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Electricity Authority

By email: submissions@ea.govt.nz

Market enhancement omnibus

Genesis Energy Limited (**Genesis**) welcomes the opportunity to provide a submission to the Electricity Authority (the **Authority**) on the consultation paper *Market enhancement omnibus* (the **consultation paper**) dated September 2018.

Broadly, we support the Authority to engage with industry in an omnibus format, but we do note this requires participants to consider a range of issues, some of which are intrinsically linked; others entirely unrelated, concurrently. This can put a strain on resources, particularly when there are other industry consultation processes underway. This may limit the quality of engagement, and we encourage the Authority to be mindful of this when planning for its next omnibus.

In our responses on the *Switch process review* section we commented that a number of the issues raised are related and should not be resolved in isolation so as to avoid unintended consequences. We also note that many of the issues in this section have arisen as the competitive market has developed to offer increasingly differentiated, innovate products and services for the benefit of consumers.

In our view, and that of the Switch Technical Working Group (**STWG**), the switch process needs a holistic re-think to both resolve these issues, and provide for further industry change. This is consistent with the Authority's role as regulator to ensure the regulatory framework can strike the right balance between allowing innovation to develop within the bounds of existing rules, and responding when market failures are identified.

We have provided comments in the appendices attached on the *Access to WITS and the registry*, *Switch process review*, *Integrating hosting capacity into Part 6 for low voltage networks*, and *Review of metering and related registry processes* sections of the consultation paper. We note that for the questions relating to access to WITS, we are comfortable with the proposed changes in principle, subject to legal review. If you would like to discuss any of these matters further, please contact me by email: margie.mccrone@genesisenergy.co.nz or by phone: 09 951 9272.

Yours sincerely

A handwritten signature in black ink, appearing to read "M. McCrone".

Margie McCrone
Senior Advisor, Government Relations and Regulation

Appendix C: Integrating hosting capacity into Part 6 for low voltage networks

| QUESTION | COMMENT |
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| Q1: Have we adequately outlined the issues with increasing levels of SSDG, particularly inverter-connected solar PV systems? | Yes. |
| Q2: What other factors are relevant to these technical network considerations? | <p>Genesis considers that a lack of investment in technology to monitor the effects of small-scale distributed generation (SSDG) on the voltage, load and transformer condition at a transformer level of low voltage (LV) networks is contributing to this issue.</p> <p>We also note that the current buy-back rates offered by retailers incentivise self-consumption of electricity generated from SSDG systems and that this helps to reduce the impact of the issues outlined in the consultation paper.</p> |
| Q3: Do you agree these options broadly represent the range of actions we could consider at this time? Are there other broad conceptual options we should consider that are not covered by these three approaches? | Yes. |
| Q4: Do you think the Authority should pursue the types of measures that Option B would require? If not, please outline your alternative preferred approach, including if possible the costs and benefits. If you consider there is a valid Option C-style alternative, please provide details, including your view on how your alternative would meet the Authority's statutory objective. | We support Option B, with the caveat that only optional features should require an approval under Part 1. |
| Q5: Do you have any comments on the draft EEA guide's stated objectives? | Where 'Objective B' is to avoid disruption to electricity consumers and SSDG owners, it should, in our view, require the provision of effective guidelines for using solar and batteries during electricity outages. |
| Q6: What advanced power quality capabilities do inverters sold into the New | In our experience, most inverters are bought from Australian wholesalers and they have the advanced |

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| <p>Zealand market possess?</p> | <p>power quality functionality required in Australia under <i>AS/NZS 4777.2 (2015)</i>.</p> <p>However, as a lot of inverters still existed in the market when this standard was introduced in Australia, a lot of older inverter stock compliant with the <i>AS/NZS 4777.2 (2005)</i> was provided to the New Zealand market and this stock is still being installed locally.</p> |
| <p>Q7: Is it reasonable to assume that the advanced power quality modes outlined are currently available in the marketplace at no additional cost? If not, what are the likely incremental costs involved to obtain these modes?</p> | <p>Yes, in our view, most New Zealand distributed inverters compliant to <i>AS/NZS4777:2015</i> have the optional requirement of advanced power quality capabilities so would not incur additional capital cost.</p> <p>We do however note the requirement to set volt-var and volt-watt settings to ensure they are suitable for local network requirements will increase installation times for equipment thus increasing install cost.</p> |
| <p>Q8: Would a default requirement to provide volt-var and volt-watt modes for all future inverter installations that use the Part 1A connection process have any unintended adverse consequences (for example, leaving a stock of unsold inverters that are otherwise compliant with the superseded <i>AS4777:2005</i> standard suite)? Are these adverse consequences surmountable?</p> | <p>Genesis considers that adoption of inverters compliant with <i>AS/NZS477.2:2015</i> should occur as soon as possible, but, the proposed default requirement to provide volt-var and volt-watt (currently optional under the standard) could have unintended consequences for the limited availability of inverter equipment available in New Zealand that can go through Part 1A.</p> <p>In our view, this default requirement is unnecessary and the impact on any businesses with stock of old inverters could be mitigated by communicating with the industry well in advance of any changes.</p> |
| <p>Q9: What comments do you have about the hosting capacity assessment process described in detail in the draft EEA guide?</p> | <p>We disagree and believe investment in technology to monitor the effects of SSDG on the voltage, load and transformer condition at a transformer level of LV networks would clearly measure areas that are congested; please refer our response to Q2. It is our firm view that an SSDG site should not be supplying support to any network due to network under investment.</p> <p>We also consider the application process, application form, and application processing fees should be standardised across the 29 networks.</p> |
| <p>Q10: Do you support the Code amendment request discussed in the draft EEA guide? If not, please explain why and, if possible,</p> | <p>No. We consider that an area that is identified as congested by active monitoring should go through Part 1. This would ensure long overdue investment</p> |

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| <p>suggest an alternative approach.</p> | <p>is completed on the network. Any uncongested area could go through Part 1A with a <i>AS/NZS4777.2:2015</i> compliant inverter.</p> |
| <p>Q11: Do you think there is a problem or conflict with the '10 kW total' versus '5 kW per phase' thresholds respectively adopted in the Code and <i>AS/NZS 4777.2:2015</i>? If so, would you support aligning the Code threshold with the inverter standard?</p> | <p>Yes. We support a maximum of 10kW single phase or 5kW (21.7A) imbalance between phases on a multiphase property as per <i>AS/NZS4777.2:2015 C.8.5</i>.</p> <p>We would prefer a simpler application process for larger systems (over 5kW). It also should be possible to use the simpler application process for SSDG systems that have limited their export to a set amount.</p> |
| <p>Q12: Do you think there are emerging problems with capacity or power quality from in-home electric vehicle chargers, or is it too early to tell? We are keen to hear industry views and experiences and from parties that supply electric vehicle charging equipment.</p> | <p>Yes. In our view there will be capacity issues that we should be planning for now. Demand response management system requirements should be incorporated in electric vehicle chargers coming into the New Zealand market.</p> |