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Operational review of Part 6

Introduction

1. Vector welcomes the opportunity to respond to the Electricity Authority's (Authority) consultation paper *Operational review of Part 6*, dated 4 September 2012. No part of this submission is confidential and we are happy for it to be publicly released.
2. Vector's contact person for this submission is:
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Overview of responses to proposals

3. This consultation attempts to deal with the issue of small-scale distributed generation (SSDG) being connected to a distributor's network without the distributor being aware of the connection. The Authority proposes to address this issue through a new Part 1A under Part 6 of the Electricity Industry Participation Code 2010 (the Code), which aims to simplify the notification process by lowering transaction costs and increasing awareness of the Code requirements. Other proposals include amendments to, and clarification of, identified errors and ambiguities.
4. Vector supports the overall aim to improve and simplify the process for SSDG to connect to distribution networks. However, we are unconvinced that on its own this will resolve the problem identified by the Authority. Vector already provides a streamlined process for the connection of SSDG and charges a nil

fee for the connection process. Despite this, we understand there are still instances where SSDG operators do not notify Vector of a connection.

5. Vector **recommends** that further measures be introduced to promote education and awareness of the notification and connection requirements in order to resolve the problem identified by the Authority.
6. As further detailed below in Vector's response to the consultation questions, the simplified process should be limited to a single installation of SSDG within a single customer installation. For planned installations of SSDG in close geographical proximity to other installations, the current process within Part 6 should be used as the network impacts of the combined installations will need to be assessed.
7. Vector's responses to selected questions asked and issues raised by the consultation paper are set out in Appendix One.

Pricing principles need to be considered earlier than envisaged

8. In our pre-consultation submission,¹ Vector provided some detailed analysis identifying the inefficiencies caused by the DG pricing principles:
 - a) Distributors are required to set prices for DG operators at no more than incremental costs, which is inconsistent with pricing principles applied to end-consumers;
 - b) It is unclear if the incremental costs charged are assessed over the short- or long-term; and
 - c) Allocating avoided transmission benefits to DG increases overall transmission costs to consumers.
9. The Authority has advised that these issues are "best addressed in the distribution pricing review project".²
10. We also note the current 2013/14 Appropriations and Work Priorities Consultation includes a review of Part 6 pricing principles as a "second priority project for completion in 2013/14", with Code amendments not to be made until 2014/15. We assume that the Authority's intention is to use this project to review the issues Vector has identified with the Part 6 pricing principles.
11. Vector welcomes the Authority's willingness to review the pricing principles. However, we are disappointed that the Authority has given the review such a low priority. If the analysis put forward in Vector's previous submission is

¹ Vector Limited, Submission on Distributed Generation Pre-Consultation, 11 November 2011, pp. 2-6.

² Consultation paper, pp. 110-112.

correct, the current requirements for the allocation of costs and benefits to DG operators is likely to create considerable inefficiencies in the market and leave consumers worse off. It is surprising that the Authority has prioritised the technical and relatively minor amendments proposed in this consultation paper over the consideration of desirable amendments to the pricing principles, outlined above.

12. Vector **recommends** that the Authority improve the priority status accorded to the review of the Part 6 pricing principles and seek to address them as soon as possible. A potential Code amendment in 2014/15 is not soon enough.

A combined and comprehensive review would be preferable

13. It is also unclear why the Authority has chosen to operate several separate reviews of different parts of the DG rules. The piecemeal approach the Authority intends to take is unlikely to lead to a consistent set of rules for DG or ensure the Authority's statutory objective will be met in the most effective and effective manner.
14. Vector **recommends** that the Authority combine the different Part 6 review workstreams into one coherent project.

Yours sincerely,

A handwritten signature in blue ink that reads "R. Girdwood".

Bruce Girdwood
Manager Regulatory Affairs

APPENDIX A: RESPONSES TO QUESTIONS POSED IN THE CONSULTATION PAPER

Table 1: Responses to questions set out in the consultation paper

Question No.	Question	Response
1	Do you agree the proposed Code amendment to introduce a lower cost connection process promotes the Authority’s statutory objective? If not, please explain why not.	<p>Vector considers that the Code change should simplify the process and supports it on that basis.</p> <p>However, we consider that the proposals are unlikely to resolve the issue of under notification of connections. Vector currently does not charge anything (\$0 fee) for processing application for DG of less than 10kW. Despite this, our experience demonstrates that the current \$0 fee application still does not encourage some DG owners to notify Vector of the connected DG.</p> <p>Vector also considers that the simplified process should only apply to a single installation of small scale distributed generation within single customer installation limited to current per phase e.g. ≤ 16A. For planned installations of SSDG in close geographical proximity to other installations the current process may need to be used as the impact on the network of the co-located installations will need to be assessed.</p>
2	What improvements should the Authority consider to the proposed Part 1A process?	Clause 9E should include for inspection to be carried out by a third party and allow for the recovery of the full inspection costs.

