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11 November 2013

Ms Clara Hawker
Inquiry Manager
Legislative Assembly
Public Accounts Committee
Parliament of NSW
Macquarie Street
Sydney NSW 2000

Dear Clara

Re: Cogeneration and Trigenation in New South Wales

I refer to your correspondence of 28 October 2013 and provide the following answers to the additional questions raised by the Committee.

If you require any further details, please contact me directly, phenderson@ausgrid.com.au.

Yours sincerely,

A handwritten signature in blue ink, appearing to read "Pamela Henderson", written over a light blue horizontal line.

Pamela Henderson
Chief Engineer

NSW Legislative Assembly, Public Accounts Committee – Embedded Generation Enquiry

Additional Questions

1. Your submission refers to potential rule changes being considered by the AEMC to develop 'streamlined connection processes' (p. 3). Where can most time savings be made in the connections process ?

Cogeneration proponents and Distribution Network Service Providers (DNSPs) are frequently in a mutual *chicken-and-egg* situation at the start of the connection negotiations. Proponents require information from DNSPs before they can develop and firm up on the technical and financial aspects of their proposals. At the same time, the DNSPs cannot commence analysis of the connection requirements without quite specific information about the proposed equipment. This is a key area of potential improvement as part of the current Rule Change consultation process.

The technical requirements can vary significantly both in relation to the type and characteristics of the proposed generator, and in relation to the local characteristics of the network at the location where it is to be connected. This means specific information is required to assess what may be a significant cost element and, while standard connection arrangements are possible for some combinations (eg small, inverter connected solar photo voltaic systems in typical residential supply areas), achieving the most economical connection option for most applications requires a level of customisation. In general, the larger the generator, the more likely the analysis will be complex and time consuming.

As a result, the most significant area for time savings is having clear and detailed information available at the point of application. Published guidelines regarding information requirements have gone part of the way to improving this element, but better communication and wider awareness may assist.

Engaging in preliminary discussion can also be helpful for larger and more complex applications.

One of the key aspects of the current Australian Energy Market Commission (AEMC) Rule Change being developed is the concept of an effective three stage process – preliminary enquiry, detailed enquiry, and the actual connection application – each having nominal target timings, with the ability for extension by mutual agreement for circumstances such as specialised analysis or modelling, data gathering, or specialist third party resources. The implementation of this process, together with better communication and understanding, and improved provision of more consistent and readily available information has the potential to significantly improve the negotiations experience for both parties. However, we still have some concerns about what may be unrealistic expectations with respect to this Rule change:-

- There are occasions when the prescribed time frames may still be inappropriate for more complicated Cogeneration connections, large amounts of export, or certain locations.
- Load drawing customers seem generally to be understanding of more complex and time consuming negotiations for larger loads, and of the potential scope of required network augmentation projects for larger connections. Yet, there seems to be an expectation that the negotiations and planning for exporting loads back into the network are relatively simple and quick.
- There seems to be a belief that "standardisation" will overcome the potential technical complexity and associated costs. Embedded generation will not be a case of tick the boxes and plug it in.
- What started out as a proposal for DNSPs to publish a "list of approved equipment" is likely to become a report on the technical details of actual connections. Whilst this may provide some beneficial information to proponents or their consultants, there is also a risk that proponents may believe that just because a connection has been made to work in one location, then it will be simple in another location.

- There is a risk that analysis requiring specialist 3rd party work may significantly affect the stipulated enquiry / application time lines, and it may be more challenging to achieve mutual agreement to "stop the clock" than was envisaged.
- A significant amount of the planning process is driven by the requirement to determine the most cost effective solution - whether it's for a Cogeneration proponent, or a network capital project. Depending on the scale and complexity of the project, if we are constrained by inappropriate enforced timings or levels of standardisation, there will be a likely consequential impact on the costing for the proponent.

However, taken in context, the publishing by DNSPs of technical information relating to embedded generation installations that have been successfully connected may assist in improving awareness of requirements among proponents and DNSPs alike.

2. Your submission highlights a number of issues surrounding inefficient pricing and cross subsidisation when cogeneration operators sell energy to other tenants or seek to avoid paying for grids support. In the absence of enabling technology, you identify the need for mechanisms developed in the NER to address these issues. (p. 5) Can you elaborate on your recommended mechanisms?

