

31 January 2014

Submissions
Electricity Authority
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by email: submissions@ea.govt.nz

AN OPERATIONAL REVIEW OF PART 6 OF THE CODE – SECOND CONSULTATION

- 1 Orion New Zealand Limited (**Orion**) welcomes the opportunity to comment on the Electricity Authority's (**the Authority**) Consultation paper "An operational review of Part 6 of the Code – second consultation, 2 December 2013" (the **Paper**). The consultation is supported by the following papers:
 - 1.1 *Pre-consultation: Connection of Distributed Generation*, 11 October 2011, which introduced the project and sought input from interested parties to assist with development of the scope of the review
 - 1.2 *Consultation Paper - An Operational Review of Part 6 of the Code: Connection of Distributed Generation*, 4 September 2012, which described a Code amendment proposal covering a range of detailed amendments to Part 6, and also discussed a number of additional questions relating to the connection of DG to networks (September 2012 consultation paper).
- 2 The review of Part 6 has progressed alongside a separate, related work stream, undertaken by the Retail Advisory Group (RAG).
- 3 The Authority has published a Summary of Submissions paper (summary of submissions) that provides:
 - 3.1 a summary of the submissions received on the September 2012 consultation paper

3.2 the Authority's responses to those submissions.

General comments

- 4 The Authority has carried out considerable consultation on this issue which has produced a significant response from the industry and other parties. This is evidenced by the sheer size of the summary of submissions from the first consultation which together with the Authorities response to these submissions is itself a document that is 211 pages long.
- 5 After consideration of the 25 submissions received on the first consultation paper, the Authority has revised a small number of the proposals. In particular, the Authority now proposes:
 - 5.1 a revised proposal for Part 1A of Schedule 6.1 that requires the approval of the distributor prior to connection but significantly shortens the window in which the distributor may consider the application; or
 - 5.2 the alternative of retaining the status quo; and
 - 5.3 revised drafting to other Part 6 clauses and a number of clause from other Parts.
- 6 The Authority's revised proposal is a significant improvement on the 4 September 2012 proposal. Despite this improvement, Orion remains of the view that the current Part 6 code relating to the application process for SSDG under 10kW remains superior to the revised proposal. Having said that we do consider that there is merit in some but not all of the other proposed Code changes.
- 7 While we commend the Authority on this earlier work, and acknowledge the changes that the Authority has made in response to submissions, we have a number of concerns with the current proposal and process. In particular we are concerned that:
 - 7.1 the assumptions in the cost benefit analysis (CBA) overstate the benefits and understate the costs
 - 7.2 a number of responses made by the Authority in the summary of submissions indicate that the Authority has dismissed some of the concerns raised by submitters without adequate explanation or in a manner that suggests they may have misinterpreted the issue being raised
 - 7.3 the Authority has indicated that as part of this second consultation round it is seeking submissions on only a small number of questions (three) relating to these revised proposals. We consider that this approach has the potential to limit or bias the potential response to the second consultation. The Authority has proposed two options yet the three questions that the Authority has requested a response to are all related to the Authority's preferred Code

amendment and ignore the question of whether the status quo is in submitters opinion the better option. We consider this could potentially limit or bias the consultation.

7.4 We discuss these aspects in greater detail in the balance of our submission.

8 As indicated the Authority has proposed two options plus a number of other changes

8.1 *Option one is to introduce the proposed revised Part 1A of Schedule 6.1 into the Code*

8.2 *Option two is not to introduce the proposed Part 1A of Schedule 6.1 into the Code*

9 The Authority suggests¹ that:

9.1 Option 1, introducing the proposed revised Part 1A into Schedule 6.1 of the Code, would standardise the connection application and approval process where an SSDG system incorporates an inverter that has received a Declaration of Conformity with AS 4777, and complies with other safety requirements (conforming SSDG).