	<p>The following are areas that would benefit from clarification:</p> <ol style="list-style-type: none"> 1) 9E (5) b ii – this should be changed from year to months (i.e. 1 year should be 12 months). 2) 9E (6) – it is unclear: <ul style="list-style-type: none"> • if the approval provided by a distributor under 9E (6) is the same as the 9F Notice of Approval?; or • if a 9E (6) approval is additional to a 9F approval, is the ten business days requirement in both clauses concurrent or consecutive? <p>Vector notes that the process in clause 9E does not differentiate between degrees of non-compliance. We suggest setting different requirements based on the risk posed by the non-compliance, for example:</p> <ul style="list-style-type: none"> • Low – technical breaches involving labelling, minor compliance that do not threaten the safety of individuals or network integrity – 30 days. • Medium – significant issues that are not immediate safety or network issues - 10 days. • High – issues that involve protection and control, threats to the safety of premise and individual, risk of fire - immediate disconnection; i.e. a clause clarifying that distributors are able to require immediate disconnection when DG is deemed to be unsafe, notwithstanding anything to the contrary in Part 6. <p>Sub-clause 9E(6) refers to subclause (6). This is an error and should refer</p>
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		<p>to subclause (5).</p> <p>The timeframe under 9E(6) refers to a date on which is “reasonably satisfied”, this is rather subjective. Further, for clarity this clause should include a process step for the distributed generator to notify the distributor of their efforts to remedy the deficiencies.</p> <p>Clause 9F refers to “notice of final approval”, “notice” and “notice of approval”. We recommend a consistent term is used.</p> <p>The sub-clause 9F(2)(b) timeframe refers to “date on which it is reasonably satisfied” seems to be a subjective test and therefore does not promote clarity within the Code.</p> <p>The Authority is likely to receive detailed drafting comments on the new Part 1A from various parties. Vector strongly recommends the Authority conduct a further consultation on the new Part 1A before it is finalised in order to confirm it is workable.</p>
3	<p>Which organisations should undertake education and awareness initiatives relating to the connection of DG? If so, what specific initiatives do you think should be considered?</p>	<p>This should be a combined effort involving multiple industry parties. The Authority, retailers, distributors and sellers of DG equipment all have a role to play in making information available.</p> <p>It would be particularly helpful if sellers of DG equipment provided information about the Application/ Notification when they sell each unit.</p>

4	Do you consider a three month implementation period gives distributors a reasonable time period in which to prepare for the proposed changes?	Vector considers that three months is reasonable but an additional month should be provided where the application is made less than three months prior to the Christmas/New Year holiday period.
5	Do you agree that the proposed technical and operational Code amendments promote the Authority's objective? Feedback on the individual proposals from Table 5 in Appendix D should be included using Table 3 in Appendix A.	<p>Vector recommends the following additional change:</p> <ul style="list-style-type: none"> • Schedule 6.2, clause 12 subclause 3: Envisaging a possible future with a large number of SSDG on each network - Vector queries how practical it will be to "advise the distributed generator(s) of the expected duration of the outage". Vector recommends a "reasonable endeavours" test be applied to this obligation.

6	<p>Do you have any new proposed amendments to Part 6 of the Code that you consider would be of long-term benefit to consumers? Please describe the proposal and its intended purpose.</p>	<p>Vector agrees with the view of Orion (as summarised in paragraph 3.3.19 of the consultation paper) that distributors need to be informed of all DG capable of being synchronised with the network, even if only for brief periods. However, this does not mean that all synchronised DG must go through the connection process.</p> <p>Vector agrees that DG that is only “momentarily synchronised” with the distribution network should not need to go through the Part 6 process. However, we are concerned that the term “momentarily synchronised” is undefined and could lead to plants that synchronise for relatively long periods being excluded from Part 6. Vector recommends “momentarily synchronised” is defined as a connection of no more than 100ms.</p> <p>Also, the Code should ensure that the customer’s protection remains operative. This could include a requirement for regular testing, especially if the customer has a storage medium such as batteries.</p> <p>Finally, we consider that the usability of the Code would be improved by clarification of certain words in Part 6 such as “advise”, “provide approval”, “provide notice of approval” - e.g. under clause 9E (2) it is not clear if “advise” means any form of communication (i.e. phone, email, or text) or whether only written communication is acceptable.</p>
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7	Are you satisfied that the Authority and the Rulings Panel are the most appropriate bodies to resolve disputes in respect of the regulated terms, as provided for in clause 6.8(1)(a) and Schedule 6.3? If not, what alternative would you favour?	Regulated terms are a contract between the distributor and the distributed generator and normal legal procedures should apply to resolve contract disputes.
8	What options should be considered by the Authority for improving the existing dispute resolution process?	
9	What amendments to clause 6.11, if any, do you propose in order to promote the long-term benefit of consumers?	
10	In your view, is there a problem with the priority of applications under clause 17 of Schedule 6.1 or the approach to managing congestion on distribution networks? If so, what is/are the problem(s), the options, and your preferred solution to promote the long-term benefit of consumers?	<p>Yes. These clauses do not clearly specify the process that must apply.</p> <p>Vector considers that the most straightforward approach is to treat the first final application received as the priority. Subsequent final applications may be considered only if they will not affect the first final application.</p> <p>There is also potential for confusion and dispute regarding the management of congestion on distributors' networks. If multiple DGs are connected to the same part of a network, there is no clear priority of curtailment/temporary interruption of these DGs. The regulated terms should clarify that distributors are able to set policies for identifying DG to be curtailed in their Congestion Management Policy.</p> <p>Vector recommends there be early</p>