There are a range of commercial issues driven by the electricity market being set up around a one-way flow construct. In some cases these result in generation proponents being under-rewarded for benefits they confer, and in other cases they are clearly cross subsidised by non-generating customers. Some of these distortions are embedded in the market Rules, while others are matters of convention regarding the way electricity connection and use of system services are charged for.

Clause 6.1.4 of the National Electricity Rules states that DNSPs cannot charge generators for Distribution Use of System (DUOS) charges – only for connection services. This was based on the model used in the Transmission network under the historical construct of centralised generation. This means that there is no means of recognising the cost of transporting energy away from generators to deliver it to other customers, nor of funding the deeper augmentation costs associated with providing network capacity as there is with load only customers. As a result, all costs must be recovered up-front, and this may place a higher first cost burden on generators, or result in inefficient charging regimes.

The ability to implement fair and reasonable DUOS charges could resolve some of the commercial distortions.

3. The Committee has heard that an increased focus on Location of Generation and Use incentives as opposed to Time of Use incentives may benefit cogeneration systems. Can you comment on this?

Effective location based incentives are currently achieved when a demand management program enrolls generators in network support programs. To date, these specific contractual arrangements and incentives with proponents at particular sites have proven more effective, more flexible and more achievable than tariff based systems. These contracts always have a time based element, as well as relating to a specific location.

It should be noted that the nature of network constraints is such that the benefits may only exist in a particular location for from one to five years, after which the value may be negligible, so it is difficult for a proponent to base a business case on network support value.

Generalised time of use incentives have more relevance to the generation segment of the market, which is managed through the electricity trading arrangements.

The Committee understands that there are mandatory network design, planning, and reliability standards for distribution network service providers (Submission 44 – NSW Government, p. 12-13).

4. Do you think that similar standards should be applied to cogeneration operators ?

Cogenerators who develop their own internal supply arrangements with host customers or others, especially where they disconnect from the public network should be developing commercial arrangements with their customers that include expectation of reliable service. If those customers are residential, it could be argued that consumer protection similar to network owner licence conditions should apply. In these circumstances, it may offer further protection if arrangements were required to facilitate customers ability to return to the public network and purchase supply from another retailer supplier in the competitive market. Arrangements to exclude customers – especially residential ones – from recourse to alternative suppliers should be resisted.

Where generators are connected to the public network, the network owner remains obliged to comply with any conditions of their licence. Further, the network owner is obliged to ensure that the connection of the generator meets the standards required to keep the network and its customer safe and supply conditions reliable and of good quality. This is the purpose of the technical requirements to connect. Beyond these technical requirements, the reliability and security of service characteristics of the generator are a matter of choice for the proponent. However, an unreliable generator should not expect to be eligible for any form of network support payments, and any expenditure arising from the connection of a generator to enable the network to continue to meet regulatory obligations would form part of the connection charges.

5. In your experience, would this be feasible for smaller cogeneration operators ?

Smaller cogenerators are unlikely to be in a position to offer secure supply services and it is unlikely this issue would arise outside precinct supply arrangements.

Question on notice from Mr Greg Piper

6. With respect to the impact of uncertainty on decisions regarding connections to the network, how accurate is the information on deadlines and quotes ?

The accuracy of information on deadlines and quote varies depending on the circumstances.

In any significant project there are different stages – exploring feasibilities, developing the proponent's business case, and formal applications and provision of design information so that their nominated Accredited Service Provider can undertake the design works for the connection works. As the process progresses, the accuracy improves. Often this is a result of improvements in the detail and accuracy of the information that the proponent is able to provide.

With respect to quotes, the Contestability Framework operating within NSW has a significant bearing on this. DNSPs charge monopoly fees for the services they provide to support the contestable process. These are a combination of fixed fees and hourly rates covering defined aspects of the information provision, application process, and development of the most cost effective solution - such as load flow analysis, feasibility studies, project development, and specialist third party input necessary to provide the appropriate information to the nominated Accredited Service Provider.

However, quotes for the most significant expenditure associated with the actual connection and any augmentation of shared assets would be a private matter between the proponent and their nominated Accredited Service Provider.