9.2 Option 2 would retain the status quo, which would oblige applicants to continue to use the existing process under Part 1 of Schedule 6.1 for connection of all SSDG systems and, in some cases, individual distributors develop would need to their own variations to the Part 1 process (within the constraints that exist within the Code).

9.3 It is unclear from the proposal whether the other changes are independent of the two proposed options as some of them have merit regardless of which option is eventually decided upon.

Concerns with the Authority's preferred option - Option 1

10 Option 1 relates to small scale generation of less than 10 kW and proposes to retain the existing application process (the status quo) for non-conforming SSDG and adds an option for conforming SSDG² to adopt a separate process should they wish.

11 Thus option 1 adds additional complexity to the status quo as it provides for two separate processes for conforming and non-conforming generation.

¹ Paragraphs 3.2.3 and 3.2.4 *An operational review of Part 6 of the Code – second consultation* – Electricity Authority 2 Dec 2013

² Also referred to as standards-compliant SSDG in Paragraphs 3.2.15 *An operational review of Part 6 of the Code – second consultation* – Electricity Authority 2 Dec 2013

Earlier connection of DG

- 12 The Authority suggests that the revised proposal will provide efficiency benefits for these conforming SSDG's however the Authority also notes³ *"it is understood that some distributors have streamlined the Part 1 process by requiring less information if the connection equipment meets certain standards, as well as providing faster turnaround for such applications"*.
- 13 If, as the Authority suggests, distributors are already streamlining the processes this raises the question of whether additional regulation is actually required. It also raises the question of whether the cost benefit analysis can be relied on as the paper notes the CBA is very sensitive to the assumed connection growth rate. Yet there appears to be no assumption of how many connections are carried out by distributors using a streamlined process and therefore would provide reduced or no additional cost benefits over the status quo. As a matter of good regulatory practice we would expect that the Authority should avoid additional regulation where possible.
- 14 The Authority also claims that decreasing the turnaround time on an application from 30 business days to 10 business days would enable conforming SSDG systems to be commissioned and connected earlier than they otherwise would have been. However, as the Authority has noted, some distributors have already streamlined their processes and provide a turnaround of much less than 30 days. In Orion's case we are generally able to approve SSDG in 5 to 10 working days. Therefore the claimed cost benefit is reduced. The Authority provides no data to substantiate the number of applications that are taking the full 30 working days to turn around or what the average turn round time is.
- 15 The Authority's claim in relation to the possible savings of earlier connection (less than 30 days) in the CBA is dependent on appropriate metering being installed in a timeframe to suit the commissioning. Our understanding is that a significant delay relating to the connection of DG is the provision of suitable metering. We understand that it can take up to 6 weeks to get the appropriate metering installed, although we note that in their submission, Solar City indicate that it can take up to 30 days.
- 16 Unless compliant (import/export) metering is in place we believe that it would be a breach of the Code to connect SSDG to a network.
- 17 The Authority, in response to submissions, indicated that with respect to fitting meters, parties installing DG *"will need to anticipate lead times for metering (different providers will have different lead times) and plan accordingly"*. To the extent that distributed generators can plan (via their retailer) to have the meters installed and commissioned at the same time as the generation is approved (either under the 10 day default provision or otherwise) then they will be able to take advantage of the reduced

³ Footnote 8 *An operational review of Part 6 of the Code – second consultation* – Electricity Authority 2 Dec 2013

distributor approval time, if any. Otherwise they may incur additional costs for metering if the metering is installed ahead of their approval for the DG or if the metering is not installed by the time approval for the DG has been granted they will be unable to generate (and gain no benefits) as they will have non-compliant metering.

18 We understand that current normal practice is that retailers will not install metering or enable the export section of compliant metering without documentation that the installation has been completed and approved by the distributor. Given this practice we do not consider that any benefits can be claimed in the CBA related to early connection.

