZLEG. This breaks down into two major technologies and customer loads – solar PV primarily for the residential sector and precinct scale trigeneration for the commercial sector. For solar PV the technical potential is 8,126 GWh/year and for precinct scale trigeneration the technical potential is 9,300 GWh/year. This compares with the 8,465 GWh/year growth in forecast electricity consumption for the residential sector and the 6,300 GWh/year growth in forecast electricity consumption for the commercial sector, both by 2020.

Again, the electricity network regulatory framework (and DNSPs) should be taking ZLEG into account to minimise further costly augmentation of electricity networks and contributing towards joined up government and Australia's environmental and economic well-being.

7 Connection Charges and the Cost of Network Augmentation

See comments regarding shared network augmentation costs under Automatic Right to Export.

[2] Productivity Commission 'Electricity Network Regulatory Frameworks' 2013 http://www.pc.gov.au/projects/inquiry/electricity/report

[3] Australian Government, Department of Climate Change and Energy Efficiency 'Inclusion of Energy Generation in Building Energy Efficiency Standards' 2012 http://ee.ret.gov.au/sites/climatechange/files/documents/04_2013/inclusion-of-energy-generation-in-building-energy-efficiency-standards-pdf.pdf

The Commission believes that shared network augmentation cost recovery for the embedded generator having to pay for the shared augmentation costs and the ‘last-in, worst dressed’ issue is already addressed under the NER. This may be the case but there is nothing in place in the NER to ensure that this actually happens. DNSPs must be required to notify the embedded generator who has had to pay for the shared augmentation costs on an ‘as and when’ basis when other generators or load customers connect to and take advantage of the shared augmentation to ensure transparency and to enable the embedded generator to recover the costs from the DNSPs who are in a position to recover these costs from new generators or load customers.

Similarly, it is of no help to say that an embedded generator may negotiate with DNSPs some term in the connection agreement relating to those assets and any other subsequent embedded generators or load customers connecting in the same location. Such a contractual term to recover shared augmentation costs should be enshrined in the connection agreement as a right and not subject to negotiation or the discretion of DNSPs. Embedded generators have had to pay for shared augmentation and connection agreements should be required to include a provision for embedded generators to recover the costs for subsequent connections in the rule change.

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