

Summary of submissions

Review of secondary networks: Issues and options paper

8 July 2015

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- 1 The Electricity Authority (Authority) has requested the Retail Advisory Group (RAG) to recommend options to promote competition and efficiency on secondary networks for the long-term benefit of consumers.
 - 2 On 21 April 2015 the RAG issued a discussion paper that:
 - (a) provided an overview of secondary networks
 - (b) described issues that appear to have an adverse effect on competition and efficiency on secondary networks
 - (c) considered potential solutions to address these key issues and proposed a preferred solution
 - (d) assessed the high level costs and benefits of the preferred solutions for improving competition and efficiency on secondary networks
 - (e) sought feedback from interested parties on the issues and solutions discussed.
 - 3 The discussion paper is available on the Authority's website:
<http://www.ea.govt.nz/development/work-programme/retail/competition-and-efficiency-on-secondary-networks/consultations/#c15233>.
 - 4 This paper provides a summary of the submissions received on the discussion paper. The paper does not contain an exhaustive list of points made in submissions, but rather the main themes that are observed in the submissions.
 - 5 All of the submissions received are available on the Authority's website:
 - 6 <http://www.ea.govt.nz/development/work-programme/retail/competition-and-efficiency-on-secondary-networks/consultations/#c15233>.
 - 7 The RAG will use the feedback from interested parties in developing its advice and recommendations to the Authority on options to promote competition and efficiency on secondary networks.

Submissions received

8 Twenty one submissions were received on the discussion paper, from the parties listed in Table 1.

Table 1 List of parties making submissions

Consumers	Retailers	Local network owners	Secondary network owners	Energy services firms / consultants
Electricity and Gas Complaints Commissioner (EGCC)	Contact Energy	Aurora Energy	Auckland International Airport (Auckland Airport)	Shaun Hayward
Major Electricity Users' Group (MEUG)	Genesis Energy	Electricity Networks Association (ENA) ¹	Christchurch International Airport (Christchurch Airport)	Smart Power
	Meridian Energy	Orion New Zealand (Orion)	New Zealand Airports Association (NZ Airports)	TENCO EBS
	Mighty River Power	Unison	Tuihana Networks	
	Nova Energy	Vector		
	Pioneer Generation			
	Trustpower			

¹ ENA notes that its submission is supported by the 29 local network businesses in New Zealand, being: Alpine Energy, Aurora Energy, Buller Electricity, Centralines, Counties Power, Eastland Network, Electra, Electricity Ashburton, Electricity Invercargill, Horizon Energy Distribution, MainPower NZ, Marlborough Lines, Nelson Electricity, Network Tasman, Network Waitaki, Northpower, Orion New Zealand, OtagoNet, Powerco, Scanpower, The Lines Company, The Power Company, Top Energy, Unison Networks, Vector, Waipa Networks, WEL Networks, Wellington Electricity, Westpower.

Summary of major themes raised in submissions

- 9 The following major themes are raised in submissions:
- (a) there is general agreement with the RAG's description of the types and physical characteristics of secondary networks
 - (b) further consideration should be given to whether the description of the legal framework for secondary networks is correct and, if it is, what actions the Authority should therefore be taking
 - (c) views are divided about the effect that embedded networks have on retail competition
 - (d) fault management and reliability of supply on secondary networks do not appear to be significant issues
 - (e) there is support for a default use-of-system agreement (UoSA) for embedded networks
 - (f) there is support for preventing an embedded network owner from decommissioning the network supply point (NSP) for an embedded network before the status of the installation control points (ICPs) on the embedded network is changed in the registry
 - (g) a minimum notice period for converting an embedded network or a network extension to another form of secondary network is supported.
- 10 This section provides a summary of these themes.

There is general agreement with the RAG's description of the types and physical characteristics of secondary networks

- 11 All submissions generally agree with the RAG's description of the types and physical characteristics of secondary networks. Three submitters disagree with some of the detail in the RAG's description, including that:
- (a) metering on customer networks does not need to be compliant with the Electricity Industry Participation Code 2010 (Code), because tenant billing arrangements can be based on checked metering, floor space or as set out in the tenancy agreements
 - (b) the description of a customer network must consider two scenarios:
 - (i) a property owner has a building with multiple residential unit titles
 - (ii) a property owner has a building with multiple tenancies who move in and out of tenancy agreements.

Further consideration should be given to whether the description of the legal framework for secondary networks is correct

- 12 The feedback contained in submissions indicates that further consideration should be given to whether the description of the legal framework for secondary networks is correct.
- 13 If the description is correct, then further consideration should be given to what actions the Authority therefore ought to be undertaking, including:
- (a) whether the Authority should regulate each type of secondary network and, if so, how?

- (b) if the answer to (a) is “yes”, then are the existing regulatory instruments “fit-for-purpose” (eg, the Secondary Network Guidelines)?
 - (c) whether the relevant definitions in the Code and in the Electricity Industry Act 2010 (eg, retailer, distributor) need to be reviewed?
 - (d) auditing embedded networks’ compliance with the Code
 - (e) monitoring and enforcing compliance with the requirement in the Electricity Industry Act for industry participants:
 - (i) to be registered with the Authority
 - (ii) to be a member of a dispute resolution scheme.
- 14 Eight submissions agree, or appear to agree, with the discussion paper’s description of the legal framework, while a further four submissions partially agree with the description. Two submissions disagree with aspects of the description – primarily in regard to:
- (a) the definition of a distributor
 - (b) defining a customer network owner as an industry participant.
- 15 At one end of the spectrum the EGCC and Unison believe the RAG has described the legal framework for secondary networks well. On the other hand Contact Energy considers the legal argument used for customer networks is flawed, while Shaun Hayward disagrees with the interpretation of the definition of a distributor under the Electricity Industry Act.
- 16 Several submissions point to a need to clarify the definitions of some industry participants. This is especially so where there are conflicting interpretations (eg, the definition of distributor in the Electricity Industry Act and in the Code) or broad interpretations (eg, retailer could be interpreted very widely to identify accounting allocations as being the resale of electricity). Orion notes that if a customer network owner were to be classed as a retailer because it sold electricity to a consumer other than for the purpose of resale, then the retailer from whom the customer network owner purchased its electricity could not be a retailer because the definition of retailer excludes a business selling electricity to a consumer for the purpose of resale.
- 17 Some submissions also point to the difficulty in giving effect to the legal obligations on customer networks and/or make suggestions on the status of customer networks, including that:
- (a) there could be a threshold below which customer network owners are exempted from obligations as industry participants
 - (b) there should be categories of customer networks which should be treated differently in terms of their obligations under the Code
 - (c) customer networks should not have to be industry participants
 - (d) meters inside a customer network should not be subject to compliance with the Code (although another submission believed they should be subject to the Code).
- 18 There were a number of requests for guidelines to clarify some of the obligations of participants, along with some calls for better monitoring of the requirement on embedded networks and customer networks to be registered as a participant and to be a member of the EGCC scheme.

- 19 The EGCC notes that the paper is silent on whether the Authority intends to increase secondary networks' compliance with the Electricity Industry Act, the Code and market facilitation measures such as the Medically Dependent Consumer (MDC) Guidelines, the Vulnerable Consumer Guidelines and the contracting principles and model terms and conditions for retail contracts.

Views are divided about the effect that embedded networks have on retail competition

- 20 Views are divided on the effect that embedded networks have on retail competition. On the one hand several submitters consider that embedded networks adversely affect competition (Mighty River Power, Nova Energy, Smart Power). On the other hand some submitters consider that embedded networks do not adversely affect competition (Auckland Airport, TENCO EBS).
- 21 A significant minority of submissions believe consideration should be given to whether embedded networks are permitted and/or whether a de minimis should be met before an embedded network can exist. Four of these submitters are retailers (Contact Energy, Mighty River Power, Nova Energy and Trustpower), while the fifth is a local network (Orion).
- 22 Comments on this matter include:
- (a) the Authority should consider the extent to which it can limit the spread of residential and commercial subdivision embedded networks
 - (b) it is timely for the RAG or Authority to review whether a reduction in the number and type of secondary networks would be beneficial for the industry and how this could be achieved
 - (c) the measures proposed by the RAG have some merit, but they do not address the fundamental issue of increased costs and reduced competition created by embedded networks. Rather than addressing the symptoms or tweaking the processes, the RAG should advocate eliminating the cause of those costs (ie, embedded networks)
 - (d) what is required is the removal of embedded networks as an option. Customer networks and network extensions are the only practical step in reducing the cost to serve and therefore the cost to the industry as a whole
 - (e) the removal of embedded networks would likely see a drop in retailer costs, which in a competitive market ultimately flows through to end consumers.
- 23 In contrast TENCO EBS, a provider of services to embedded networks, presents analysis indicating that:
- (a) competition is higher on embedded networks than on local networks
 - (b) the cost of serving customers on embedded networks should be lower than for local networks.
- 24 Auckland Airport has seen no quantifiable evidence that competition is lessened on embedded networks.

Fault management and reliability of supply on secondary networks do not appear to be significant issues

- 25 A number of submitters query the significance of fault management on secondary networks. Some retailers and distributors comment that misdirected calls are not a

significant cost. Other submitters query whether reliability of supply is an issue on secondary networks. Some embedded networks state that they have systems and protocols to ensure reliability of supply. Smart Power believes that consumers within secondary networks have better reliability of supply than consumers within local networks. Auckland Airport believes that a secondary network has a stronger interest in ensuring that its tenants have reliable supply than does a local network.

- 26 Nevertheless, the majority of submitters agree that the Secondary Network Guidelines should specify expectations on secondary networks to identify and allocate responsibility for business to business interactions, including fault management.
- 27 TENCO EBS proposes the Electricity Information Exchange Protocols (EIEPs) be developed further to require local networks and secondary networks to publish fault contact information at the top of each price schedule. This would provide a standardised method of communicating this information.

There is support for a default UoSA to be put in place for embedded networks

- 28 There is support for the proposal to introduce a default UoSA for embedded networks, from the majority of the 16 submissions that comment on this matter. (Ten submissions agree with the proposal, two partially agree and four disagree.)
- 29 Two of the four submitters who disagree with the proposal are embedded networks (Christchurch Airport and Tuihana Networks), while the other two are local networks (Orion and Vector). The embedded networks' concern is the cost of introducing the default embedded network UoSA. The concerns raised by the two local networks are that a default embedded network UoSA will not promote retail competition and that the RAG has not established a compelling case for regulatory intervention in commercial arrangements.
- 30 Linked with greater standardisation of embedded network UoSAs is greater standardisation of processes and data exchange for embedded networks. Contact Energy and TENCO EBS believe this is necessary. So too does Mighty River Power, which states that some of the non-standard operational requirements of embedded networks include:
 - (a) the set-up of gateway meters and separate gateway reconciliation functions, which retailers often carry out
 - (b) the creation and maintenance of embedded network rate (price) categories, in addition to rate categories for local networks
 - (c) separate embedded network price change processes, as a result of embedded networks changing prices at different times to the local network they are connected to.
- 31 Mighty River Power submits that these non-standard operational requirements probably affect competition in embedded networks to a greater degree than the time and resources consumed by negotiating a UoSA. Smart Power agrees operational efficiency is reduced when processes are not standardised but also notes that innovation and competition can be limited when processes are overly regulated.

There is support for preventing an embedded network owner from decommissioning an NSP before ICP status is changed in the registry

- 32 The majority of submissions support amending the Code to prevent an embedded network owner decommissioning the NSP supplying an embedded network before the status of the embedded network's ICPs is changed in the registry.
- 33 Orion disagrees with this proposal on the basis that the option requires more analysis and consultation.
- 34 Contact Energy supports the proposal but adds that the same approach should apply to ICPs that are being decommissioned as a result of a network extension or embedded network reverting to a customer network.

A minimum notice period for converting an embedded network or a network extension is supported

- 35 The majority of submissions support amending the Code to include a minimum notice period for converting an embedded network or network extension to another form of secondary network. Most of these submissions agree with the 40 day minimum notice period proposed in the discussion paper. However, Genesis Energy believes there should be a 90 day minimum notice period, while Orion suggests a notice period of one calendar month should be sufficient.
- 36 Nova Energy disagrees with the proposal, submitting that it is irrelevant because the choice should only be between a customer network and a network extension.

Summary of submissions

- 37 The main body of this report summarises the submissions received on the RAG's discussion paper, for each question. Submitters' comments are in alphabetical order.
- 38 Appendix A contains the questions from the consultation paper.

Question 1: Please provide any comments and views on the description of the characteristics for customer networks, embedded networks and network extensions. Please provide evidence on your comments and views, where possible.

