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5 August 2011

Mr Chris Pattas
General Manager
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Issues and AER's preliminary positions: Connections charge guidelines for assessing the electricity distribution network – Consultation paper, 10 June 2011

Dear Chris

Please find attached a submission from Jemena Electricity Networks (Vic) Ltd on the above consultation paper.

Should you have any questions in relation to the submission, please contact me on (03) 8544 9442 or by email siva.moorthy@jemena.com.au.

Yours sincerely

Siva Moorthy
Manager Network Regulation

**Submission on the AER's
consultation paper on the
connection charge guidelines**

5 August 2011





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1 Executive Summary

The Ministerial Council on Energy (MCE) has endorsed the introduction of a new chapter 5A—Electricity connection for retail customers—to the National Electricity Rules (NER). Under Chapter 5A, the AER will be required to develop and publish connection charge guidelines on how Electricity Distribution Network Service Providers (DNSPs) should charge new electricity customers for connecting to their networks.


The AER has issued a consultation paper on the connection charge guideline for accessing the electricity distribution network, which sets out the issues and the AER's preliminary positions. The consultation paper sets out the methodology for determining connection charges.

The key component of this methodology is the adoption of a cost-revenue test – that is, the connection charge should equal the shortfall between the incremental revenue and incremental cost of the connection.

Jemena Electricity Networks (Vic) Ltd (JEN) consider that the application of the AER's cost-revenue test, in many cases, would lead to incremental revenue exceeding incremental cost and the customer not paying a connection charge. When this occurs, the connecting customer has no financial incentive to minimise their overall connection costs, having regard to the type of connection assets – that is, the customer would most likely ask for underground service connection instead of a cheaper overhead service; or in the case of a business customer, they would most likely ask for a kiosk substation instead of a cheaper pole type substation. There will not be an incentive for real estate developers to minimise the cost of their electricity distribution reticulation, having regard to the location of the development.

Expressed more simply, at a first principles level, in order to encourage economic efficiency, where possible, costs should be recovered from the customer causing those costs, where a direct causality exists and can be clearly established and quantified.

Distribution use of system tariffs recover costs where no clear quantifiable causality link exists to a specific customer—the distribution network is shared and used by all customers. However, there are a number of services provided by DNSPs that do have a clear causality link. These services include new connections, to the extent that the assets in question are to be constructed to serve the new customer connecting to the shared network (as opposed to assets used to upgrade the shared network to which the customer is connecting). JEN's submissions below are grounded in the principle described above.



For this reason, JEN considers the AER’s proposed application of the cost-revenue test cannot be considered as promoting efficient investment in electricity services, as required by the National Electricity Objective. In this regard, JEN considers the connection charge guideline should include a specific design criterion that references the National Electricity Objective, which is “promote efficient investment in, and efficient operation and use of, electricity services for the long term interests of consumers”. Furthermore, JEN believes proposed application is inconsistent with the Chapter 5 A of the National Electricity Rules (NER) when tested against the connection charge principles in clause 5A.E.1. This is further discussed in the section 6.1 of this submission.

The AER proposes not to apply the cost-revenue test to connection works undertaken by third parties in *contestable*¹ environment. This creates unintended consequences to the way connection services are currently offered to prospective customers and developers. This is further discussed in the section 6.2 of this submission.

JEN considers the AER’s proposed cost-revenue test should not be applied to the *premises connection assets* (i.e. the direct connection costs) of customer. The cost-revenue test should only apply to the augmentation² the distribution system (the shared network) necessary to provide *connection service*³ as contemplated in connection charge principles in clause 5A.E. The connection charge principles do not require a revenue test to be applied to the direct connection costs of a *connection service*.

JEN believes the methodology for determining connection charges should be simple to administer and easily understood by prospective customers.

2 Introduction


The Ministerial Council on Energy (MCE) has endorsed the introduction of a new chapter 5A—Electricity connection for retail customers—to the National Electricity Rules (NER). Under Chapter 5A, the AER will be required to develop and publish connection charge guidelines on how Electricity Distribution Network Service Providers (DNSPs) should charge new electricity customers for connecting to their networks.

The National Electricity (Retail Connection) Amendment Rules 2010 (the Rule) enable the introduction of a new chapter 5A to the National Electricity Rules (NER). The chapter deals with matters on electricity connection for retail customers.

¹ *Contestable* having the meaning defined in Chapter 5A of the National Electricity (Retail Connection) Amendment) Rules 2010

² Augmentation having the meaning defined in the National Electricity Law

³ Connection service having the meaning in Chapter 5A of the National Electricity (Retail Connection) Amendment) Rules 2010



Under chapter 5A, the AER is required to develop and publish connection charge guidelines on how Distribution Network Service Providers (DNSP) should charge new electricity customers for connecting to their networks.

