

5 August 2016

Energy Markets

Building, Resources and Markets Group

Ministry of Business, Innovation and Employment

Wellington

by email: energymarkets@mbie.govt.nz

Submission on electricity legislation

- 1 Orion New Zealand Limited (**Orion**) welcomes the opportunity to comment on the Ministry of Business Innovation and Employment's (MBIE) consultation on the application of electricity legislation to secondary networks and publically accessible charging infrastructure.
- 2 This submission is in two parts:
 - 2.1 General comments
 - 2.2 Responses to specific questions

General Comments

- 3 The first of the issues that the paper raises on secondary networks has been discussed by the Electricity Authority over many years. The latest consultation on this issue was from the Electricity Authority's RAG working group in April 2015. The second issue, on publically accessible charging infrastructure, is a relatively new issue.
- 4 In both cases we do not consider that there is a need to rush the consultation or decision making process – the legislative definitions this consultation relates to effect many other legislative areas and regulatory issues. We urge MBIE to approach any consideration of changes to these definitions with a great deal of caution as the consequences of any changes could be significant, far reaching and potentially unintended.
- 5 We would like MBIE to provide advice on whether an Electric Vehicle is a connectable installation under clause 7 of the Electricity (safety) Regulations 2010.

7 Connectable installations

*For the purpose of the definition of connectable installation in section 2(1) of the Act in relation to a vehicle, a relocatable building, or a pleasure vessel, a **connectable installation** is one that is designed or intended for, or is capable of, connection to an external power supply that operates at a nominal voltage between 90 and 250 volts AC at standard low voltage.*

Secondary Networks

- 6 There have been many previous consultations and guidelines produced on the interpretation of the current legislation in regard to secondary networks. The latest consultation was from the Electricity Authority’s Retail advisory group in April 2015. This is a complex area and we consider that this consultation is not deep enough and the timeframe for consultation on these issues is far too short. We recommend that MBIE review the actual submissions on these earlier consultations to gain a greater understanding of these issues.

Response to specific questions

Question 1: Do you agree that owners of secondary networks should be required to belong to the EGCC? Please explain why or why not.

- 7 We believe that the question is too simplistic and that the answer to this question depends on the type of secondary network. As the paper notes there are three types of secondary network. We will address these questions in the context of each type of network.

Embedded network

- 8 We consider that the owners of embedded networks, as a type of secondary network, should be members of the EGCC. Our reason for this are that they carry out the roll of a distributor in that they:
- (a) issue ICPs and update registry information under the Participation Code
 - (b) can be non-contiguous parts of an existing network owners assets
 - (c) can be in the transport corridors and directly replacing other networks assets
 - (d) need to give approval for the connection of DG under Part 6 of the Participation Code
 - (e) provide electricity lines services
- 9 In addition embedded networks require the installation of certified metering under the Participation code is required within the network and retail reconciliation under the Participation Code is required within the network.
- 10 We note that while shopping malls are often given as an example of an embedded network secondary networks can also be substantial networks supplying large residential subdivisions reticulated at 11kV or above with transformers and a 400V reticulation system.

Customer Networks

- 11 We consider that the owners of customer networks as a type of secondary should not be members of the EGCC. Our reasons for this are:
- (a) They do not carry out the roll of a distributor in that they are primarily offering a packaged retail/commercial space rather than supplying electricity lines services.
 - (b) Typically there is only one ICP and one metering point. The customer network owners do not issue ICPs and there is no registry information that they need to update under the Participation Code.
 - (c) From a local network and retail perspective there is only one customer and they have access to the EGCC scheme.
 - (d) We do not consider that the internal wiring of a building can be considered a network requiring the customer network owner to be a distributor.
- 12 We note that commercial buildings are often given as an example of a customer network. However we urge caution as the definition of a customer networks could capture a very simple form of customer network such as a single domestic dwelling with two people flatting together, one of which owns the house and pays the electricity bill while the flatmate pays for their use of electricity on some agreed basis. We do not consider that the legislation or the EGCC scheme was intended to capture this type of situation.
- 13 Having said that we submit that there is a case to consider whether a consumer network should be an embedded network where it is above a certain size. Recognising that this would potentially have significant cost implications to the end customers due to the cost of metering and rearranging wiring.