19 We note that Solar City, in their submission, suggested an:

Obligation for retailers to fit a meter within 10 days that is capable of metering of distributed generation export. The installation of such a meter should be:

a. on request by customer who has an intention to install DG

b. without need to site documentation that the installation has been completed and approved by the distributor

20 The Authority's response was that "*These points are not within the scope of this review*" we consider that this response lacks adequate explanation and contradicts the Authority's response that parties installing DG "*will need to anticipate lead times for metering (different providers will have different lead times) and plan accordingly*"

21 We consider that for SSDG, Solar City's suggestion has merit if the Authority implements Option 1 and their suggestion is a pre-requisite to some of the benefits the Authority is claiming in its CBA.

22 Given the above issues we consider that the Authority's CBA overstates the benefit that could accrue from the shortened application time frame.

Standardisation

23 The Authority also suggests that a standardised process will provide an efficiency benefit. To an extent we agree with the Authority but this standardisation already occurs. A brief look at the under 10 kW applications on the distributors websites in the South Island indicates that they are already remarkably similar and in fact a number are identical. The Distributors also include a significant amount of educational and other information to assist customers looking at connecting SSDG.

24 We consider that the Authority is overstating the benefits that would come from the proposed amendments in relation to standardisation as the current application processes do not vary to any great extent. We also consider that the process needs to retain a degree of flexibility to be able to respond to individual generator and distributor network needs.

- 25 As noted above distributors have a considerable amount of educational and other information relating to DG on their websites. We estimate that the 'one off' cost to update this information to reflect option 1 changes would be in the order of \$5,000 to \$10,000 per distributor. We note that the CBA allows an annual cost for distributors of \$1,000 per annum. We consider that this 'one off' cost would be additional to the annual cost.

Publication of export congestion information

- 26 Option 1 requires each distributor to publish on its website a list of specific locations on its network that are currently known to be subject to export congestion. The Authority has defined⁴ export congestion to occur where an additional unit of electricity⁵ injected into the network would directly cause a component in the network (eg a circuit or a transformer) to operate beyond its rated maximum capacity or give rise to an unacceptable high level of voltage at the point of connection to the network.
- 27 Orion believes that the definition of export congestion makes this requirement irrelevant and indeed would mislead customers and potential DG owners. We believe that under this definition there would not be any network owner that would be able to say that any part of its network was congested. That is not to say that if one or a number of SSDG occurred this would not cause network issues.
- 28 We consider that the impact of each SSDG on the network (if any) needs to be considered individually at the time of application. This is in the interests of the customer as any issues and potential costs to the customer can be established prior to the customer investing in the SSDG.
- 29 While it may be possible to amend the definition of export congestion to make a more meaningful measure we doubt that this could be definitive and that each application would still need to be looked at on an individual basis. It also has the potential to be prohibitively expensive to implement

Acknowledgement of receipt of application

- 30 The proposed Option 1 does not include any requirement to acknowledge receipt of the application; we consider this is a retrograde step compared to the current Code requirements. It has the potential to lead to SSDG being connected by default (after 10 days) in the event that an application has not been received by the distributor. We have had issues with applications by email not being received, but the acknowledgment process of the current Code provides that follow up action from the applicant will occur.

⁴ Footnote 12 *An operational review of Part 6 of the Code – second consultation* – Electricity Authority 2 Dec 2013

⁵ We assume that the Authority is using the term 'unit of electricity' to mean 1 kWh

- 31 Without an acknowledgement step then there are no records that the application has been lodged and that it is compliant. This is best addressed by an application, acknowledgement and approval process as required by the current Code.
- 32 In addition distributor s need to be aware of the connection of SSDG to update the registry information as required by section 7 of schedule 11.1 of the Code. Without this information distributors will, by omission, breach the requirements of the Code.