- 39 Seventeen submissions comment on this question. Four submissions make no comment on this question – Aurora Energy, the ENA, MEUG and Pioneer Generation.
- 40 Fourteen submissions agree, or appear to agree, with the descriptions for each of the types of secondary networks – Auckland Airport, Christchurch Airport, the EGCC, Genesis Energy, Meridian Energy, Mighty River Power, Nova Energy, NZ Airports, Smart Power, TENCO EBS, Trustpower, Tuihana Networks, Unison and Vector.
- 41 Three submissions partially agree with the network descriptions – Contact Energy, Orion and Shaun Hayward.
- 42 Auckland Airport agrees with the description of an embedded network's characteristics contained in the Guidelines for Secondary Networks (version 8).
- 43 Christchurch Airport supports the description of characteristics of embedded and customer networks. It notes that it has greater efficiency in the operation of its customer network.
- 44 Contact Energy generally agrees with the characteristics described in the discussion paper, but thinks it would be useful for the Authority to provide more context about why embedded networks are chosen over network extensions, which also provide consumers with choice of retailer but are more efficient than embedded networks. If the motivation for embedded networks is the arbitrage of network charges by property owners and embedded network agents, Contact Energy believes this is not in the best interests of consumers and should be considered by the Authority.
- 45 Contact Energy finds it surprising that customer network owners are considered 'participants'. It thinks there are thousands of customer networks in New Zealand. Accordingly it may be inappropriate to categorise customer network owners as 'industry participants'.
- 46 Contact Energy also disagrees that metering on customer networks must be Code compliant. This is because tenant billing arrangements can be based on checked metering, floor space or as set out in tenancy agreements.
- 47 The EGCC agrees the discussion paper provides an accurate description of the characteristics of customer networks, embedded networks and network extensions.
- 48 Genesis Energy submits there are inherent problems with customer networks. In most cases, a customer network owner simply introduces another party clipping the ticket for consumer energy needs. Genesis Energy agrees that embedded network owners can buy network services in bulk from the local network owner and then sell to retailers at the same or similar tariff rates as would apply to an equivalent ICP on the local network. It notes

however, that this arrangement gives no value to the consumer, as the embedded network owner retains the saving, and sometimes adds extra to their tariffs.

- 49 Meridian Energy believes that the paper does not make clear that the physical features of customer networks and network extensions mean retailers face a low level of visibility of where customer networks or network extension arrangements apply.
- 50 Mighty River Power agrees the discussion paper provides an accurate description of the characteristics of customer networks, embedded networks and network extensions.
- 51 Nova Energy submits that the review clearly describes the different network types and gives a good explanation of some of the difficulties and costs that these can create. It suggests the RAG should look at the reasons why embedded networks are becoming more prevalent and explain whether this is creating efficiencies, or is simply a result of arbitraging on network tariffs and creating additional costs on an overall basis. The proliferation of embedded networks is leading to higher costs for retailers and lower competition for customers than is necessary. It is generally uneconomic for retailers to add contracting, reconciliation and accounts processing for additional embedded networks to cover just a few ICPs.
- 52 NZ Airports agrees with the description of a customer network's characteristics contained in the Guidelines for Secondary Networks (version 8). Based on the definition of customer network in these guidelines NZ Airports concurs that, with the exception of Auckland airport and most of Christchurch airport:
- (a) airport electricity infrastructures in New Zealand are customer networks, where tenants are connected to/supplied by the airport, and
 - (b) airports selling electricity to tenants are therefore retailer participants.
- 53 Orion agrees in general with the discussion paper's outline of the specific characteristics of a customer network, but it considers that the size of the customer network can vary significantly from the discussion paper's example of a mall. Orion believes that the discussion paper's description of a customer network's characteristics could capture 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 electricity use on some agreed basis. While Orion believes that in this example the Authority would not consider the owner a participant, it demonstrates that size is important when deciding whether an arrangement is a customer network.
- 54 Orion agrees in general with the discussion paper's outline of the specific characteristics of an embedded network and notes that there are little additional regulatory requirements on the local network. Orion submits that, as with customer networks, the size of an embedded network is a significant factor in determining the impact of the embedded network. A small embedded network such as a mall may have little impact while a larger embedded network, such as a large residential or commercial subdivision, may impose significant inefficiencies on local network design. Orion submits that, contrary to the discussion paper's logic relating to the ability to buy in bulk, it could mean that the embedded network would have to pay more as it will pay for the full capacity it requests from day one.
- 55 Orion recommends the Authority consider the extent to which it can limit the spread of inefficient residential and commercial subdivision embedded networks. Orion notes several drawbacks with embedded networks, including:

- (a) the equipment used may not be compatible with the local network's standard requirements or the local network's safety requirements
 - (b) it is unclear in the Code who is responsible for allowing the connection of distributed generation on an embedded network.
- 56 Orion agrees in general with the discussion paper's outline of the specific characteristics of network extensions. Network extensions tend to be smaller than embedded networks and Orion has many thousands of examples of small network extensions such as ownership flats, small block of shops, small commercial units (only two or three ICPs). These provide an efficient solution to supplying the end use consumer because there is one clear demarcation point, at the central supply point, between the local network and the secondary network. In the majority of cases Orion considers that the network extension will be far too small for the owner of the network extension to be considered a network owner or distributor for regulatory purposes. Orion suggests that the secondary network in this case should be treated, from a regulatory perspective, as though it does not exist.
- 57 Shaun Hayward believes the Authority has adequately defined the generic characteristics of network extensions and embedded networks, but he does not believe the Authority has correctly identified a customer network. He submits that the description of a customer network must consider two scenarios:
- (a) a property owner has a building with multiple residential unit titles – the building has an ICP but not the units in the building; a body corporate holds the electricity account and supplies less than 5 gigawatt hours (GWh) per annum in total to the units, which are separately metered
 - (b) a property owner has a building with multiple tenancies who move in and out of tenancy agreements – the building has an ICP but not the tenancies in the building; the property owner or a third party supplies less than 5 GWh per annum in total to the tenancies.
- 58 Shaun Hayward is aware of the following customer network types under the first scenario:
- (a) body corporates – the secondary network owner on-charges the cost of electricity supplied to the building and units and makes no margin. They recover the cost via one of three methods:
 - (i) metered usage (where the space can be confined)
 - (ii) share of space (typically used in open plan buildings where metering is not possible but a defined area can be)
 - (iii) if some units do not have an ICP the body corporate may pick up the common area power and the power for any units held under the body corporate account
 - (b) private networks such as a subdivision which may have separate land titles – the secondary network owner on-charges the cost of power plus a margin to cover administrative costs and cover the cost of maintaining assets and/or to make a profit via:
 - (i) metered usage (where the space can be defined in the tenancy agreement)
 - (ii) share of space (typically used in open plan buildings)
 - (c) the property owner has sold the right to retail power on their network to a third party:

- (i) the third party is a tier 2 retailer buying from a tier 1 retailer supplying the ICP and retains the entire revenue from the activity
- (ii) the third party is a tier 2 retailer and pays a share of profit to the property owner as a fee or lease agreement for access to the network

(d) customer networks with direct network agreements.

- 59 Shaun Hayward also notes that the number of customer networks in New Zealand depends on the definition of a customer network. If narrowly defined, per the customer networks identified above, there should be less than a few hundred customer networks in New Zealand. If the Authority chooses to include tenancy networks under the definition of a customer network, then the lack of a characteristic of a customer network implies every single property with more than one tenant is a customer network.
- 60 Shaun Hayward also makes several detailed drafting comments on this section of the discussion paper.
- 61 Smart Power believes the Authority has adequately defined the generic characteristics of embedded networks. Smart Power submits that a customer network is where the property owner has the sole responsibility of supplying electricity on their property. Smart Power suggests a customer network could be divided into two categories, but this is not essential for defining a customer network.
- 62 TENCO EBS agrees the discussion paper provides an accurate description of the characteristics of customer networks, embedded networks and network extensions.
- 63 Trustpower is generally in agreement with the characteristics of secondary networks described in the discussion paper. However, it notes that the choice of retailer for embedded network consumers is in practice limited to only the retailers that have agreed to trade on the embedded network. Consumers have no way of knowing who these retailers are and cannot make valid price comparisons using comparator websites (eg, Powerswitch).
- 64 Trustpower also comments on embedded network owners advising that they offer an enhanced customer experience compared to a local network owner (including on-site fault management, on-line information services and emergency standby power generation). Trustpower notes that if these benefits exist, they are more to do with commercial lease arrangements between landlords and tenants and are equally available for customer networks and network extensions.
- 65 Tuihana Networks agrees with the description of an embedded network's characteristics.
- 66 Unison agrees the discussion paper provides an accurate description of the characteristics of customer networks, embedded networks and network extensions.
- 67 Vector notes that it has experienced steady growth of secondary networks on its network, which is not surprising given the sustained momentum of "greenfield" subdivision developments in the Auckland region.

Question 2: Please provide any comments and views on the description of the legal framework for customer networks, embedded networks and network extensions. Please provide evidence on your comments, where possible.

- 68 Fourteen submissions comment on this question. Seven submissions make no comment on this question – Aurora Energy, the ENA, Genesis Energy, MEUG, Pioneer Generation, Smart Power and Vector.
- 69 Eight submissions agree, or appear to agree, with the description of the legal framework for customer networks, embedded networks and network extensions – Auckland Airport, the EGCC, Meridian Energy, Mighty River Power, TENCO EBS, Trustpower, Tuihana Networks and Unison.
- 70 Four submissions partially agree with the legal framework description – Christchurch Airport, Nova Energy, NZ Airports and Orion.
- 71 Two submissions disagree with aspects of the description of the legal framework – Contact Energy and Shaun Hayward.
- 72 Auckland Airport accepts its responsibilities and obligations under the Code as an embedded network.
- 73 Christchurch Airport accepts its responsibilities and obligations under the Code as an embedded network. It notes that the Guidelines for Secondary Networks do not prescribe obligations for a customer network owner. The guidelines need amending so they refer to distribution/retailing that is less than 5 GWh per annum.
- 74 Contact Energy considers the legal argument used for customer networks is flawed. It is not apparent why the owner of a site with one or more occupiers subject to tenant billing should be categorised as an industry participant. Taking this argument to a logical conclusion would require a landlord who includes the cost of electricity in a tenant's monthly rental charges to be regarded as an industry participant.
- 75 The EGCC believes the RAG has described the legal framework for secondary networks well. It agrees with the finding of the RAG that secondary network owners are industry participants as defined in section 7 of the Electricity Industry Act. Secondary network owners generally do not consider themselves to be distributors or retailers, highlighting a general lack of awareness among secondary network owners of their obligations. This means consumers on secondary networks are not likely to be receiving the same protections as other consumers, ie:
- (a) *low fixed charge tariff option* – the EGCC is not confident secondary network owners are aware of their obligation to actively make this tariff option available to their customers.
 - (b) *obligations under the Code* – the issues and options paper says the Code does not specifically establish obligations on customer network owners. It is unclear whether obligations under the Code apply to customer networks in their capacity as electricity retailers (or potentially as distributors or line owners).
 - (c) *general consumer protection law* – secondary network owners who direct bill consumers on their networks are subject to general consumer protection law including the Commerce Act 1986, the Consumer Guarantees Act 1993 and the Fair Trading Act 1986 (including unfair contract terms legislation). It is possible many secondary network owners are unaware of their responsibilities under this legislation.

(d) *EGCC Legal framework* – electricity retailers and distributors are required to belong to the EGCC as the approved scheme. The Minister of Consumer Affairs has declined applications for a class exemption for secondary network owners from membership of the EGCC.

- 76 Meridian Energy notes that, in addition to the legal framework points made in the discussion paper, industry participants are obliged to comply with the Code and that failure to register as an industry participant is a criminal offence. It queries what steps the Authority is taking to enforce the requirement for secondary networks to register as industry participants and to be members of the EGCC scheme. Meridian Energy considers it unlikely that the six customer network owners currently registered with the EGCC are the only customer network owners in New Zealand.
- 77 Mighty River Power generally agrees with the discussion paper's description of the legal framework for customer networks, embedded networks and network extensions. It notes that, for embedded networks that utilise gateway meters, it is not uncommon for retailers or other third parties to perform gateway meter reconciliation, as the functions are often too complex for embedded network owners.
- 78 Nova Energy notes that remaining a network extension would save compliance issues for many embedded networks. It asks if local networks are facilitating or resisting embedded networks from being network extensions. Nova Energy submits that these questions are not addressed in the paper.
- 79 NZ Airports submits that the interpretation regarding customer networks is unclear (eg, the 5 GWh threshold) and the obligations in the Secondary Network Guidelines are silent.
- 80 Orion suggests that the majority of customer networks and network extension owners have no idea of their obligations under the Electricity Industry Act. It submits that accepting the interpretation of the letter of the Electricity Industry Act means the Authority will have to apply to the Ministry of Business, Innovation and Employment for a class exemption for customer network owners so that they could be exempted from registration under section 110 of the Electricity Industry Act. This would be similar to the Authority's suggested approach following the response to a distributed generation consultation paper, which noted that all distributed generation owners are required to be participants under the Electricity Industry Act. There is clearly a requirement for some form of threshold, at least for customer networks and network extensions, below which they are not participants.
- 81 Orion also notes the discussion paper determines that a customer network owner is an industry participant because it is a retailer (since the customer network owner is engaged in the sale of electricity to a consumer other than for the purpose of resale). The discussion paper (paragraph 2.4.3) suggests that "a customer network owner usually has a supply contract with a retailer(s) for delivered electricity to the site". Orion considers this is not appropriate because the retailer would be selling electricity to another retailer (the customer network owner) for the purpose of resale, which is precluded by definition.
- 82 Orion notes there is a discrepancy in the definition of distributor in the Code compared to the Electricity Industry Act in relation to embedded networks, which it believes raises issues about the process for approving distributed generation on an embedded network.
- 83 Shaun Hayward recommends the Authority issue guidelines on the definitions of a participant under the Electricity Industry Act and the Electricity Act 1992, and on a participant's obligation to register. He believes this is something the electricity industry has requested for several years now. He also recommends that if the Electricity Industry Act is

assumed to cover what he refers to as a ‘tenancy network’, the definition of retailer in the Electricity Industry Act should have a guideline about the definition of the word ‘sale’. In addition to being classed as a distributor under the Code, embedded network owners and network extension owners could also be classed as retailers if they recover monies from their tenants for electricity used in common areas. Shaun Hayward believes the EGCC is overreaching its mandate by contacting property owners with tenants and saying they are retailers, and possibly distributors. He recommends the EGCC cease contacting customer networks until the Authority issues guidelines.