Network extensions

- 14 We consider that the owners of network extensions as a type of secondary should not be members of the EGCC. Our reasons for this are:
- 14.1 They do not carry out the roll of a distributor in that:
- (a) the roll of the distributor under the Code is carried out by the local network distributor
 - (b) From a local network and retail perspective there is no secondary network.
 - (c) We do not consider that the internal wiring of a building can be considered a network requiring the network extension owner to be a distributor

Question 2: Do you agree that there should be consistency in the application of the Code, Part 3 of the Electricity Industry Act, and the LFC and levy regulations for owners of secondary networks where their activities are similar to those of a local distribution network owner? Please explain why or why not.

15 Again, we believe that the question is too simplistic and that the answer to this question depends on the type of secondary network.

16 We will address the questions in the context of each type of network.

Embedded networks

17 We consider that there should be consistency in the application of the Code, Part 3 of the Electricity Industry Act and the LFC and levy regulations for owners of secondary networks, where those secondary networks are embedded networks. Our reason for this is:

17.1 For the reasons outlined in response to Q1, we consider that embedded networks owners are carrying out activities that are similar or identical to those of a local network owner.

18 However we consider that there may also be exceptions. For example in most cases embedded networks are on private land and in such cases it is questionable whether the requirements of part 3 of the Electricity Act would need to apply, however where the embedded network is in a transport corridor then Part 3 of the Electricity Act should apply.

19 We also note that some sections of the Code do not apply to distributors on networks that convey less than 5GWh. We consider that the Electricity Authority should review whether it is still appropriate to retain these exemptions.

20 **Please note our endorsement of consistency with the Low fixed charge (LFC) should not be taken as indicating that we agree with the LFC regulations.**

Customer Networks

21 We do not consider that there should be consistency in the application of the Code, Part 3 of the Electricity Industry Act and the LFC and levy regulations for owners of secondary networks, where those secondary networks are customer networks. Our reasons for this are:

21.1 For the reasons outlined in response to Q1 we do not consider that customer networks owners are carrying out activities that are similar to those of a local network owner.

22 In regard to Part 3 of the Electricity Act we consider that typical customer networks will be on private property and in such cases we do not consider the requirements of Part 3 of the Electricity Act would need to apply. However, were consumer networks to be located in a transport corridor (say to supply EV chargers) then there may be a case that Part 3 of the Electricity Act should apply or possibly that the customer network should be classed as embedded network.

Network extensions

- 23 We do not consider that there should be consistency in the application of the Code, Part 3 of the Electricity Industry Act and the LFC and levy regulations for owners of secondary networks, where those secondary networks are network extensions. Our reasons for this is:
- 23.1 We do not consider that network extension owners are carrying out activities that are similar to those of a local network owner for the reasons outlined in response to Q1 together with the additional reasons outlined below.
- 23.2 Network extensions tend to be small and we believe that the number of network extensions are considerably understated. We have many thousands of examples of small network extensions such as ownership flats, small blocks of shops, small commercial units (with only 2 or 3 ICP's). These provide an efficient solution to supplying the end use customer, as there is one clear demarcation point, at the central supply point, between the local network and the secondary network.
- 23.3 This approach removes the need for multiple easements that would be required if the local network were to supply directly to each end use customer. It is likely to be the most economical solution to supply the end use customers. The reticulation of the secondary network would require skill sets more common to commercial electricians rather than cable layers on a local network.
- 23.4 The customer has access to the competitive retail sector of the industry. The metering is subject to the normal regulated requirements.
- 23.5 Conceptually one could consider that the ICPs were deemed to be at the point of connection to the network.