DNSPs will be required to develop their connection policies for approval by the AER based on the guideline.

3 Connection charges principle

JEN notes in section 1.3 of the consultation paper the AER sets out the connection charges principles in the new chapter 5A. Whilst the AER retained the defined terms in italics in the principles set out in clauses 5A.E.1 (a) and (b), the rest of the principles do not identify the defined terms in italics. JEN considers these definitions are important when it comes to discussing the connection charges principles because it will lead to connection charges guidelines that reflect the intent of the MCE.

For the purposes of this submission, JEN has presented clause 5A.E.1 showing all the defined terms.

5A.E.1 Connection charge principles

(a) This clause states the *connection charge principles*.

(b) A *retail customer* (other than a *non-registered embedded generator* or a *real estate developer*) who applies for a *connection service* for which an *augmentation* is required cannot be required to make a capital contribution towards the cost of the *augmentation* (insofar as it involves more than an *extension*) if:

(1) the application is for a *basic connection service*; or

(2) a relevant threshold set in the *Distribution Network Service Provider's connection policy* is not exceeded.


Note

In general, the intention is to exclude deep system augmentation charges for retail customers.

(c) Subject to paragraph (b), in determining connection charges in accordance with its connection policy, a Distribution Network Service Provider must apply the following principles:

(1) if an extension to the distribution network is necessary in order to provide a connection service, connection charges for the service may include a reasonable capital contribution towards the cost of the extension necessary to provide the service;

(2) if augmentation of premises connection assets at the retail customer's connection point is necessary in order to provide a connection service,



connection charges for the service may include a reasonable capital contribution towards the cost of the augmentation of premises connection assets at the connection point necessary to provide the service;

(3) if augmentation of the distribution system is necessary in order to provide a standard connection service, connection charges for the service may include a reasonable capital contribution towards the cost of the augmentation necessary to provide the service;

(4) if augmentation of the distribution system is necessary in order to provide a connection service under a negotiated connection contract, connection charges for the service may, subject to any agreement to the contrary, include a reasonable capital contribution towards the cost of augmentation of the distribution system to the extent necessary to provide the service and to any further extent that a prudent service provider would consider necessary to provide efficiently for forecast load growth;

(5) despite subparagraphs (1) to (4) if augmentation of the distribution system is necessary in order to provide, on the application of a real estate developer, connection services for premises comprised in a real estate development, connection charges for the services may, subject to any agreement to the contrary, include a reasonable capital contribution towards the cost of augmentation of the distribution system to the extent necessary to provide the services and to any further extent that a prudent service provider would consider necessary to provide efficiently for forecast load growth;

(6) however, a capital contribution may only be required in the circumstances described in subparagraphs (1) to (5) if provision for the costs has not already been made through existing distribution use of system charges or a tariff applicable to the connection.

(d) If:


(1) a connection asset ceases, within 7 years after its construction or installation, to be dedicated to the exclusive use of the retail customer occupying particular premises; and

(2) the retail customer is entitled, in accordance with the connection charge guidelines, to a refund of connection charges; the Distribution Network Service Provider must make the refund, and may recover the amount of the refund, by way of a connection charge, from the new users of the asset.

(e) For the purposes of paragraph (d), a person is taken to be a new user of a *connection asset* if the asset comes to be used to provide a *connection* to that person's premises

(f) For the purposes of this clause capital contribution includes a prepayment or financial guarantee.

Expressed more simply, at a first principles level, in order to encourage economic efficiency, where possible, costs should be recovered from the customer causing



those costs, where a direct causality exists and can be clearly established and quantified.

Distribution use of system tariffs recover costs where no clear quantifiable causality link exists to a specific customer—the distribution network is shared and used by all customers. However, there are a number of services provided by DNSPs that do have a clear causality link. These services include new connections, to the extent that the assets in question are to be constructed to serve the new customer connecting to the shared network (as opposed to assets used to upgrade the shared network to which the customer is connecting). JEN's submissions below are grounded in the principle described above.

4 Typical connection works


The AER considers that a typical connection can be separated into three separate components and to reduce confusion the AER seeks to settle on a robust definition of each component. They are:

- **Direct Connection Assets** — These are the premise's connection assets which run from the connection point to the point of supply and where applicable also include the consumer mains.
- **Extensions** — An augmentation that requires the connection of a power line or facility outside the present boundaries of the transmission or distribution network owned, controlled or operated by a Network Service Provider.
- **Augmentation** — Augmentation of a transmission or distribution system means work to enlarge the system or to increase its capacity to transmit or distribute electricity, caused by the need to connect a customer. Only new customers with capacity level above the threshold level set by the AER are required to pay for their augmentation cost.