- 84 Shaun Hayward also submits that for the Authority to accurately track meter participants, the meters in question should be connected to a distributor’s network and the metered usage used for reconciliation purposes. The Code assumes all raw meter data is intended for reconciliation purposes.
- 85 Shaun Hayward also recommends the Authority should request class dispensations for:
 - (a) meter owners and metering equipment providers who install equipment at a metering installation that does not provide verified metering data to the reconciliation manager
 - (b) all generators who have less than 10 kilowatts of generation, to exclude generators such as residential solar panel owners from having to register as industry participants
 - (c) all property owners and tenants who have installed emergency back-up generation for the purpose of supplying their own power during network outages.
- 86 Shaun Hayward disagrees with the interpretation of the definition of a distributor under the Electricity Industry Act. He submits that a distributor is limited to a business engaged in supplying electricity to a point of supply on the boundary of a property. The Authority should produce a guideline for interpreting the definition of distributor. He also believes that any secondary networks guideline should clarify a distributor’s obligations in circumstances where it owns multiple networks.
- 87 Shaun Hayward also suggests it is more likely that customer networks will be distributors as defined under the Code than under the Electricity Industry Act. He also makes the following points, which disagree with statements made in the discussion paper:
 - (a) the Code places no obligation on a customer network because the industry is fully reconciled and operates as intended without the need for such obligations
 - (b) an embedded network owner is not an industry participant as defined in the Electricity Industry Act
 - (c) a network extension is not by default a distributor unless it is a distributor as per the Electricity Industry Act by reason of conveying electricity to a point of supply.
- 88 TENCO EBS agrees with the discussion paper’s description of the legal framework for customer networks, embedded networks and network extensions.
- 89 Trustpower is in general agreement with the discussion paper’s description of the legal framework for customer networks, embedded networks and network extensions.
- 90 Tuihana Networks accepts its responsibilities and obligations under the Code.
- 91 Unison agrees the discussion paper provides an accurate description of the legal framework for customer networks, embedded networks and network extensions.

Question 3: Please comment on the issues identified with customer networks, embedded networks and network extensions. Please provide evidence where possible.

- 92 Nineteen submissions comment on this question. Two submissions make no comment on this question – Shaun Hayward and Vector.
- 93 Four submissions agree with the issues identified for customer networks, embedded networks and network extensions – Genesis Energy, MEUG, NZ Airports and Pioneer Generation.
- 94 Thirteen submissions partially agree with the issues identified for customer networks, embedded networks and network extensions. In most cases the submitters offer further issues and/or made additional comments on the issues identified – Auckland Airport, Aurora Energy, Christchurch Airport, Contact Energy, the EGCC, Meridian Energy, Mighty River Power, Nova Energy, Orion, Smart Power, Trustpower, Tuihana Networks and Unison.
- 95 Two submissions disagree with the issues identified – the ENA and TENCO EBS.
- 96 Auckland Airport submits that whilst consumers on a customer network do not have a choice of retailer, customer networks improve the efficient operation of the electricity industry by improving the value returned (bulk supply) while reducing the retailers' costs and relationship management efforts. Auckland Airport also submits that it has seen no quantifiable evidence supporting the existence of difficulties or costs that inhibit market entry or competition on embedded networks. Auckland Airport also notes that it provides a 24/7 faults and power quality service for its tenants (connected customers). The nature of the airport operation requires a high level of response and these established procedures are well known to Auckland Airport tenants and retailers.
- 97 Auckland Airport agrees there is a lack of clarity in the process for converting a secondary network to a different form. Auckland Airport would support better defining timely notice periods, processes and the appropriate responsibilities of retailers and distributors. Auckland Airport believes that if these protocols were adhered to, it would be possible to remove a retailer's right to refuse the disestablishment/transfer of ICPs in order to facilitate a transition.
- 98 Lastly, Auckland Airport submits that fixed gateway charges disincentivise market improvement initiatives. Where a local network connects to a secondary network, fixed charges often apply that are based on the capacity provided to the secondary network. However, revenue for the secondary network is recovered based largely on variable consumption levels.
- 99 Aurora Energy notes that its commercial and operational arrangements for the Heritage Estate embedded network are consistent with the arrangements for Aurora Energy's grid-connected networks. Any retailer that is a party to a UoSA with Aurora Energy may trade on the Heritage Estate embedded network. The operational protocols, including communication of planned and unplanned service interruptions, are in accordance with the requirements of the UoSAs.
- 100 Christchurch Airport submits that it provides a 24/7 faults and power quality service for all its tenants. It submits that retailers' views have been given precedence in the issues identified in the discussion paper.

- 101 Contact Energy believes there are numerous other areas that require attention to ensure consumers and retailers are not materially disadvantaged as a result of secondary networks. It submits that currently:
- (a) there is no formal or standardised process to facilitate changes to secondary network types. This results in an inefficient implementation and multiple communications back and forth between parties.
 - (b) unlike standard new connections, which are largely process driven, there is no standardised automated process. As a result the process to establish new ICPs, and obtain metering and consumer information for customer networks takes a significant amount of time for the retailer to complete and set up.
 - (c) in some cases the physical wiring of connection points contains a significant number of meters across multiple floors of a building (eg, one ICP, 40 meters, across 10 floors).
 - (d) in addition to the network type changes mentioned in the question content there are other common scenarios that create further administrative issues (eg, where an embedded network changes ownership).
- 102 The EGCC comments on two of the three reasons given in the paper for why the benefits of a customer network may offset the cost of not being able to choose a retailer:
- (a) the EGCC asks if the RAG has considered collecting empirical evidence supporting its view that savings are passed on to consumers in customer networks
 - (b) the EGCC believes that certified metering installations are not only important for market efficiency and reconciliation purposes, but also to ensure consumers are billed accurately for the electricity they consume.
- 103 The EGCC also notes that it has received complaints from consumers on customer networks who are unable to switch electricity retailer. While the EGCC only has a small number of documented cases, this may in part be explained by the fact that until recently, no customer network owners were EGCC members. The EGCC also identifies a number of issues not identified by the RAG:
- (a) the EGCC has three members who distribute and retail electricity outside the national grid that are not covered by the RAG's paper.
 - (b) a large number of secondary network owners (particularly customer networks) are unaware of and do not follow the MDC Guidelines or the Vulnerable Consumer Guidelines published by the Authority.
 - (c) the contractual relationships between retailers on customer networks and their customers do not comply with the Authority's guideline on contracting principles and minimum terms. This is because those retailers do not see themselves as electricity retailers and their contractual relationships have a different focus (eg, a lease or tenancy agreement).
 - (d) identification and registration of secondary networks is important to assist the Authority to fulfil its mandate to monitor and enforce compliance of industry participants with Code requirements, Authority guidelines and other legislation. The EGCC notes that its approach to customer networks is focussed on EGCC membership. It may be that this process alerts secondary networks to their broader regulatory obligations, but this cannot be relied upon. In addition, the EGCC notes

that the paper is silent on whether or not the Authority intends to increase compliance among secondary network owners.

- 104 The ENA submits that the discussion paper did not identify any material issues that warrant further investigation by the Authority or its working groups. It is appropriate to work through the issues at an individual network level because they are location-specific rather than systemic, and the number of customers involved is relatively small.
- 105 Genesis Energy's view is that the most significant issue for consumers on secondary networks is the removal of a customer's ability to choose the value proposition that best suits them. Customer network owners will be making choices based on their best interests, not the end user's. It also submits that secondary network owners are not always aware that they have responsibilities. Genesis Energy has seen one instance where there was no fault contract provider established, so faults could not be fixed. Problems also arise in transferring and decommissioning ICPs from one secondary network to another or to a local network because the Code does not specify any notice period. Genesis Energy notes that the issues it has faced are in relation to reconciliation and transparency and include short or backdated notification of change, mid-month changes adding complexity to the reconciliation process, lack of ownership of information, inaccurate or incomplete affected ICP information and no contractual arrangement.
- 106 Meridian Energy submits that more information is needed about the customer networks currently in operation. Meridian Energy's preference is that the Authority works with the EGCC to address limitations in the information available as a preliminary step to reviewing customer network arrangements. Meridian Energy believes that the specific issues identified in relation to network extensions are low-level, but that the RAG's concerns regarding the costs involved for retailers to negotiate UoSAs with embedded networks are valid. Meridian Energy also highlights the challenges retailers face confirming affected downstream customers prior to commencing with disconnection (particularly medically dependent customers).
- 107 MEUG submits that the description of issues in section 3 of the discussion paper is useful. It notes that in some cases parties have exploited uncertainty around obligations and gaps in the regulatory environment to the detriment of some consumers. Without regulatory changes they will continue to do so.
- 108 Mighty River Power agrees with the various issues identified and makes some additional comments. It notes that medically dependent consumers are often not readily identifiable on customer networks and network extensions. Hence, it may be necessary for the MDC Guidelines to give further consideration to this.
- 109 Mighty River Power notes that dealing with embedded networks is operationally and administratively more challenging than other forms of secondary network. The cost of managing customers on embedded networks is higher and, in the absence of pricing which is specific to the embedded network, cross-subsidisation by customers on local networks occurs. Fault management can be problematic, with customers commonly contacting their retailer or the local distributor, instead of the embedded network owner in an outage/fault situation. Some of the non-standard operational requirements of embedded networks are:
- (a) the set-up of gateway meters and separate gateway reconciliation functions which retailers often carry out

- (b) the creation and maintenance of embedded network rate categories in addition to rate categories for local networks
 - (c) separate embedded network price change processes as a result of embedded networks changing prices at different times to the local network they are connected to.
- 110 Mighty River Power submits that these issues probably affect competition in embedded networks to a greater degree than the time and resources consumed by negotiating a UoSA.
- 111 Nova Energy submits that there is no discussion on what influence local networks have on the creation and maintenance of different types of secondary networks.
- 112 NZ Airports concurs with the issues identified in relation to customer networks.
- 113 Orion considers that the paper overstates the issue that individual consumers on a customer network do not have a choice of retailer. The paper makes the point that consumers may not focus on the electricity supply arrangements when renting or buying an apartment or office and signing the contracts. Orion suggests that this may or may not be correct, but does not consider that this is sufficient reason for the Authority to intervene in these competitive commercial arrangements.
- 114 Pioneer Generation agrees there is no need for any Code changes or guidelines applying to customer networks. It submits that there are a number of positive benefits for electricity users on customer networks that place these consumers in a better position than residential consumers in a traditional one-on-one relationship with their electricity retailer. Pioneer Generation believes customer networks provide significant benefits for the end consumers on these networks and do not present any competition or efficiency issues. Pioneer Generation strongly believes in protection for consumers and strongly advocates that owners of the customer network be a member of the EGCC scheme.
- 115 Smart Power submits that it has many clients who are tenants of property owners and who have a say in which retailer supplies the building. Smart Power believes that generally the decision on which retailer supplies a customer network is made by the person responsible for paying the invoice (which may or may not be the property owner).
- 116 Smart Power agrees that consumers on a customer network agree to the customer network delivering retail electricity services when entering in to an occupancy or tenancy agreement. However, it is not the electricity industry's mandate to dictate how lease agreements for properties are constructed or communicated to their customers. Smart Power notes that body corporates cannot profit by buying network services in bulk and selling at retail, or at least not selling on at a rate higher than the provider of the amenity or service. Smart Power advises clients accordingly. Any scheme of repatriating profits to the body corporate or someone involved in the body corporate from selling the right to retail electricity to a third party would seem to be unlawful.
- 117 Smart Power considers that the conversion from a customer network to an embedded network is a very large issue for tenants:
- (a) they may have to pay a bond to their retailer
 - (b) they must engage with the retailer when there is a power issue (rather than the property owner)

- (c) in almost every instance they must pay more for their electricity under an embedded network than under a network extension.

118 Smart Power comments on a number of the issues identified in section 3 of the discussion paper, including:

- (a) uncertainty about who is responsible for managing faults and service levels, including that phoning the retailer in error is no different from a consumer just calling the wrong retailer – it is not a real issue. Customer networks should have a fault number for consumers to call should they have a supply issue.
- (b) Smart Power queries the extent to which the cost of negotiating a UoSA for each embedded network is an issue given that there is a model UoSA.
- (c) Smart Power submits that the Code does not need to impose a requirement for retailers to give their consent to disestablishing/transferring ICPs before an embedded network is converted to another type of secondary network because the retailer cannot be forced to give a customer away. Smart Power also submits that retailers being asked to consent to a secondary network conversion at short notice is not an issue. Retailers are not forced to agree straight away. Smart Power submits that it should not be possible for an embedded network owner to disestablish the gateway meter (the NSP between a local network and an embedded network) for an embedded network before the ICPs on the embedded network have been disestablished.
- (d) Smart Power recommends the Authority confirm what is an adequate timeframe for establishing an embedded network and specify what the response times to requests should be.