Option 2 The status quo

- 33 The status quo is our preferred option. It clearly meets the Authority's objective under the Act as it is current code.
- 34 It is superior to Option 1 in that:
- 34.1 it provides flexibility to meet the needs of the distributed generation and the distributor. As the Authority has indicated, distributors are already streamlining the process and are providing approval in shorter time frames than the maximums allowed under the Code.
- 34.2 it requires an acknowledgement of the application, and then consent. The proposal (option 1) has the potential to lead to SSDG being connected by default in the event that an application has not been received by the distributor.
- 34.3 it provides the distributed generator with information on any potential network costs prior to an unnecessary commitment to purchase the DG
- 34.4 it is a standardised process for all forms of SSDG under 10kW.

Q3 Do you have any comments relating to the proposed Code amendments that have resulted from the Authority's review of Part 6? Please provide comments and suggested drafting improvements with reference to specific parts, schedules and clauses of the draft Code amendments set out in Appendix B.

General comments on changes to the Code

- 35 We do not consider that the proposed Option 1 should be implemented. However, to assist the Authority should the Authority choose to go ahead with the proposal we have included recommendations on changes to the proposed Code and other amendments we consider necessary to improve the Code in relation to distributed generation. This should not be taken as any endorsement or acceptance of the proposal.

Confusion over 'distributed generation' and 'embedded generation'

- 36 We recommend that as part of this consultation the Authority considers the relationship of the defined terms '*embedded generator*' and '*distributed generator*' which are commonly used interchangeably (including in the Authority's own document Regulating New Zealand's small-scale distributed generation Fact sheet 7) and clarify the difference if any.
- 37 We note that the difference can be confusing for potential generators. For example, the Authority's web site contains information on embedded generation that we consider to be incorrect. The document "Information Sheet Embedded Generation" indicates that embedded generators "*must register if your total generation is greater than 5 MW in capacity or if you intend to buy/sell electricity yourself to/from the clearing manager*".
- 38 This may mislead potential generators into considering that they are not required to register or comply with the Code.
- 39 We believe that distributed generators and embedded generators must register regardless of capacity of generation as they are an industry participant as set out in section 7 of the Electricity Industry Act 2010 (the Act) and that distributed generators and embedded generators will fall under this category unless exempted under section 10 of the Act.
- 40 Another difficulty is that various sections of the Code refer to 'distributed generation' while other sections refer to 'embedded generation'. For example under clause 15.13 of part 15, embedded generators must:

give a notification to the **reconciliation manager** for an **embedded generating station** in relation to a **point of connection** for the purposes of clauses 15.3 and 15.5(3) if the **embedded generator** will not receive payment from the **clearing manager** or any other person for any **electricity** generated by the relevant **embedded generation station** through the **point of connection** to which the notification relates

There is no equivalent for distributed generation. Similarly there are other clauses relating to embedded generation and not distributed generation in Part 10.

- 41 We note that in the recent (29 January 2014) presentation by the Authority on TPM beneficiaries-pay working paper the Authority refers to '*embedded generation*' rather than '*distributed generation*'.
- 42 To avoid on-going confusion we recommend the Authority standardises on either 'distributed generation' or 'embedded generation' and modifies the definition as required.

Authority's changes to exclude some distributor's generating plant from the definition of distributed generation

We agree with the proposed exclusion of distributors generating plant that is connected and operated by a distributor for the purposes of maintaining or restoring the provision of electricity to part or all of the distributors distribution network and the exclusion of generating plant that is only momentarily synchronised with the distribution network as set out in the proposed definition of distributed generator.

Definition of conforming DG

- 43 We recommend that in the event the Authority implements Option 1 (which we do not agree with), then it includes a definition of conforming DG

Definition of distribution network

- 44 In the definition of distribution network the word electricity in the term '**electricity lines**' should not be bolded.

Definition of distributor

- 45 We are concerned that this definition is getting so convoluted and has different meaning in many different Parts that it is almost impossible to interpret.

Definition of distributed generation

- 46 The definition of distributed generation only refers to Part 6 yet the defined term is used in other Parts of the Code (e.g Part 11). We recommend this omission be corrected. See also our earlier comments about combining distributed generation and embedded generation in one defined term (Paragraphs 36 to 42).