		<p>expiry of applications that are not uplifted but used to reserve capacity on the network - e.g., an application for generation that takes the network close to a fault level limit. Subsequent applications then incur additional costs to reduce fault levels to allow connection, but these costs will be inefficient if the first investment does not go ahead. If the first applicant does not uplift and connect generation within a specified timeframe, the distributor should have the right to cancel the application.</p>
11	<p>In your view, is there a problem with the requirements of clause 18 of Schedule 6.1 relating to the distributor's imposition of conditions on an application for connection of DG? If so, what is/are the problem(s), the options and your preferred solution to promote the long-term benefit of consumers?</p>	<p>Whether the distributor approves an application and prepares conditions, or declines an application and provides detailed reasons and steps that the applicant can take to ensure connection if the distributed generator makes a new application, in accordance with 18(4)(a) of Schedule 6.1, makes little difference for the distributor.</p>
12	<p>Do you consider the liability limits under the regulated terms best promote the long-term benefit of consumers? If not, what limits would be more suitable?</p>	<p>Liability limits should be able to be agreed upon between the distributor and the distributed generator, without "altering" the regulated terms. Failing agreement, standard liability limits should apply.</p>
13	<p>Would there be a long-term benefit for consumers in seeking to develop nationally consistent inverter protection settings (as set out in paragraph 4.6.3) that are also consistent with distributors' connection and operation standards?</p>	<p>National standards would be beneficial, provided local issues are acknowledged and addressed e.g. voltage, fault levels, and background harmonic levels.</p>

14	Would you prefer a regulatory or non-regulatory measure to create nationally consistent protection settings for inverters? In the case of a non-regulatory measure, would an Authority guideline, an industry guideline or a New Zealand Standard be preferable?	A NZ Standard is preferable. A guideline requires additional review time and therefore additional costs. As the volume of distributed generation increases on networks, the settings for inverters could be related to the entire power system. Consequently the settings should be set in a way that is nationally consistent, although there is scope for differences between the North and South Island.
15	What settings, or ranges of settings, would be appropriate?	Vector submits that settings in the table below would be appropriate:

Parameter	Maximum clearance time	Trip settings
Over-voltage U>	0.5s	230V +10%
Under-voltage U<	1.5s	230V -10%
Over-Frequency f>	0.5s	50.5Hz
Under-Frequency f<	0.5s	47 Hz
LoM (Loss of Mains) ¹	0.5s	

¹LoM protection shall use a recognized technique suitable (or the micro-generator technology employed such as ROCOF, Vector shift or Frequency shift).

Table 2 – Form for response to individual proposals from Appendix D

Proposal Reference	Do you agree that the corresponding draft Code amendment set out in Appendix D promotes the Authority’s statutory objective? If not, please explain why not.
17	The proposed change needs to be defined. If it is desirable to change “notify” to “advise” then the term “advise” should be defined.
36	<p>To provide a measure of costs we need to have an expiry timeframe around previous but non-actioned applications. This is not clearly provided in clause 15.</p> <p>This comment and the comments above in item 10 of Table 1 are relevant to clause 12(d) of Schedule 6.1</p>
40	The amendments are not clear as they imply that all approved applications will be accompanied by conditions, which is not the case. Vector recommends adding the words “if any” after the word “measures” in subclause 3(a).
42	Add the words “or will be” after “...how the charges have been” to subclause 18(3)(c).
59	In clause 15A(1) of Schedule 6.2, “...date on which the regulated terms apply...” is not defined, only when DG is connected on regulated terms, see clause 24 of Schedule 6.1

Table 3 – Form for response to individual items from Appendix E

Item Reference	Response and/or comment on the corresponding item set out in Appendix E
6	<p>The proposed Part 1A will simplify the connection process. However, if the distributed generator chooses to follow the application process (in lieu of the notification process), clause 5 of Schedule 6.1 does not add any value to the application process.</p> <p>Vector recommends the deletion of clause 5 of Schedule 6.1.</p>
24	<p>See comments in the main section of this submission. Vector disagrees with the low priority the Authority has given this item.</p>
25	<p>See comments in main section of this submission. Vector disagrees with the low priority the Authority has given this item.</p>
26	<p>See comments in main section of this submission. Vector disagrees with the low priority the Authority has given this item.</p>