119 TENCO EBS makes the following comments on the issues identified:

- (a) *consumers on customer networks do not have choice of retailer*: The ability of the customer network owner to aggregate load and request tenders from retailers can provide a significant decrease in price compared to what an individual consumer has the time and resources to achieve on their own behalf.
- (b) *embedded networks: Difficulties and costs of negotiating UoSAs*: TENCO EBS' experience is that most retailers do not engage meaningfully on proposed UoSAs and many have been happy to trade without a formal UoSA. Simply Energy's experience is that the large local networks are much more difficult to negotiate with than the embedded networks.
- (c) *difficulties and costs of maintaining relationship with embedded networks*: Data presented in the TENCO EBS submission shows the largest area of non-compliance to be local networks. A much smaller proportion of retailers are non-compliant and almost all embedded networks are compliant. TENCO EBS does not believe that the factors influencing the costs of serving customers on an embedded network are accurate reflections of the true costs of serving customers on embedded networks.
- (d) *the cost of managing the "proliferation" of tariffs and loss factors*: TENCO EBS' view is that the concern expressed about network tariffs and loss factors seems exaggerated at best. Every retailer, including TENCO EBS' sister company Simply Energy, must have a flexible system if they are to operate on more than a single local network. Each local network has a different pricing structure, the specific structure may change from year-to-year, and price levels change each year. At most, the only

marginal cost incurred by a retailer with well-designed systems is a need to update their own retail tariffs annually to reflect increases or decreases notified by the embedded network. This should be a relatively straightforward and mechanical process given that the systems that are already required for local networks.

- (e) *uncertainty about who is responsible for managing faults and service levels on customer networks / the cost of managing additional queries:* Retailers who have customers on more than one local network should already have customer information and billing systems capable of presenting a consumer with the correct fault contact information. Some local networks require the consumer to contact the local network directly while some require the consumer to contact the retailer. Customer networks add no cost or complexity for the retailer. In the first instance, the first point of contact for consumers on customer networks and embedded networks is the facility manager for the building. Secondly, retailers who have been conducting business on Vector's local network, or on selected other local networks, will already require different fault reporting arrangements for different ICPs. Vector has had some ICPs where the consumer would contact the retailer in the event of a fault and some ICPs where the consumer would contact Vector in the event of a fault. Finally, the correct counterfactual for considering this issue is that the secondary network is either a customer network or a network extension. With a network extension the same arrangements will be in place as for the local network, which in some instances will be that the secondary network is responsible for faults. There is no difference between embedded networks and these counterfactual networks and the systems required by retailers are exactly the same.
- (f) *the cost of non-standard reporting and data exchange processes:* TENCO EBS agrees this is a very real point of concern. Both TENCO EBS and Simply Energy regularly face the situation where data is supplied in non-standard formats using non-standard means of file transfer (including zip files attached to emails). Based on ICP count as at 30 April 2015, retailers representing over 16% of the market use email for data transfer. The benefits of standardising data formats and methods of data transfers are potentially much greater than the benefits of a standardised default UoSA. Non-standard data file formats require bespoke processes to be written.
- (g) *lack of certainty about the process for converting an embedded network to a different type of network:* TENCO EBS does not believe that this is a significant issue. Where network owners breach the Code they are subject to the breach process and potentially to fines. However there is nothing currently stopping individual retailers from delaying consent and this can impose significant costs on the network operator, network owner and other retailers.

- 120 Trustpower considers that all consumers on a customer network will have a direct and significant arrangement with the property owner or property management company, involving a number of day-to-day issues around occupancy. Issues involving electricity are generally dealt with by the management process already in place (that deals with all other lease or occupancy issues).
- 121 Trustpower notes that the costs of serving consumers on an embedded network are significant and are currently not being allocated correctly to consumers on embedded networks via the tariffs being charged to these customers. These costs are being socialised across all the customers that the retailer has on the parent (local) networks. The removal of embedded networks would likely see a drop in retailer costs, which in a

competitive market ultimately flows through to end customers. Trustpower submits that refusing to allow a customer network or network extension to convert to an embedded network is futile as the customer is simply encouraged to switch to a retailer that is compliant to the objective of the embedded network company. This ultimately limits customer choice.

- 122 Tuihana Networks submits that it provides a 24/7 faults, maintenance and power quality service for its network assets for the benefit of all its consumers. It also notes that a significant proportion of Tuihana Networks' costs are fixed charges and by contrast its revenue recovery is almost totally variable, which exposes it to risk.
- 123 Unison considers that the main drivers for the emergence of customer networks are the ease of bundling of services for tenants and a desire to minimise administration costs. For embedded networks, the drivers are likely to be around developers trying to minimise costs. These costs may include contributions for network infrastructure, as well as the difference in pricing between large and small connections (eg, they are able to buy electricity in bulk). Given this context, any potential solution that creates increased costs for owners of secondary networks may affect their decision whether to start or continue operating such a network.
- 124 Unison also observes that the discussion paper is quite retailer-centric. The issues discussed throughout generally refer to the impact on retailers. However, these are also often applicable to distributors. For example, the RAG notes that when consumers experience a fault, they often telephone a retailer's call centre and that taking these calls increases retailers' operating costs. Unison notes that distributors' call centres also receive these calls. These responses impact on distributors' operating expenditure. Nevertheless, in terms of materiality, these costs are likely to be minor.
- 125 Unison supports the proposals the RAG has identified in the issues and options paper, noting that secondary networks have imperfections but there are valid commercial reasons for their existence. The industry should avoid creating barriers to these types of networks being implemented, through increased bureaucracy or regulations. Instead the industry should try to improve the efficiency of transaction costs. Unison agrees with the RAG's analysis of the issues and problems for customer networks as described in the paper, but makes the point that the main issue around using uncertified metering is accuracy. However, because the main meter is certified, this is not really an issue that can be addressed by the Authority.

Question 4: Please comment on the description of the problems relating to reduced competition, efficiency and reliability of supply.

- 126 Fourteen submissions comment on this question. Seven submissions make no comment on this question – Aurora Energy, the EGCC, the ENA, Pioneer Generation, Shaun Hayward, Unison and Vector.
- 127 Six submissions agree with the description of the problems relating to reduced competition, efficiency and reliability of supply – Christchurch Airport, Meridian Energy, MEUG, Mighty River Power, Orion and Tuihana Networks.
- 128 Four submissions partially agree with the description of the problems – Contact Energy, Nova Energy, Smart Power and Trustpower.
- 129 Four submissions disagree with the description of the problems – Auckland Airport, Genesis Energy, NZ Airports and TENCO EBS.
- 130 Auckland Airport submits that it has seen no quantifiable evidence to support that competition is lessened, retailers have operational difficulty or that reliability levels are reduced on an embedded network.
- 131 Christchurch Airport submits that the description of the problems is fair. However, there is little evidence of this occurring at Christchurch Airport.
- 132 Contact Energy's view is that while the discussion paper identifies the ongoing effects and additional effort required to deal with secondary networks, the paper fails to address the high establishment costs, the motivation for embedded networks and whether they are providing any benefit to end consumers. Contact Energy notes that initially embedded networks were limited to large shopping centres forced to comply with regulated line-energy separation and major private networks with multiple consumers. However, over the last 10 years there has been huge growth in the number of embedded networks, many of which have very few connected consumers. Contact Energy also notes that where network extensions are converted to embedded networks, the loss of revenue to local networks ultimately increases network charges to all consumers who remain directly connected to the local network.
- 133 Genesis Energy does not agree that retail competition is necessarily reduced on all secondary networks. It considers that consumers do not always have sufficient transparency about secondary network arrangements. This lack of transparency enables embedded network owners to leverage monopolistic charges on consumers and limits end-consumer choice.
- 134 Meridian Energy believes that concerns about the costs involved for retailers to negotiate UoSAs with embedded networks are valid and that the high costs involved will be to the detriment of efficiency and potentially also competition.
- 135 MEUG considers that the RAG analysis seems reasonable.
- 136 Mighty River Power agrees with the various issues identified and the assessment of the effect of these issues on competition, reliability and efficiency in secondary networks. Some issues are more prevalent in embedded networks simply because they have additional operational and administrative requirements. Mighty River Power submits that, with the current number of embedded networks (now outnumbering local networks and set to continue to increase), it would be timely for the Authority to review:

- (a) whether a reduction in the number and type of secondary networks would be beneficial for the industry (as noted in the paper), and
 - (b) how this could be achieved.
- 137 Nova Energy submits that the measures proposed by the RAG have some merit, but they do not address the fundamental issue of increased costs and reduced competition created by embedded networks. Rather than addressing the symptoms or tweaking the processes, the RAG should advocate eliminating the cause of those costs, ie, embedded networks. Nova Energy submits that apart from these points the problems are adequately described.
- 138 NZ Airports has no evidence to suggest that at its member airports competitive electricity rates are not available to tenants or that reliability levels are reduced.
- 139 Orion considers that the paper provides a useful explanation of a number of the issues around secondary networks, but that there are other options to deal with these issues (*summarised under Orion's response to Question 8*).
- 140 Smart Power agrees there is clearly reduced competition and this can be demonstrated by reporting the number of retailers per network code. It also agrees that operational efficiency is reduced when processes are not standardised, but notes that innovation and competition can be limited when processes are overly regulated. However, Smart Power does not agree that retail competition keeps prices lower than they otherwise would be, because not all competition delivers lower costs and consumers need to be able to choose when to pay more for additional services.
- 141 Smart Power disagrees that there is reduced reliability of supply because of difficulties locating or reaching faults on network extensions and because of a lack of certainty and consistency in the allocation of responsibility between secondary networks, retailers and local networks. Smart Power believes that this statement needs to be proven. From its experience, faults on secondary networks are handled faster and more to the consumer's satisfaction. Secondary networks would also have statistics proving reliability is improved under their processes and Smart Power believes there are more examples of improved reliability than reduced reliability.
- 142 Smart Power submits that the statement about secondary network owners imposing unnecessary transaction costs on retailers needs to be split between the different types of secondary networks – each embedded network has a greater cost on the industry, network extensions have a lesser cost and customer networks have the least cost.
- 143 Smart Power believes the three types of networks described in the discussion paper are probably the best options for enabling competition and innovation in the retail electricity market. That said there is room for guidelines or regulatory oversight of these networks' services. Smart Power also submits that before the Authority discusses choice on a customer network, it should run a consumer survey to see how many consumers can name the retailers who may supply their premises now. Despite the level of advertising there is little evidence of mass switching.
- 144 Smart Power submits that retailers will compete where there is the opportunity to earn a profit, so reducing barriers to competition is a goal of the Authority but it should not come at increasing the cost to consumers. Embedded networks have and always will be a more costly solution to the industry; the issue is how to reduce the cost to facilitate them under the Code.

- 145 TENCO EBS presents analysis indicating that competition is higher on embedded networks than on local networks. The analysis uses the Hirschman-Herfindahl Index (HHI) and concludes that the HHI across all embedded networks yields an HHI of 1,562, which is approximately half the HHI for the residential retail market in New Zealand. This indicates that retail competition on embedded networks is significantly stronger than competition in the national residential retail market. TENCO EBS also uses the concentration ratio and calculates ratios that indicate the retail market on embedded networks is less concentrated than the national residential retail market.
- 146 TENCO EBS' experience is that network owners want to maintain real choice for their users – they have an incentive to minimise transaction costs. TENCO EBS believes the Authority can help with:
- (a) standardised contracts, and
 - (b) mandating default data provision standards which will provide for breaching participants if they don't comply (eg, EIEP formats).
- 147 TENCO EBS submits that it is unclear whether issues exist relative to any reasonable counterfactual. Network extensions have many of the same issues as embedded networks and customer networks. Relevant issues (such as planned and unplanned service interruptions and network price category changes) are at the margin. It suggests that arguably all networks should be embedded networks because this makes the owner explicitly part of the market operations, which does not occur in other types of secondary network. When compared to local networks, embedded networks can provide benefits to consumers by:
- (a) applying reconciliation loss factors in line with technical losses where they are lower than local network declared losses
 - (b) creating competitive tension with local networks leading to more efficient local network pricing
 - (c) reducing retailer working capital by not demanding prudential security.
- 148 TENCO EBS notes that its sister company, Simply Energy, is a small retailer. Simply Energy's experience is that negotiating a UoSA with embedded networks is less costly than with local networks. It also suggests that consumers should be given the right to require a customer network to convert to an embedded network so that they can have choice of retailer.
- 149 TENCO EBS includes the following table in its submission, which summarises the net benefits of each secondary network type relative to local networks under the status quo industry arrangements. TENCO EBS notes that network extensions have no benefit or cost relative to local networks.

Network Type	Competition	Reliability	Efficiency	Net Benefit
Network Extension	Nil	Nil	Nil	Nil
Embedded Network	++	+ (possibly faster fault resolution with dedicated facility manager, back-up generation within network)	+ (strong incentive for cost efficiency, greater use of standardised data transfer formats)	+

Network Type	Competition	Reliability	Efficiency	Net Benefit
Customer Network	? (nil competition on a day-to-day basis, but competition for aggregated load may be more effective than for individual consumers)	+ (as for Embedded Network)	?	?