Electric Vehicle Charging infrastructure

Question 3: Do you think having a consistent approach to classifying charging infrastructure is necessary and/or beneficial? Do you think they should be classified differently for access rights and electrical safety purposes? Please explain why or why not.

- 24 We agree with the paper that, “at a general level, works can be seen to cover the main electrical distribution infrastructure and electrical installations the electrical systems used to convey electricity to the point of consumption” i.e the electric vehicle.
- 25 As set out below the location of the charger and its supply infrastructure should dictate the access rights and electrical safety requirements. We believe that EV chargers located in a public place should be classified as an electrical installation for safety reasons. The supply to the charger will be either part of an electrical installation or works depending on the location, for the reasons given below.

Chargers on private property but publically available

- 26 We consider that in the case of chargers that are on private property that are publically accessible, such as commercial buildings, car parks (including shopping malls and supermarkets), service stations and holiday parks, and are supplied from the existing customers electrical installation, then the supply to the charger and the charger itself would both form part of that existing electrical installation and therefore have to comply with the requirements of AS/NZS 3000.
- 27 However, if the charger is fed from the local network we would expect the supply to the charger to be either works or form part of the electrical installation (main's supply to the charger). In either case the charger would be an electrical installation and in the example where the charger is fed from the local network, besides the charger and the supply forming part of the electrical installation it must also meet the Electricity Authority's requirements for Electric chargers as noted in their Memo of 7 April 2016 on connection of electric vehicles to charging stations. The connection must:
- be connected and energised in accordance with the requirements of the Code
 - have a trader recorded in the registry for that ICP identifier
 - have a metering installation that complies with the requirements of the Code.
- 28 Clearly any necessary contracts, agreements, easements etc would have to be established with the property owner.

Chargers on public roads

- 29 We consider that EV chargers available to the public on legal roadways should be classed as electrical installations. A key reason for this is to ensure safety.
- 30 We also note that the recently closed consultation on the draft AS/NZS 3000 2016 includes a proposed "Guidance for installation and location of electrical vehicle socket outlets and charging stations". In the main we think the proposed guidance provides useful safety requirements. It does however contain a number of clauses which we opposed – including a requirement for every public EV charger to be visually inspected once a week. We believe that such a requirement is unnecessary and would add significant operating cost/risk for charger owners and significantly discourage installation of public chargers throughout New Zealand.
- 31 Having said that, there remains the question of the supply to the charger and whether that should be considered to be works or an electrical installation. In general we consider that it will be works, as the cable is laid in the road and is governed by the Utility Access Act 2010 and the national code of practice for Utility Operators Access to Transport Corridors (September 2015)

Figure 1-3 illustrates the rights of access to the different Transport Corridors.