As network extensions are a subset of an augmentation, the AER considers that an additional definition is needed to distinguish capacity augmentations from extensions. It is:

- **Shared Network Augmentation** — Augmentation of a transmission or distribution system to increase its capacity to transmit or distribute electricity. This is all augmentations other than extensions to the transmission or distribution system to extend the area of coverage.

JEN believes there is no need to settle on a "robust definition", because the definitions relevant for a connection charges guideline are already defined in the NEL, NER and chapter 5A. The definitions relevant for a connection charges guideline are:



augmentation of a transmission or distribution system means work to enlarge the system or to increase its capacity to transmit or distribute electricity. [NEL definition]

extension – An *augmentation* that requires the *connection* of a power line or *facility* outside the present boundaries of the *transmission* or *distribution network* owned, controlled or operated by a *Network Service Provider*. [NER definition]

distribution system – A *distribution network*, together with the *connection assets* associated with the *distribution network*, which is connected to another *transmission* or *distribution system*. *Connection assets* on their own do not constitute a *distribution system*. [NER definition]

connection assets – Those components of a *transmission* or *distribution system* which are used to provide *connection services*. [NER definition]

connection service means either or both of the following:

(a) a service relating to a *new connection* for premises;

(b) a service relating to a *connection alteration* for premises. [Chapter 5A definition]

premises connection assets means the components of a distribution system used to provide *connection services*. [Chapter 5A definition]


It is not clear to JEN as to why the AER is seeking to redefine definitions that are already in the NEL, NER and chapter 5A. From JEN's perspective, it is clear from the above definitions that 'extension' is a subset of 'augmentation'. JEN considers that there is no need to have an additional definition to distinguish capacity augmentations from extensions.

Chapter 5A was developed having regard to the definitions in the NEL and chapter 10 of the NER. JEN suggests the AER do not make a new definition if there is already a definition because it may give rise to unintended consequences.

The AER has set out additional definitions in appendix A of the consultation paper. Amongst the definitions, there is a definition for 'Direct Connection Assets'. JEN suggests the AER's term 'Direct Connection Assets' be replaced with "**premises connection assets**" given the definition already defined.

The AER may provide a supplementary clarification to premises connection assets by stating "The AER considers the relevant components for the purposes of the connection charges guideline are those assets that are between the connection point and the supply point".

JEN does not believe there is a need for an additional definition for 'Shared Network Augmentation', given *augmentation* is already a defined term.



It may be beneficial to define what a 'shared network' is, considering the AER is proposing a definition for 'dedicated connection assets' in appendix A.

For consistency, the definition for 'dedicated connection assets' in appendix A should refer to defined terms in chapter 5A. JEN suggests:

Dedicated Connection Assets – means *premises connection assets* and *extensions* as the case may be.

5 AER design criteria and considerations


Based on the purpose of the connection charge guideline outlined in chapter 5A clause 5A.E.3 (b), the AER has adopted the following design criteria in developing the connection charge guideline:

1. Where possible, the connection charge should be reflective of the actual cost for providing the network extension attributed to the individual customers.
2. Where suitable alternative service providers for construction works are available, the DNSP's charge should be reflective of the market price; where no alternative service providers are available, DNSPs must charge at a reasonable rate, which is reflective of the market price.
3. Any cross subsidies between new and existing customers should be minimised. However, minimising cross subsidies should not be pursued at the expense of undue administrative costs.
4. Customers should not experience a large step change in capital contributions if they fall above or below the threshold for charging for shared network augmentation.

JEN believes the above criteria is consistent chapter 5A clause 5A.E.3(b), noting the fourth criteria does not exist in chapter 5A. Notwithstanding this observation, JEN supports proposition that customers should not experience a large step change in capital contributions if they fall above or below the threshold as contemplated in clause 5A.E.1(b).

With respect to criterion 1, the AER considers that, unless the administrative cost out-weighs the need to provide a user-pays signal, a connection charge should be reflective of the actual cost attributed to the individual customers. JEN supports this criterion especially the user-pays principle.

Criterion 2 states "where no alternative service providers are available, DNSPs must charge at a reasonable rate, which is reflective of the market price". How does this work when there is no market? The AER may wish to reconsider the wording of this criterion.



With respect to criterion 2, the AER considers a DNSP should either price its connection service at the market price, or engage independent service providers to provide the service to customers. JEN supports this principle. Moreover, it believes the best way for a DNSP to demonstrate its prices are competitive, is to offer the customer the choice to conduct their own tender process and select an accredited service provider for the connection works or requests the DNSP to conduct a tender process for a tender fee. In Victoria, DNSP's are required to offer contestability options, where the connection prices have not been approved by the AER.