150 TENCO EBS then includes the following table which summarises the net benefits arising under several actions. TENCO EBS submits there are gains for all secondary networks from specifying minimum notice periods, with these gains deriving from the inability of retailers to deny consent. It considers that a default UoSA may provide gains in relation to embedded networks. However, experience suggests there is little engagement from retailers on UoSAs and hence little cost to be avoided. A default UoSA for local networks may provide larger gains.

Network Type	LN	NE	EN	CN
Default UoSA for Embedded Networks	n/a	n/a	Some gains – faster agreement in some instances	n/a
Default UoSA for Local Networks	Faster agreements	n/a	n/a	n/a
Specified notice period for setting up or decommissioning secondary networks	n/a	Gains – inability for retailer to hold-up process	Gains – inability for retailer to hold-up process	Gains – inability for retailer to hold-up process
Standardised data transfer formats (and processes)	Significant gains	n/a	Small gain	n/a

- 151 TENCO EBS concludes that the use of standardised data transfer formats and processes has the potential to provide some small gains in respect of embedded networks (most already use the standard formats) but large gains in respect of local networks (who have a significant level of non-compliance with standardised data transfer formats and/or processes).
- 152 Trustpower submits that from a retailer perspective, requiring embedded networks to comply with industry standards and operating procedures does not make a significant difference to the administrative burden of trading on such networks for such a small number of customers. Retailers currently face a significant cost interacting with the 28 existing historical networks (servicing approximately 2 million ICPs), let alone the 150 current embedded networks (servicing approximately 10,000 ICPs). Trustpower notes that it costs the same to supply a file to a network for one customer as it does to a network for 50,000 customers.
- 153 Tuihana Networks submits that the description of the highlighted problems is fair. However there is little evidence of the same problems occurring at Tuihana Networks.

Question 5: Do you agree that a default embedded network UoSA will promote retail competition by making it easier and less costly for retailers to supply consumers on embedded networks? Please give reasons for your view.

- 154 Sixteen submissions comment on this question. Five submissions make no comment on this question – the EGCC, the ENA, NZ Airports, Pioneer Generation and Shaun Hayward.
- 155 Ten submissions agree with having a default UoSA for embedded networks – Aurora Energy, Contact Energy, Genesis Energy, Meridian Energy, MEUG, Mighty River Power, Smart Power, TENCO EBS, Trustpower and Unison.
- 156 Two submissions partially agree with having a default UoSA – Auckland Airport and Nova Energy.
- 157 Four submissions disagree with having a default embedded network UoSA – Christchurch Airport, Orion, Tuihana Networks and Vector.
- 158 Auckland Airport submits that in its experience, active retail competition has existed since 1999 and continues to improve with the increasing numbers of smaller retailers entering the market. It supports, in principle, options that will simplify and/or deliver improvements that benefit industry participants and the end consumer. In the case of a default UoSA consideration should be given to the unique characteristics of embedded networks and the respective size of the parties to the agreement. Auckland Airport submits that a default UoSA:
- (a) should support the smaller party in any relationship (the embedded networks and smaller retailers) and lay out clear requirements upon all participants, and
 - (b) would need some flexibility/variation from the standard version, although the majority of content could remain constant.
- 159 Auckland Airport suggests a model UoSA that provides for exactly this outcome already exists. The majority of the work has been done to improve simplification and decrease costs and to enable appropriate variation to support the unique requirements of each relationship. In addition, it submits that a ‘fall back’ period should only be able to be invoked by the smaller party to any negotiation, but that there already exists the requirement to negotiate in good faith. Auckland Airport’s view is that duplicating existing regulatory mandates would likely increase the costs of business rather than advance the goal of an efficient market benefitting the end consumer.
- 160 Aurora Energy is supportive of the proposal to standardise arrangements, including the development of a model embedded network UoSA. It would not however be supportive of any outcome that would require it to unwind its existing, industry standard arrangements in favour of, for example, re-negotiating arrangements with retailers on the basis of a model embedded network UoSA.
- 161 Christchurch Airport is not supportive of a default embedded network UoSA. The small scale of Christchurch Airport’s embedded network would mean further costs, with little benefit to Christchurch Airport, retailers or its connected customers. On its embedded network Christchurch Airport has two retailers trading to less than 10 ICPs.
- 162 Contact Energy favours a default UoSA for embedded networks.
- 163 Genesis Energy agrees with a default UoSA for embedded networks and recommends that it should apply unless an alternative is agreed between the parties. It submits that this generally improves efficiency and reduces costs.

- 164 Meridian Energy agrees that a default UoSA should apply and considers that the RAG's claims of high costs for retailers to negotiate UoSAs with embedded network owners are generally accurate. However, rather than the proposal whereby the default UoSA should only apply if after two months (or some other negotiating period) the embedded network owner and retailers have not agreed alternative terms, Meridian Energy's preference is that the default UoSA is deemed to apply unless the parties negotiate alternative terms. Meridian Energy notes that it is in the late stages of negotiating a UoSA for a recently commissioned embedded network with TENCO EBS. That UoSA is largely based on the Authority's model UoSA and guidelines for embedded networks. Meridian Energy considers the agreement would be an acceptable model for the Code to prescribe.
- 165 MEUG agrees that a default UoSA will promote retail competition.
- 166 Mighty River Power agrees that the introduction of a default embedded network UoSA may address some of the issues noted in the paper, such as reducing the time and costs associated with negotiating UoSAs. However, Mighty River Power does not consider that it will address the efficiency and reliability issues, including some of the non-standard operational requirements of embedded networks. These include for example:
- (a) the set-up of gateway meters and separate gateway reconciliation functions which retailers often carry out
 - (b) the creation and maintenance of embedded network rate categories in addition to rate categories for local networks
 - (c) separate embedded network price change processes as a result of embedded networks changing prices at different times to the local network they are connected to.
- 167 Nova Energy submits that a default embedded network UoSA might be of some help, but the primary issue for retailers is the added ongoing cost of dealing with reconciliation, invoicing, customer engagement issues (connections, disconnections, field services etc.) with a separate party that, in aggregate, is frequently smaller than a single industrial customer. Nova Energy's view is that there should be no requirement for a UoSA between the embedded network and retailer. Instead, embedded networks should be required to be either a customer network or a network extension. In both instances, the secondary network should only need to contract with the local network and the consumer, except where a customer network purchases electricity directly.
- 168 Orion does not agree that a default embedded network UoSA will promote retail competition. In fact doing so may inhibit innovative retailers from entering this market.
- 169 Smart Power agrees that a default embedded network UoSA will promote retail competition because it provides an agreed starting point from which to negotiate.
- 170 TENCO EBS supports the proposal to introduce a default UoSA as one way of reducing transaction costs, but notes that there are also a number of other areas related to retailer / secondary network interactions where there are simple solutions to further reduce transaction costs. TENCO EBS submits that standards provided by an industry regulator, with a mandate to promote competition, provide comfort to all that they are signing up to a reasonable agreement. This reduces the level of due diligence and legal costs associated with entering a UoSA agreement. TENCO EBS notes that, in its experience, there is very little cost incurred by most retailers. This is primarily because there is little in the way of

meaningful engagement from them when TENCO EBS is looking to agree terms with them or when it is issuing a new UoSA.

- 171 Trustpower agrees with the proposal, but notes that it is only one minor aspect in the decision process. Trustpower suggests that what is required is the removal of embedded networks as an option. Customer networks and network extensions are the only practical step in reducing the cost to serve consumers and therefore the cost to the industry as a whole. Network extensions with the appropriate contractual arrangements between the infrastructure owner and the connecting network will provide the end consumer with retail choice whilst reducing considerably retailers' cost to service these consumers.
- 172 Tuihana Networks does not support the proposal to introduce a default UoSA – the small scale of Tuihana Networks' embedded network would mean further costs to introduce the default UoSA, with little benefit to Tuihana Networks, retailers or its connected customers.
- 173 Unison supports the proposal to introduce a default UoSA. Currently, embedded networks are fairly unattractive for electricity retailers because there is effectively the same level of cost incurred as connecting to a local distribution network, with much less revenue generated. A default UoSA would mean retailers were operating under effectively the same rules and there would be significant time and cost reductions spent on negotiating these contracts.
- 174 Vector does not agree that the RAG has established a compelling case for regulatory intervention in commercial arrangements. Vector submits that the discussion paper does not mention the existing safeguards to help facilitate a successful UoSA negotiation – ie, the Code (which requires parties to negotiate in good faith) provides for mediation if parties cannot agree on terms and conditions.

Question 6: Do you agree with amending the Code to prevent an embedded network owner from decommissioning an NSP before the status in the registry of the associated ICPs is also changed? Please give reasons for your view.

- 175 Thirteen submissions comment on this question. Eight submissions make no comment on this question – the EGCC, the ENA, MEUG, Nova Energy, NZ Airports, Pioneer Generation, Shaun Hayward and Vector.
- 176 Twelve submissions agree that the Code should be amended to prevent an embedded network owner from decommissioning an NSP before the status in the registry of the associated ICPs is also changed – Auckland Airport, Aurora Energy, Christchurch Airport, Contact Energy, Genesis Energy, Meridian Energy, Mighty River Power, Smart Power, TENCO EBS, Trustpower, Tuihana Networks and Unison.
- 177 One submission does not agree – Orion.
- 178 Auckland Airport supports the proposed approach because it will lead to operational efficiency for the electricity industry.
- 179 Aurora Energy is supportive of the proposals to standardise arrangements.
- 180 Christchurch Airport also supports the proposed approach because it will lead to operational efficiency for the electricity industry. It notes however that this will have little effect on Christchurch Airport.
- 181 Contact Energy agrees with the proposal and recommends that the same requirement apply to ICPs which are being decommissioned as a result of a network extension or embedded network reverting to a customer network.
- 182 Genesis Energy agrees with the proposal because it would ensure ICPs were against the correct network. This in turn would ensure consumers got the correct information on their invoice and customer experience centre staff could follow appropriate processes if the customer contacted them.
- 183 Meridian Energy supports the proposal and considers the proposed changes to the network conversion to be reasonable. However, it considers that the materiality of the benefit to Meridian Energy is low.
- 184 Mighty River Power agrees with the proposal and notes that if an NSP is decommissioned before the status in the registry of associated ICPs is changed, this could negatively impact market functions such as reconciliation.
- 185 Orion does not agree with amending the Code and submits that the proposal needs more work (analysis) and consultation. Orion believes the decommissioning of an NSP would have to occur simultaneously with amending the status of the associated ICPs. Orion does not consider that the status of the ICPs is an issue in this case – rather it is a question of updating which NSP the ICP points too. The ICPs are not decommissioned but remain as ICPs on the local network if an embedded network becomes a local network.
- 186 Smart Power is supportive of the proposal. It submits that embedded network owners currently face an issue with the registry, which is that an ICP cannot be viewed on the registry until the NSP is active. When the embedded network owner or retailer is requesting metering assets and retailers to trade on the embedded network, the inability to see an ICP on the registry in ready status is detrimental to the process. Smart Power submits that this causes operational issues across the industry as everything effectively happens on one day, when an embedded network goes live.

- 187 TENCO EBS agrees with the proposal, noting that this is a logical requirement. TENCO EBS submits that once the Code is amended, it should then be a simple matter to implement the necessary software changes to ensure that decommissioning an NSP cannot happen while ICPs associated with it are still active.
- 188 Trustpower agrees that the Code should be amended to prevent an embedded network owner from decommissioning an NSP before the status in the registry of the associated ICPs is also changed.
- 189 Tuihana Networks supports the proposed approach because it will lead to operational efficiency for the electricity industry. It notes however that this will have little effect on Tuihana Networks.
- 190 Unison agrees that the Code should be amended as proposed.

Question 7: Do you agree with mandating a minimum notice period for converting an embedded network or network extension through amending the Code? Please give reasons for your view.

- 191 Sixteen submissions comment on this question. Five submissions make no comment on this question – the ENA, MEUG, NZ Airports, Pioneer Generation and Shaun Hayward.
- 192 Fourteen submissions agree with mandating, via the Code, a minimum notice period for converting an embedded network or network extension – Auckland Airport, Aurora Energy, Christchurch Airport, Contact Energy, the EGCC, Genesis Energy, Meridian Energy, Mighty River Power, Smart Power, TENCO EBS, Trustpower, Tuihana Networks, Unison and Vector.
- 193 One submission partially agrees with the proposal – Orion.
- 194 One submission does not agree with the proposal – Nova Energy.
- 195 Auckland Airport supports the proposed approach and recommends the proposed changes be included in the Secondary Network Guidelines when they are next reviewed.
- 196 Aurora Energy is supportive of the proposal to standardise arrangements.
- 197 Christchurch Airport supports the proposed approach and recommends the proposed changes be included in the Secondary Network Guidelines when they are next reviewed.
- 198 Contact Energy agrees with a minimum notice period of 40 business days to provide for assessment of network requirements, processing of system changes and communication of price changes to the customer. Contact Energy also suggests that where the request is from a completely new embedded network owner, it would be useful if the Secondary Network Guidelines provided for consultation prior to the 40 business days' notice. This would enable a retailer time to fully assess the network requirements and engage on any issues before final notification is received.
- 199 The EGCC submits that a minimum notice period would be a useful mechanism to ensure retailers do not breach their own terms and conditions with customers on secondary networks.
- 200 Genesis Energy supports the proposal but submits that the Code should be amended to require that the network owners give the responsible retailer(s) 90 days' notice of an intention to convert. The paper incorrectly suggests the retailer needs to give notice.
- 201 Meridian Energy submits that it is comfortable with the adjustments being proposed, although the changes will have minimal effect on it.
- 202 Mighty River Power agrees with the proposal, noting that where a network extension converts to an embedded network, new rates are likely to be created and price change communications will be necessary. Amending the Code to require a minimum 40 business days' notice will ensure retailers are able to comply with their obligation to provide customers with 30 days' notice of price changes.
- 203 Nova Energy disagrees with the proposal, submitting that it is irrelevant since the choice should only be between a customer network and a network extension.
- 204 Orion partially agrees with the proposal. It submits that the option to introduce Code changes to provide more certainty about the process for converting from an embedded network or from a network extension have merit. However, Orion is not convinced that a

period as long as the suggested 40 days' notice is required. One calendar month should be sufficient.