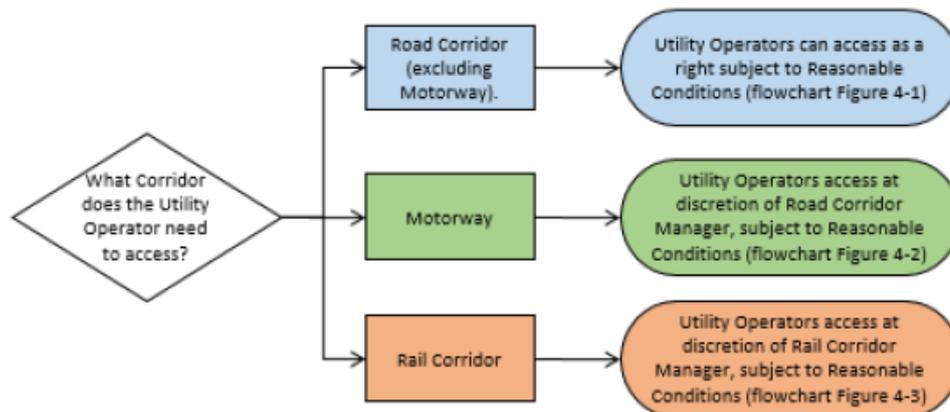


Figure 1-3: Rights of Access

- 32 By classifying the supply to a charger as ‘works’, it ensures that appropriate standards as set out in the Code of Practice are maintained and appropriate recording of the cable location is made available for future use.
- 33 However by classifying the charger as an electrical installation then approval to site the charger in a transport corridor would have to be sought from the appropriate authority.
- 34 We consider that there is a possible exception to the above where an electricity operator has a charger that is not publically available and only available to the electricity operator’s staff, then this could be treated as works because the electricity operator will have systems in place to manage risk.
- 35 We consider that the existing regulation provides for the above.

Question 4: Do you think, for access right purposes, charging infrastructure should be categorised as works or electrical installations? Please explain why you consider it to be one or the other.

- 36 As indicated above, for safety reasons, we consider that a charger should be classed as an electrical installation where it is accessible to the public. The supply to the charger will be either part of an electrical installation or works depending on the location for the reasons given in response to Q3

Question 5: Do you think the provision of national information and guidance from the NZTA would be sufficient to clarify the access rights as they apply to charging infrastructure? Please explain why or why not.

- 37 We consider that it would be useful to have national information and guidance on electric vehicle infrastructure deployment, however we do not consider that NZTA is necessarily the right party to produce this. We note the Canadian electric vehicle infrastructure deployment guidelines 2014 provides a useful example together with the UK standard IET Standards Limited Code of Practice for Electric Vehicle charging equipment installations, first published 2012 ISBN 978-1-84919-510-0. We consider that the UK standards may form a close match to the NZ requirements. We consider that the NZ Utilities advisory group and representatives of the EDBs may be of assistance in developing a Code of Practice.

Question 6: For the purpose of electrical safety, if all publically accessible EV charging infrastructure was to be categorised, do you think it is better categorised as works or electrical installations? Please explain why you take this view.

- 38 For the purpose of electricity safety, the Electricity (safety) Regulations 2010 apply, whether the EV charger is considered to be works or an electrical installation. The regulations set out the requirements for “safety of works” in Part 4 and for “safety of installations” in Part 5. We consider that, for consistency, all publically accessible EV chargers should be classified as electrical installations (this does not include the supply to the charger which we consider could be either works or part of the electricity installation depending on its location). Having the EV chargers as electrical installations will ensure consistent requirements on a national basis, whilst having them classed as works could result in different standards around the country (dependant on the safety management systems that are in place).
- 39 In the case of the supply cables, having them as works in the transport corridor will ensure that appropriate safety standards are met including mapping and recording cable locations for future reference. Having the supply cables classified as part of the electrical installation in the transport corridor will not ensure appropriate mapping and record keeping and even if the cables are mapped and recorded, a third party wishing to excavate in the transport corridor may have difficulty establishing who to ask when seeking maps.

Question 7: For the purposes of electricity safety, what consequences would categorising all charging infrastructure as either works or electrical installations have? Please explain the consequences and impacts you think this would have if charging infrastructure was classified as works and if it was classified as electrical installations.

- 40 For the purpose of electricity safety the Electricity (safety) Regulations 2010 apply whether the EV charger is considered to be works or an electrical installation. The regulations set out the requirements for “safety of works” in Part 4 and for “safety of installations” in Part

5. We consider that classifying all charging infrastructure as works may result in a different interpretation of what is required for a safe installation in different parts of the country (dependant on the safety management systems that are in place).

Question 8: How do you think electrical safety for charging infrastructure can best be addressed? Please explain any measures you have identified and why you think they are needed.

- 41 Suitable product standards for the EV charging units themselves coupled with appropriate, useful guidelines including physical protection of the installation could lead to improved safety.

Concluding remarks

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

Yours sincerely



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