Clause 6.3 (2)(f) of Part 6 requirements to make publically available a list of make and model of each inverter approved by the distributor for connection to the distributors network.

- 47 This should not be a Code requirement. It may be something that could be included in guidelines for a distributor to voluntarily disclose if they choose. As we understand the proposal this requirement is effectively redundant as an inverter approval is basically dictated by clause 2A(c) of Schedule 6.1 which requires that it has been issued a declaration of Conformity with AS 4777.2.

Clause 6.3 (2)(g) of Part 6 requirements to make publically available a list of congested parts of the network

- 48 This section and the associated section 6.3(4) of Part 6 should be deleted - see our earlier in regard to making publically available a list of congested parts of the network comments in paragraphs in 26 to 29

Section 2B of Schedule 6.1 - Revision of AS 4777

- 49 The proposed clause 2B of schedule 6.1 provides a mechanism to deal with a revision of AS 4777.2. We agree with the Authority that it is useful to have a mechanism that addresses changes to AS4777, particularly as there is currently a draft of the proposed changes which has been out for consultation. We question whether inclusion in the Code is the most appropriate method. Many aspects of the Code are dependent on equipment complying with various standards. For example section 10.10 of Part 10 states:

10.10 Standards used

In this Part a reference to compliance with a standard, including an AS/NZS or IEC standard, is a reference to—

- (a) the version of the standard existing as at 29 August 2013; or
- (b) any amendment to or replacement of the standard incorporated by the **Authority** in accordance with section 32 of the **Act**; or
- (c) any equivalent standard incorporated by the **Authority** in accordance with section 32 of the **Act**.
- 50 As the Code is requiring compliance with a standard by reference we would therefore expect a similar section to section 10.10 of Part 10 to be incorporated in Part 6. We would expect that legal effect to any amendments or revocations of any standards would be incorporated by notice in the Gazette as set out in Schedule 1 of the Act.
- 51 We consider that incorporating amendments or replacements of standards is a process and should not be incorporated as Code. By including a process in Code the Authority is creating future problems. For example the proposed Code set out in clause 2B would apply to all future changes to AS 4777 which may not be desirable and would need a further Code amendment to rectify any undesirable outcomes.

Section 9A(4) of schedule 6.1

- 52 Clause 11.7 of schedule 11.1 of the Code requires distributors to update information held in the registry relating to the installation type code assigned to the ICP and information on the nameplate capacity and fuel type of the distributed generation . We understand that the distributor should update the installation type field and the generation fields effective of the date of connection (clause 7 and 8 of schedule 11.1).
- 53 We believe that the information that the distributed generator is required to provide must be sufficient information for distributors to be able to comply with the requirements of section 7 of schedule 11.1. Under the proposed Option 1A it is unclear whether the distributor will ever receive the information required.
- 54 We also consider that the current Code is inadequate in this respect and that it should be modified to ensure sufficient information is provided to distributors for them to be able to comply with the requirements of section 7 of schedule 11.1.

Section 9E of schedule 6.1

- 55 See our earlier comments in regard to section 6.3 (2)(f) of Part 6

Metering issues - Proposed changes to section 4.1 of schedule 6.2

- 56 The Authority proposes to remove the obligation in clause 4.1 of schedule 6.2 on distributed generators to ensure that 1 or more metering installations are installed that:

56.1 separately record any inflows of electricity from the distribution network and any electricity injected into the distribution network and

56.2 fully comply with the code⁶

- 57 TLC raise concern over the deletion of this clause in its submissions and the reason provided by the Authority in response to TLCs submission on this issue was:

“Disagree. The Code requirements relating to metering are clearly set out in other parts of the Code. It would be redundant (and potentially confusing) to repeat them in Part 6.”