- 205 Smart Power agrees that there should be a minimum notice period and recommends 40 calendar days as a default period.
- 206 TENCO EBS agrees that a minimum notice period is required and considers that the 40 days suggested in the discussion paper is not unreasonable (although 40 business days / 8 weeks is perhaps a little longer than necessary). However, TENCO EBS submits that there is a related issue that is of much greater concern than minimum notice periods, and that is the current ability of retailers to veto a conversion. Retailers should have no ability to refuse the conversion of a secondary network, but should choose between either continuing to supply or advising their customer(s) to move to another retailer prior to the transfer date.
- 207 Trustpower agrees that a minimum notice period is required.
- 208 Tuihana Networks supports the proposed approach and proposes that the changes be included in the Secondary Network Guidelines.
- 209 Unison agrees with this proposal, noting that it is particularly supportive of the inclusion of 'unless the parties mutually agree otherwise' and that 'retailers would be unable to refuse the conversion'. Unison would also like to see this Code amendment apply to secondary networks being merged with local networks.
- 210 Vector supports the proposal to clarify the Code requirements around network conversions.

Question 8: Do you consider there are other viable options, in addition to those considered by the RAG, for improving operational efficiency in respect of secondary networks? Please give reasons for your view.

- 211 Fourteen submissions comment on this question. Seven submissions make no comment on this question – Aurora Energy, the EGCC, the ENA, Genesis Energy, MEUG, Shaun Hayward and Vector.
- 212 Ten submissions believe there are other viable options for improving operational efficiency – Auckland Airport, Christchurch Airport, Contact Energy, Mighty River Power, Nova Energy, NZ Airports, Orion, TENCO EBS, Trustpower and Tuihana Networks.
- 213 Four submissions submit that there are no other viable options for improving operational efficiency in respect of secondary networks – Meridian Energy, Pioneer Generation, Smart Power and Unison.
- 214 Auckland Airport considers there are other viable options. It notes that it has not seen evidence of the materiality of any current problem. It also submits that it has not seen evidence that proposed changes to the existing regulatory framework will benefit the end consumer in terms of competition-benefitting prices or improved efficiency and reliability of supply.
- 215 Christchurch Airport refers to a submission it made to the Commerce Select Committee in 2008 and notes that the issues for small operators in the electricity industry remain the same (*in the 2008 submission, Christchurch Airport submitted that the threshold of 2.5 GWh per annum should be increased to 15 GWh per annum*). Christchurch Airport submits that supply to small numbers of customers within building infrastructures, not just airports, requires a rational approach which will add value to the proposition of selling electricity, rather than adding costs.
- 216 Contact Energy considers that there are other viable options and that one option would be to only allow embedded networks where a minimum number of ICPs exists. Contact Energy submits that it is currently seeing organisations apply for an embedded network where there are only 11 ICPs on the entire network. In Contact Energy's view, this would be better suited to a network extension.
- 217 Meridian Energy submits that it has not identified any other viable options.
- 218 Mighty River Power submits that embedded networks should be subject to compliance audits as industry participants and be required to align their pricing structure to the parent local network to avoid the additional work that goes into creating and maintaining separate rate categories, as well as undertaking separate price change processes for local networks and embedded networks. Mighty River Power submits that the status quo not only creates complexity and risk for retailers, but also gives rise to uncertainty and a poor experience for the affected consumers.
- 219 Nova Energy believes that secondary networks should be either customer networks or extended networks. It submits that this would simplify the situation for all concerned and help reduce the number of networks set up merely to arbitrage the different pricing categories of the local network companies.
- 220 NZ Airports considers that there are other viable options for improving operational efficiency and provides the following for consideration:
- (a) no change to the status quo for customer networks' responsibilities

- (b) registration of all customer networks on the Authority's participant register, enabling the EGCC to have access to them to handle any potential tenant/consumer complaints.
- (c) creation of an embedded network at each site (eg, an airport). NZ Airports notes that this option would add further costs to airport members and cause disruption to airport tenants. NZ Airports strongly believes that this option should only be considered as a last resort. The Authority has already commented on the growth of embedded networks and, in NZ Airport's view, the implementation of this last option would fail to ameliorate the present situation.

221 Orion considers there are other viable options and presents the following:

- (a) *option 1 – de minimis size*: Orion considers that the status quo requirement that all secondary network owners are participants is untenable, but believes that very careful consideration needs to be given in this area to prevent unforeseen difficulties. Orion believes that the Authority should consult with interested parties on the value of a de minimis size (such as number of consumers or electricity throughput) for each type of secondary network below which registration as a participant and compliance with some parts of the Code can be excluded. The definition of electricity lines services in section 54C of the Commerce Act shows that the practicalities and costs of compliance need to be considered.
- (b) *option 2 – Code requirement on local distributors relating to network extensions should be on a reasonable endeavours basis*: there is a problem that the local network can be held responsible for breaches of the Code on a secondary network over which it has no direct control.
- (c) *option 3 – Code changes*: Orion believes the RAG's option to introduce Code changes to provide more certainty about two aspects of the process for converting from an embedded network or from a network extension has merit. However Orion is not convinced the RAG's proposed solution to preventing the decommissioning of an NSP while ICPs have an active or inactive status in the registry is simple. Orion also considers that providing a 40 business day notification period for converting from an embedded network or from a network extension is too long – the Code already appears to require one calendar month's notice. Orion believes this is sufficient to manage the transfer.
- (d) *option 4: Subject to the de minimis provisions of Option 1 further enhancement of the Secondary Network Guidelines*: Orion agrees with the RAG's suggestion that increased awareness by secondary networks of obligations under the Electricity Industry Act and the Code will promote efficient operation. This would need to be subject to a sensible de minimis value for establishing what constitutes secondary networks, such that the owners could reasonably be expected to be able to comply with any Code requirements. Orion considers that the Authority should comply with its obligations under section 16.1 of Part 2 of the Electricity Industry Act and encourage compliance with the Electricity Industry Act and with the Code through education and the provision of enhanced Secondary Network Guidelines. Orion also strongly recommends the Authority consider the extent to which it can limit the spread of residential and commercial subdivision embedded networks.

222 Smart Power submits that it does not consider there are any other viable options and that the three options are sufficient if used properly.

- 223 TENCO EBS submits that the Authority should work to improve standardisation of data exchange including:
- (a) establishing centralised file checkers for EIEP files
 - (b) mandating the use of a secure file transfer protocol (SFTP) directory in the event that parties do not agree another method
 - (c) providing for embedded networks to hold quality certification of business processes for any market interfaces.
- 224 TENCO EBS submits that the Authority can also assist by raising awareness that customer network owners are required to become members of the EGCC.
- 225 Trustpower believes the fundamental question to ask is whether embedded networks are needed as an option at all. It queries whether the existing customer networks or network extensions provide the flexibility that asset owners and customers require. Trustpower submits that the discussion paper only briefly touches on this issue, with the RAG asserting that no evidence exists to address this fundamental question. Trustpower believes, however, that clear evidence does exist within the issues raised regarding the three different types of secondary networks:
- (a) the largest ongoing cost is the monthly administration and reconciliation of embedded network line service invoicing
 - (b) a further ongoing cost is associated with resolving embedded network faults
 - (c) the movement to a standard UoSA for embedded networks does not sufficiently reduce the actual cost of putting such agreements in place, often for only one or two consumers.
- Trustpower submits that the first and third issues do not exist for a customer network or a network extension. In regard to faults, customers tend to contact whoever is billing them, which for customer networks will be the landlord or body corporate or an associated site management service. For network extensions, this can be resolved in the contract between the network extension owner and the supplying local network.
- 226 Trustpower also notes that, from its observations these extra costs incurred for trading on embedded networks are currently being subsidised by all consumers. The majority of retailers are not differentiating their retail tariffs for customers on an embedded network from those on a similar tariff option on the surrounding parent local network. Trustpower includes an example of an embedded network that has the correct tariff pricing being applied, which clearly shows how the end consumer is disadvantaged by being in an embedded network as opposed to being directly on the parent local network. Trustpower recommends the removal of embedded networks as an option. Customer networks and network extensions are the only practical step in reducing the cost to serve and therefore the cost to the industry as a whole. Network extensions with the appropriate contractual arrangements between the infrastructure owner and the connecting local network will provide the end consumer with retail choice whilst reducing considerably retailers' cost to service these consumers.
- 227 Tuihana Networks notes that the issues for small distributors in the electricity industry remain.
- 228 Unison does not consider there are viable options for improving operational efficiency, but submits that the following should be considered:

- (a) *public guidance around secondary electricity networks*: public guidance and information on customer networks should be provided, which would include characteristics/implications of all secondary networks. Unison submits that this could be led by the Ministry of Consumer Affairs (or another appropriate body) and provided on its website.
- (b) *consumer affairs role*: Unison submits that such as those in the following list tend to indicate a potential consumer protection concern, and it may be appropriate for a body such as the Ministry of Consumer Affairs to investigate:
 - (i) consumers having no choice of retailer
 - (ii) the potential for some customer network owners to charge a premium relative to the costs of delivered electricity
 - (iii) ensuring a service level consistent with the Consumer Guarantees Act.

229 Unison notes that these issues mostly rest outside the direct responsibility of the Authority or are unlikely to be material to the operation of the electricity market.

Question 9: Do you agree the Secondary Network Guidelines should specify expectations on secondary networks (particularly network extensions) to identify and allocate responsibility for business to business interactions, for example responsibility for fault management? Please give reasons for your view.

- 230 Fifteen submissions comment on this question. Six submissions make no comment on this question – the EGCC, the ENA, MEUG, NZ Airports, Pioneer Generation and Shaun Hayward.
- 231 Fourteen submissions agree that the Secondary Network Guidelines should specify expectations on secondary networks to identify and allocate responsibility for business to business interactions – Auckland Airport, Aurora Energy, Christchurch Airport, Contact Energy, Genesis Energy, Meridian Energy, Mighty River Power, Orion, Smart Power, TENCO EBS, Trustpower, Tuihana Networks, Unison and Vector.
- 232 One submission does not agree that the Secondary Network Guidelines should be amended to specify these expectations on secondary networks – Nova Energy.
- 233 Auckland Airport supports improved clarity of responsibilities within the electricity market, but notes there are a number of unique characteristics of secondary networks (eg, airport versus retirement village) where the application of specific expectations may need to be varied according to use.
- 234 Aurora Energy is supportive of the proposals to standardise arrangements, including amendments to the Secondary Network Guidelines.
- 235 Christchurch Airport supports the proposed approach to specify expectations on secondary networks for the benefit of all consumers, retailers and secondary networks.
- 236 Contact Energy agrees that the Secondary Network Guidelines need to be reviewed and strengthened to bring them into line with the Authority's objectives and views around matters such as transparency and consumer choice. Contact Energy submits that while fault management gains a lot of attention in the discussion paper, it has not seen evidence to suggest this is an issue. Contact Energy would like to see the Secondary Network Guidelines include a template setting out the information required in any notice of a new embedded network or change of secondary network type (Contact Energy attaches a template with the minimum information it requires).
- 237 Genesis Energy agrees with specifying expectations for secondary networks in the Secondary Network Guidelines. It notes that this is a key factor in the operation of a secondary network so should be in the Secondary Network Guidelines, particularly as some secondary network owners are new to the electricity industry.
- 238 Meridian Energy has no issues with the Secondary Network Guidelines being amended to clarify expectations for secondary network owners regarding fault management (for example), but Meridian Energy is unsure of the likely effectiveness of doing so. Meridian Energy does not perceive significant benefits from doing so.
- 239 Mighty River Power considers the Secondary Network Guidelines, together with ongoing education of consumers on secondary networks, will help identify and allocate responsibility for business to business interactions. Mighty River Power believes it is important that secondary networks charged with the responsibility for managing faults advise their customers of this responsibility on a regular basis – as retailers do (on local networks) through their bills, websites and call centres. Otherwise embedded network consumers will continue to resort to calling their retailer.