The Authority’s reason is inconsistent the remaining requirement on the distributed generators to provide reactive metering set out in section 4(3) of schedule 6.2. We recommend that the Authority should adopt a consistent treatment of metering in Part 6.

- 58 Also we do not agree with the Authority that the metering requirements for DG are clearly set out in other Parts of the Code. We believe that Part 10.24⁷ does require that import/export metering is required and that the retailer is responsible (not the distributed generator). The implication of this is that the current Code is in error as it has two parties responsible for ensuring there is a metering installation - the distributed generator under Part 6 and the retailer under Part 10.

- 59 If it is not the case that the current Code has two participants responsible for ensuring a metering installation is provided then the deletion of section 4.1 of schedule 6.2 will result in nobody being responsible, as we can find no reference to a distributed generator being responsible for metering in Part 10.

⁶ However the Distributed generator remains responsible for providing reactive metering on larger installations

⁷ **10.24 Responsibility for ensuring there is metering installation for ICP that is not also NSP**
A **trader** must, for each **energised ICP** that is not also an **NSP**, and for which it is recorded in the **registry** as being responsible, ensure that—
(a) there is 1 or more **metering installations**; and
(b) all **electricity** conveyed is quantified in accordance with this Code; and
(c) it does not use subtraction to determine **submission information** for the purposes of Part 15.

60 However we think that this demonstrates that it is certainly not the case that “*The Code requirements relating to metering are clearly set out in other parts of the Code*” and we would recommend that the Authority should make it clear in Part 6 that import and export metering is required to be installed and certified prior to the DG being connected and at least include a cross reference in Part 6 to the appropriate section in Part 10 (or other Part of the Code) which sets out who is the participant responsible for ensuring that a metering installation is installed.

61 **Other issues - Registration as an Industry participant**

62 The Code may not impose obligations on any person other than an industry participant or a person acting on behalf of an industry participant⁸. For the purposes of the Act then, for the Code to apply to distributed generators, they must be one of the industry participants listed in section 7 of the Act. The most likely candidates being either:

62.1 a generator⁹; or

62.2 a person, other than a generator, who generates electricity that is fed into a network; or

62.3 a distributor.

63 An industry participant can be exempt registration under s10 and from the Code under s11 of the Act. We are not aware of any class exemptions to registration under s110 of the Act or of individual exemption of participants by the Authority. Nor can we see the 1000 or so distributed generators that the Authority’s paper suggests there should be, given the number of SSDG that will have been commissioned by now, in the participant’s registry.

64 This issue was raised in section 4.2 of the RAG paper¹⁰ in February 2011 and does not appear to have been resolved even though failure to register is an offence under s.31 of the Act.

65 The requirements of the Act on industry participants suggests that a pre-requisite for application to connect under the Code for any form of distributed generation or embedded generation should be registration as a participant or evidence of exemption from registration or the Code. Clearly, if the distributed generation or embedded generation is exempt from the Code as well as registration, then the Code cannot impose obligations on them which means we will have more non-notified SSDG connections which as the Authority has identified is a safety issue.

⁸ Section 32(2)(a) of the Act

⁹ Defined in part 5 of the Act as: **generator** means a business engaged in generation

¹⁰ Retail Advisory Group Investigating barriers facing small scale distributed generation 7 February 2011

- 66 We believe that the Authority has an educational role in this area, particularly with suppliers and installers of DG, to ensure that when any form of distributed generation or embedded generation is installed that the owner, as an industry participant, is aware of their obligations under the Code.

Concluding remarks

- 67 Thank you for the opportunity to make this submission. Orion does not consider that any part of this submission is confidential. If you have any questions please contact Dennis Jones (Industry Developments Manager - Commercial), DDI 03 363 9526, email Dennis.Jones@oriongroup.co.nz.

Yours sincerely

A handwritten signature in black ink that reads "D. L. Jones". The signature is written in a cursive, slightly slanted style.

Dennis Jones

Industry Developments Manager - Commercial