- 240 Nova Energy does not agree that the Secondary Network Guidelines should be amended in this way. It submits that this should be resolved through the contract between the local network and the secondary network, and through the contract between the secondary network and its customers.
- 241 Orion submits that the efficient operation of the electricity industry will be promoted by the RAG's suggestion of increased awareness by secondary networks of their obligations under the Electricity Industry Act and the Code. Orion suggests that this would need to be subject to a sensible de minimis value for establishing what constitutes a secondary network, so that the owners could reasonably be expected to be able to comply with any Code requirements.
- 242 Smart Power agrees that the Secondary Network Guidelines should be amended to specify how parties describe and allocate responsibilities. Smart Power also submits that the proposed default UoSA should be amended for embedded networks – in order to provide certainty over which party is responsible for management of a fault if it occurs. Smart Power considers that a UoSA should be introduced for network extensions.
- 243 TENCO EBS submits that faults and outage notifications are an important issue, with financial and safety implications. The Authority should seek to steadily raise the requirement for network owners to provide a fault call service.
- 244 Trustpower agrees with the proposal to amend the Secondary Network Guidelines to specify expectations on secondary networks.
- 245 Tuihana Networks supports the proposed approach to specify expectations on secondary networks. It notes that if this was to be included in the Secondary Network Guidelines, it would assist the parties, particularly where secondary network owners are unfamiliar with the electricity industry.
- 246 Unison agrees that this needs to be clarified in the Secondary Network Guidelines. Unison submits that consumers should also be educated about who manages faults on their network. Unison suggests that regardless of expectations being clarified around responsibility for fault management, retailers and distributors are likely to still receive fault calls from consumers on secondary networks. Communication to consumers about where to direct these calls needs to be done by the secondary network or retailer. Unison also submits that this education needs to go further than just faults – it should include expectations around supply as well.
- 247 Vector supports the proposal to amend the Secondary Network Guidelines to clarify responsibilities for managing faults whilst retaining flexibility.

Question 10: Do you consider there are viable options, in addition to those considered by the RAG, for improving reliability of supply on secondary networks? Please give reasons for your view.

- 248 Eleven submissions comment on this question. Ten submissions make no comment on this question – Aurora Energy, Christchurch Airport, the EGCC, the ENA, Genesis Energy, MEUG, NZ Airports, Pioneer Generation, Shaun Hayward and Vector.
- 249 Six submissions believe there are other viable options for improving reliability of supply on secondary networks – Auckland Airport, Nova Energy, Smart Power, TENCO EBS, Trustpower and Tuihana Networks.
- 250 Three submissions express the view that there are no other viable options for improving reliability of supply on secondary networks – Meridian Energy, Mighty River Power and Unison.
- 251 Two submissions hold the view that there are no issues with reliability of supply on secondary networks – Contact Energy and Orion.
- 252 Auckland Airport considers there are other viable options and refers to its answers to Question 4 and Question 8, ie:
- (a) it has not seen evidence of the materiality of any current problem
 - (b) it has not seen evidence that proposed changes to the existing regulatory framework will benefit the end consumer in terms of competition-benefitting prices or improved efficiency and reliability of supply
 - (c) it has seen no quantifiable evidence to support a view that competition is lessened, retailers have operational difficulty, or that reliability levels are reduced on an embedded network.
- 253 Contact Energy submits that it has not observed any particular issues with the reliability of supply on secondary networks, although it realises that it can only observe the performance of network extensions and embedded networks. Contact Energy sees reliability of supply on customer networks as a matter between the owner and its consumer tenants, with tenancy agreements covering issues such as reliability of supply (of the electrical installation).
- 254 Meridian Energy submits that it has not identified any other viable options.
- 255 Mighty River Power also submits that it has no other options to suggest.
- 256 Nova Energy considers that the reliability of supply on secondary networks should primarily be a matter between the consumer and the network owner. The local network should also have an interest in the performance of the secondary network and be able to enforce that through the terms of its connection agreement. Nova Energy suggests that this could be reinforced through the Code specifying that the local network shall disclose the rate of outages across its entire network, including those serviced by secondary networks.
- 257 Orion does not consider that this is a significant issue. However Orion does think that education and guidelines may assist.
- 258 Smart Power considers there are viable options and recommends the following:
- (a) the secondary network owner does everything – a guideline for a customer network would explain the customer network's obligations

- (b) the secondary network owner provides the type of distribution services provided by the local network (market and physical obligations) and 'off-loads' the retailing obligations. An embedded network UoSA should specify that the embedded network owner provides fault management services and consumers contact the retailer in the first instance
 - (c) the secondary network owner does as little as possible – the network extension UoSA should specify that the local network provides fault management services and the ability to enter the network extension and resolve the issue. In fact the local network should perform all functions to the extent that legislation and the Code allow, with faults handled by the retailer via its fault contact centre.
- 259 TENCO EBS submits that retailers already need customised outage notification processes in place for local networks. TENCO EBS suggests that no change to systems is required to accommodate secondary networks and it is simply an issue of collecting the correct data for the ICPs on a secondary network. TENCO EBS proposes that further development of the EIEPs could require that all network owners (including local networks) publish fault contact information at the top of each price schedule. This would provide a standardised method of communicating this information and reduce the number of situations where there is confusion over fault contact information.
- 260 Trustpower supports the adoption of more robust contacts and agreements for network extensions and the abolishment of embedded networks.
- 261 Tuihana Networks notes that it has formal arrangements in place with its contractor to ensure response times and disruption to consumers are minimised.
- 262 Unison does not consider there are viable options for improving reliability of supply on secondary networks in addition to those considered by the RAG.

Question 11: Based on your experience, what is the average time and cost for a retailer and an embedded network owner to negotiate and thereafter administer an embedded network UoSA when the retailer is entering the embedded network for the first time?

- 263 Ten submissions provide comment on, or information for, this question. Eleven submissions do not answer this question – Aurora Energy, Christchurch Airport, the EGCC, the ENA, MEUG, Mighty River Power, NZ Airports, Orion, Pioneer Generation, Shaun Hayward and Vector.
- 264 Four submissions contain cost information – Auckland Airport, Contact Energy, Smart Power and Trustpower.
- 265 Six submissions provide comment on the costs or acknowledge that the costs are unknown, unquantifiable or depend on a number of factors – Genesis Energy, MEUG, Nova Energy, TENCO EBS, Tuihana Networks and Unison.
- 266 Auckland Airport notes that recently two new (small) electricity retailers entered into UoSAs after less than a half day of negotiation (each) and commenced competing to supply consumers.
- 267 Christchurch Airport provides no comment on this, noting that the UoSA arrangements with retailers were concluded some years ago and the relationship has continued on a sound commercial platform.
- 268 Contact Energy submits that:
- (a) if an embedded network UoSA is materially aligned with the model UoSA, then negotiation (submission, consideration of response, legal sign-off, execution governance process) would typically take about two to three days
 - (b) where there is not material alignment with the model UoSA, then around 5 to 10 days would typically be needed.
- 269 Genesis Energy cannot quantify this at this time.
- 270 Meridian Energy believes this largely depends on whether the embedded network owner is proposing a UoSA based on the model, or something more bespoke or historical. The latter is likely to be drafted more heavily in the embedded network's favour (eg, a UoSA that has been used by the embedded network's consultant on other networks). Meridian Energy thinks that more bespoke types of UoSAs require significant commercial and legal review, with a number of months' negotiation and at least some external legal spend normally required. In a number of instances, negotiating a non-standard document forces retailers into the difficult position of assessing the effort of negotiating that agreement against their exposure if the agreement is not in place and can lead to negotiations landing in the "too hard" basket.
- 271 Meridian Energy submits that the ongoing cost of administering a UoSA is reasonably minimal, unless unforeseen operational issues or disputes requiring interpretation of the UoSA arise. This is because the parties should have agreed to a document that is materially consistent with their systems and processes.
- 272 Nova Energy states that, as for any agreement, the time spent negotiating depends somewhat on the willingness of the retailer to accept less than satisfactory terms and conditions from a monopoly provider. This becomes a trade-off between the benefits of retailing in the embedded network versus the potential costs. Nova Energy suggests that

the additional costs across reconciliation, invoicing, call centre costs, metering arrangements, field services etc. are more significant, but very difficult to quantify.

- 273 Smart Power estimates 30 days at a minimum, in extreme cases 90 days, by the time all retailers have responded and agreed terms.
- 274 TENCO EBS considers that (based on Simply Energy's experience as a retailer) the time required to negotiate and administer UoSAs is somewhat proportional to the size of the network. TENCO EBS submits that the average time and cost for a typical small embedded network (non-TENCO EBS) would be as follows:
- (a) negotiate UoSA based on a standard form agreement and set up systems – eight hours – once per owner
 - (b) set up network tariffs – two hours – once per network
 - (c) annual price updates – one hour.
- TENCO EBS notes that in contrast a UoSA with Vector took approximately 2.5-3 days to negotiate, plus four hours of legal time. The cost of this is estimated at approximately \$10,000.
- 275 Trustpower estimates that inclusive of legal costs and senior management costs, the average cost for a retailer and an embedded network owner to negotiate an embedded network UoSA is between \$10,000 and \$15,000 per contract.
- 276 Tuihana Networks does not know the costs, noting that the informal arrangements with retailers were concluded some time ago. Tuihana Networks notes however that the introduction of a default UoSA would add material costs to Tuihana Networks.
- 277 Unison considers that although it is not engaged in embedded network UoSA negotiations, from its experience of negotiating interposed UoSAs with retailers this is a costly and time-consuming process.

Question 12: What estimated cost saving would your organisation receive from the use of a default embedded network UoSA?

- 278 Twelve submissions provide comment on, or information for, this question. Nine submissions do not answer this question – Aurora Energy, the EGCC, the ENA, MEUG, Mighty River Power, NZ Airports, Pioneer Generation, Shaun Hayward and Vector.
- 279 Five submissions contain cost information – Meridian Energy, Nova Energy, Smart Power, TENCO EBS and Trustpower.
- 280 Seven submissions provide comment on the costs or acknowledge that the costs are unknown, unquantifiable or depend on a number of factors – Auckland Airport, Christchurch Airport, Contact Energy, Genesis Energy, Orion, Tuihana Networks and Unison.
- 281 Auckland Airport notes that in the absence of an example default UoSA, awareness of the impact upon its operations and any potential additional costs or savings is unquantifiable. It expects there would be an upfront cost to change. However any ongoing increase to operational costs (or savings) would be passed on to the customer and so is not material from Auckland Airport's standpoint.
- 282 Christchurch Airport states there would be no cost saving from the use of a default embedded network UoSA. It submits that a default embedded network UoSA would come at considerable cost and Christchurch Airport would not want this at the current time.
- 283 Contact Energy submits that it depends on the number of new embedded network owners. Currently, in almost all cases it takes some time for both parties to reach agreement on the UoSA.
- 284 Genesis Energy cannot quantify this at this stage. However, a default UoSA will reduce the element of unknown risk under common law.
- 285 Meridian Energy gives a ballpark figure for the cost saving from the use of a default embedded network UoSA of at least \$50,000 per annum in internal resource and external legal cost savings.
- 286 Nova Energy's cost saving would be in the order of \$2,000 per agreement, but that is less significant than the additional annual cost incurred from managing an additional network on an ongoing basis.
- 287 Orion considers there would be no cost saving from the use of a default embedded network UoSA.
- 288 Smart Power submits that the cost saving would be minimal as Smart Power already has a UoSA accepted by most retailers for its clients. Smart Power estimates a cost of \$10,000 for someone starting from scratch, which includes obtaining legal advice and using the model UoSA for networks.
- 289 TENCO EBS advises that standard contracts cost \$1,000 to execute and non-standard contracts cost \$10,000 to execute.
- 290 Trustpower considers that at an operational level, insignificant administration costs are not reduced by having a contract or set of imposed rules. Trustpower would envisage that the one-off cost of developing a contract could reduce by \$3,000-\$4,000 per agreement.
- 291 Tuihana Networks suggests there would be no cost savings from using a default embedded network UoSA, noting that it would come at a material cost to Tuihana

Networks. Tuihana Networks would prefer that a default embedded network UoSA was not introduced at this time.

- 292 Unison considers it is difficult to quantify cost savings because it has not been directly involved in this process.

Question 13: What would be the cost saving or additional cost to your organisation if embedded network owners were required to use EIEP 1, 2, 3 and 12?

- 293 Twelve submissions provide comment on, or information for, this question. Nine submissions do not answer this question – Aurora Energy, the EGCC, the ENA, MEUG, Nova Energy, NZ Airports, Pioneer Generation, Shaun Hayward and Vector.
- 294 Five submissions note that EIEP 1, 2, 3 and 12 are already used – Christchurch Airport, Contact Energy, Meridian Energy, Mighty River Power and Tuihana Networks.
- 295 Seven submissions provide some other comment on this question – Auckland Airport, Genesis Energy, Orion, Smart Power, TENCO EBS, Trustpower and Unison.
- 296 Auckland Airport already uses EIEPs 1 and 3 and is considering EIEP 12. A one-off additional cost, followed by a nominal cost saving, is anticipated.
- 297 Christchurch Airport, as an embedded network owner, currently supports and uses retailer EIEPs for data transfer for line charge billing.
- 298 Contact Energy believes that most embedded networks are using EIEPs 1, 2, 3 and 12, as most consider themselves to be distributors and hence captured by the regulated requirements.
- 299 Genesis Energy suggests there will be operational cost savings due to consistency of process and data.
- 300 Meridian Energy submits that because embedded networks typically already use EIEPs 1, 2, 3 and 12, it is unsure whether a requirement to do so would be of value.
- 301 Mighty River Power submits that EIEPs 1, 2, 3 and 12 are already in use with embedded networks.
- 302 Orion does not think there would be any cost savings or additional costs to it if embedded network owners were required to use EIEPs 1, 2, 3 and 12.
- 303 Smart Power believes that the cost involved would be minimal, but it would save costs if retailers had to use the same file formats and use FTP. Smart Power notes that the saving from using EIEPs has reduced administration time by 50% per embedded network.
- 304 TENCO EBS believes there would be minimal cost savings to it, as most embedded network owners provide these standard files. It recommends that in addition to EIEPs 1, 2, 3 and 12, there should also be standardisation and use of EIEPs for planned and unplanned network outages and for network price category changes.
- 305 Trustpower suggests that it is the cost of producing files and creating tariff structures that are the significant operational cost, not the actual file type. It suggests that adopting these files would reduce some marginal costs in providing the ad-hoc files that are currently produced.
- 306 Tuihana Networks currently supports and uses retailer EIEPs for data transfer for line charge billing only.
- 307 Unison submits there would be a minimal cost implication on Unison. However, embedded networks would face costs meeting these protocols.

Question 14: What would be the cost saving to your organisation from adopting the notice period in the RAG's preferred option?

- 308 Eleven submissions provide comment on, or information for, this question. Ten submissions do not answer this question – Aurora Energy, Christchurch Airport, the EGCC, the ENA, MEUG, Nova Energy, NZ Airports, Pioneer Generation, Shaun Hayward and Vector.
- 309 Six submissions suggest there would be no cost saving to their organisations from adopting the notice period in the RAG's preferred option – Auckland Airport, Meridian Energy, Orion, Smart Power, TENCO EBS and Tuihana Networks.
- 310 Five submissions provide some other comment on this question – Contact Energy, Genesis Energy, Mighty River Power, Trustpower and Unison.
- 311 Auckland Airport cannot identify any cost savings.
- 312 Contact Energy believes this is very difficult to answer but states that it has incurred losses due to inadequate notice. Contact Energy has had to delay passing costs through to customers because of inadequate time to assess/process the change in status of an embedded network / network extension and provide customers with sufficient notice.
- 313 Genesis Energy's cost saving is unknown.
- 314 Meridian Energy would not expect any material cost savings to result.
- 315 Mighty River Power submits that the main benefit is that this will reduce the risk of an ineffective pass-through of network charges to end consumers.
- 316 Orion believes there would be no cost savings for it.
- 317 Smart Power believes there would be no cost savings for it.
- 318 TENCO EBS is already complying with the proposed notice period as set out in this consultation document, so there would be no cost savings for it.
- 319 Trustpower finds this difficult to quantify.
- 320 Tuihana Networks does not think this will affect it.
- 321 Unison submits that the cost saving would largely be measured in time – it would help to avoid a prolonged settlement and transfer process.

Question 15: What would be the cost saving or additional cost to your organisation from clarifying with consumers on embedded networks that the embedded network owner has responsibility for the management of faults, not retailers or local network owners?

- 322 Eleven submissions provide comment on, or information for, this question. Ten submissions do not answer this question – Aurora Energy, Christchurch Airport, the EGCC, the ENA, MEUG, Nova Energy, NZ Airports, Pioneer Generation, Shaun Hayward and Vector.
- 323 Five submissions suggest there would be no cost saving or additional cost to their organisations from clarifying with consumers on embedded networks that the embedded network owner has responsibility for the management of faults – Auckland Airport, Contact Energy, Mighty River Power, TENCO EBS and Tuihana Networks.
- 324 Six submissions provide some other comment on this question – Genesis Energy, Meridian Energy, Orion, Smart Power, Trustpower and Unison.
- 325 Auckland Airport believes there is neither a cost saving for it nor additional cost to it under the proposal.
- 326 Contact Energy suggests that the question appears to be targeting the wrong situation. The issue (if there is one and Contact Energy does not consider there is) is more likely to be with network extensions. Contact Energy notes that every invoice sent to its customers sets out the contact number for faults, whether it is the embedded network owner or Contact Energy.
- 327 Genesis Energy considers that cost savings, if any, will be minimal. Genesis Energy already has the embedded network owner's contact details for faults on invoices. Genesis Energy notes that regardless of this, customers still call Genesis Energy as they do not understand the separate responsibilities of the network owner.
- 328 Meridian Energy submits that it does not currently experience a large volume of work in this space, but believes that this issue will only increase in importance as embedded network numbers continue to grow.
- 329 Mighty River Power refers to its response to Question 9. It has no issues with the Secondary Network Guidelines being amended to clarify expectations for secondary network owners regarding fault management (for example). However, Mighty River Power is unsure of its likely effectiveness and does not perceive there to be significant benefits from doing so.
- 330 Orion submits that the costs involved would be small.
- 331 Smart Power believes there would be a few hours' work customising invoice formation.
- 332 TENCO EBS suggests there would be no cost saving or additional cost, as this is managed through the normal course of business, via invoice information. TENCO EBS also notes the first point of contact for consumers on customer networks and embedded networks is the facility manager for the building, regardless of whether the enquiry is about faulty plumbing, faulty air conditioning, faulty lights, faulty fixtures or a power outage.
- 333 Trustpower submits this may be possible in theory but would be difficult to implement.
- 334 Tuihana Networks submits that defined protocols have existed since 2008.
- 335 Unison expects there to be some cost savings from the clarification of management of faults, but this is likely to be minimal.

Question 16: Do you agree that the adoption of a default embedded network UoSA will enhance retail competition on embedded networks? Please give reasons supporting your answer.

- 336 Thirteen submissions comment on this question. Eight submissions make no comment on this question – Aurora Energy, the EGCC, the ENA, Nova Energy, NZ Airports, Pioneer Generation, Shaun Hayward and Vector.
- 337 Three submissions agree that the adoption of a default embedded network UoSA will enhance retail competition on embedded networks – Genesis Energy, TENCO EBS and Unison.
- 338 Five submissions partially agree that retail competition on embedded networks would be enhanced with the adoption of a default UoSA – Christchurch Airport, Meridian Energy, MEUG, Mighty River Power and Tuihana Networks.
- 339 Five submissions do not agree – Auckland Airport, Contact Energy, Orion, Smart Power and Trustpower.
- 340 Auckland Airport has not seen any quantifiable evidence to suggest the default embedded network UoSA alone will lead to enhanced retail competition.
- 341 Christchurch Airport suggests that a default embedded network UoSA may enhance retail competition on new embedded networks.
- 342 Contact Energy believes there is no guarantee a default embedded network UoSA would enhance competition as each retailer has to assess the costs and benefits of trading on embedded networks.
- 343 Genesis Energy agrees that the default model UoSA would enhance competition on embedded networks as it will mean that a new retailer can plan a customer proposition for an embedded network without having to agree a supply agreement upfront.
- 344 Meridian Energy considers that a default embedded network UoSA will materially lessen upfront negotiating costs. Determining the precise effect the proposal will have on competition is difficult, but Meridian Energy agrees it could have an enabling effect and seems in line with the Authority's competition-related objectives.
- 345 MEUG agrees, subject to one caveat – evidence may emerge from submitters that requires a re-think of the discussion paper's conclusion that the dynamic efficiency benefits from adopting a default embedded network UoSA are expected to be larger than any potential dampening of dynamic efficiency. If no such evidence emerges then the Authority should further consider adopting a default embedded network UoSA.
- 346 Mighty River Power refers to its response to Question 5. It agrees that the introduction of a default embedded network UoSA may address some of the issues noted in the discussion paper, such as reducing the time and costs associated with negotiating UoSAs. However, Mighty River Power does not consider it will address the efficiency and reliability issues, including some of the non-standard operational requirements of embedded networks.
- 347 Orion also refers to its response to Question 5. It does not believe a default embedded network UoSA will promote retail competition. In fact doing so may inhibit innovative retailers from entering this market.
- 348 Smart Power considers that it will not enhance retail competition, but comments that it will not harm retail competition.

- 349 TENCO EBS suggests that in theory the adoption of a default UoSA will enhance retail competition on embedded networks by making it easier for retailers to establish an agreement with minimum standards. TENCO EBS considers that the analysis in its submission shows that embedded networks are arguably already more competitive than the national residential retail market.
- 350 Trustpower believes that whilst having a default agreement would be an improvement on the current situation, it would have a minimal effect on competition.
- 351 Tuihana Networks does not think that a default embedded network UoSA is likely to enhance retail competition on its network.
- 352 Unison agrees that a default embedded network UoSA is likely to enhance retail competition because it will reduce the negotiation length and therefore the cost for retailers and embedded network owners.

Question 17: What is the cost estimate for your organisation to review and comment on a draft default embedded network UoSA, prepared using the Authority's model local network UoSA and the Authority's guidelines for drafting embedded network UoSAs?

- 353 Ten submissions provide comment on, or information for, this question. Eleven submissions do not answer this question – Aurora Energy, the EGCC, the ENA, MEUG, Mighty River Power, Nova Energy, NZ Airports, Orion, Pioneer Generation, Shaun Hayward and Vector.
- 354 Three submissions contain cost information – Meridian Energy, TENCO EBS and Trustpower.
- 355 Seven submissions provide comment on the costs or acknowledge that the costs are unknown or unquantifiable – Auckland Airport, Christchurch Airport, Contact Energy, Genesis Energy, TENCO EBS, Tuihana Networks and Unison.
- 356 Auckland Airport states that it does not have a cost estimate. Auckland Airport anticipates the cost would be significant because of the need to provide for the unique requirements of an embedded network's operations.
- 357 Christchurch Airport does not want this area to be expanded upon at this time.
- 358 Contact Energy notes that it has negotiated a number of new embedded network UoSAs that are materially aligned with the model UoSA (interposed model UoSA with application of the Secondary Network Guidelines). It would therefore not be a significant cost if the Authority took on board the UoSA (and changes to the model UoSA) already agreed. If, however, the Authority initiated a larger rewrite, it may involve many days of technical and legal review and submissions.
- 359 Genesis Energy cannot quantify this at this stage.
- 360 Meridian Energy does not believe that the cost to review a proposed default embedded network UoSA would be significant – between \$5,000 and \$10,000 in total.
- 361 Smart Power believes that the cost is likely to be recovered in reduced ongoing work but it is hard to estimate.
- 362 TENCO EBS estimates a cost of \$10,000.
- 363 Trustpower estimates that it will cost between \$5,000 and \$10,000.
- 364 Tuihana Networks anticipates it would be material to incorporate the characteristics of Tuihana Networks' embedded network operations into a default embedded network UoSA. As it comes at a material cost, Tuihana Networks would prefer not to introduce this arrangement at this time.
- 365 Unison recommends that, given the time and cost invested in the model UoSA for interposed distribution arrangements, this model (or a similar, adapted model that is in operation) be used as the basis for the embedded network default UoSA.

Appendix A Discussion paper questions

	Question
Q1	Please provide any comments and views on the description of the characteristics for customer networks, embedded networks and network extensions. Please provide evidence on your comments and views, where possible.
Q2	Please provide any comments and views on the description of the legal framework for customer networks, embedded networks and network extensions. Please provide evidence on your comments, where possible.
Q3	Please comment on the issues identified with customer networks, embedded networks and network extensions. Please provide evidence where possible.
Q4	Please comment on the description of the problems relating to reduced competition, efficiency and reliability of supply.
Q5	Do you agree that a default embedded network UoSA will promote retail competition by making it easier and less costly for retailers to supply consumers on embedded networks? Please give reasons for your view.
Q6	Do you agree with amending the Code to prevent an embedded network owner from decommissioning an NSP before the status in the registry of the associated ICPs is also changed? Please give reasons for your view.
Q7	Do you agree with mandating a minimum notice period for converting an embedded network or network extension through amending the Code? Please give reasons for your view.
Q8	Do you consider there are other viable options, in addition to those considered by the RAG, for improving operational efficiency in respect of secondary networks? Please give reasons for your view.
Q9	Do you agree the Secondary Network Guidelines should specify expectations on secondary networks (particularly network extensions) to identify and allocate responsibility for business to business interactions, for example responsibility for fault management? Please give reasons for your view.
Q10	Do you consider there are viable options, in addition to those considered by the RAG, for improving reliability of supply on secondary networks? Please give reasons for your view.
Q11	Based on your experience, what is the average time and cost for a retailer and an embedded network owner to negotiate and thereafter administer an embedded network UoSA when the retailer is entering the embedded network for the first time?
Q12	What estimated cost saving would your organisation receive from the use of a

	Question
	default embedded network UoSA?
Q13	What would be the cost saving or additional cost to your organisation if embedded network owners were required to use EIEP 1, 2, 3 and 12?
Q14	What would be the cost saving to your organisation from adopting the notice period in the RAG's preferred option?
Q15	What would be the cost saving or additional cost to your organisation from clarifying with consumers on embedded networks that the embedded network owner has responsibility for the management of faults, not retailers or local network owners?
Q16	Do you agree that the adoption of a default embedded network UoSA will enhance retail competition on embedded networks? Please give reasons supporting your answer.
Q17	What is the cost estimate for your organisation to review and comment on a draft default embedded network UoSA, prepared using the Authority's model local network UoSA and the Authority's guidelines for drafting embedded network UoSAs?