With respect to criterion 3, JEN believes cross subsidies between new and existing customers should be minimised. JEN strongly supports this criterion and notes clause 5A.E.3 (b) (3) states that the purpose of the guidelines is to ensure that connection charges "limit cross-subsidisation of connection costs between different classes (or subclasses) of retail customer".

Criterion 4 is about the AER's believe that customers should not experience a large step change in capital contributions if they fall above or below the threshold for charging for shared network augmentation. JEN notes this criterion does not exist in Part E of chapter 5A, which sets out the connection charges rules. Notwithstanding this observation, JEN supports the proposition that customers should not experience a large step change in capital contributions if they fall above or below the threshold.


Clause 5A.E.3 (b) (4) explicitly states that "if the connection services are contestable – are completely neutral". JEN considers a *contestable* environment ensures that the cost of connection works is efficiently priced and therefore should be explicitly listed as a criterion in developing the connection charge guideline.

Finally, JEN considers the connection charge guideline should also include a specific design criterion that is referenced to the National Electricity Objective, which is "promote efficient investment in, and efficient operation and use of, electricity services for the long term interests of consumers".

6 Method of determining capital contribution (cost-revenue test)

In Victoria, the general rule is that customers will pay upfront for basic connection services – that is, the installation of premises connection assets. These basic connection services are routinely provided to customers. The capacity of these connections is below 100 Amps (~ 70kVA). These service connections are either overhead services (as depicted in figure 1.1 in appendix A) or underground services connected from the meter position to a service pit as shown in figure 1.2 in appendix A of the consultation paper.

The AER has classified these routine connection services as alternative control services and the have approved connection charges as part of the Victorian



electricity distribution determination. The charge covers the DNSP's reasonable costs incurred in providing the connection service. In prior years, these basic connection services were considered as excluded services by the ESCV, with approved charges.

The majority of supply connections are below 100 Amps. About three percent of JEN's supply connections have current transformer metering. Generally, supply connections above 100 Amps require transformer metering. This informs us that the majority of connected customers have basic connections and that connection charges are paid upfront. Their connection service costs were not subjected the cost-revenue test.

If a cost-revenue test were to apply to future basic connection services, the test would not have yielded an upfront capital contribution charge. This is because the NPV of the incremental DUoS revenue over a 30-year period would far exceed the cost of the connection service.

6.1 AER's preliminary position on determining the connection charge

In section 5.3 of the consultation paper, the AER notes:

"The AER's preliminary position is that all costs incurred by the DNSP, including direct connection, extension, shared network augmentation and an allowance for the additional operating and maintenance costs should be compared against the anticipated DUoS revenue from the customer. An upfront capital contribution would only be required to the extent that the customer's DUoS payment is less than their incremental cost."


JEN does not agree with the AER's preliminary position that direct connection costs should be subjected to the cost-revenue test. Applying the cost-revenue test to direct connection costs of basic fees will amount to cross-subsidisation of connection costs between existing and new customers. The AER acknowledges this by noting (on page 14):

"Changing the DUoS and capital contribution would create equity issues between new and existing customers."

Given the majority of the existing customer connections (about 97%) are below 100 Amps, subjecting the direct connection cost of these basic services to the cost-revenue test will be inconsistent with AER's own criterion three and the clause 5A.E.3 (b) (3) – which states, "the purpose of the guidelines is to ensure the connection charges limit cross subsidisation of connection costs between different classes (or subclasses) of *retail customers*".

Clause 5A.E.1 (b) states:

(b) A *retail customer* (other than a *non-registered embedded generator* or a *real estate developer*) who applies for a *connection service* for which an *augmentation* is required cannot be required to make a capital contribution



towards the cost of the *augmentation* (insofar as it involves more than an *extension*) if:

- (1) the application is for a *basic connection service*; or
- (2) a relevant threshold set in the *Distribution Network Service Provider's connection policy* is not exceeded.

Note

In general, the intention is to exclude deep system augmentation charges for retail customers.

JEN considers clause 5A.E.1 (b) seeks to ensure a retail customer who applies for a connection service for which an augmentation is required cannot be required to make a capital contribution towards the cost of the *augmentation*. It clarifies the application is for a *basic connection service*. To avoid doubt, it notes the intention is to exclude deep system augmentation charges for retail customers. JEN has no issues with clause 5A.E.1 (b), but it has issues with the AER's intention to apply the cost-revenue test to *basic connection services*.

It is not clear to JEN as to how the AER came to this conclusion that the cost of *basic connection services* assets must be subject to the cost-revenue test given the explicit principles stated in clause 5A.E.1(c).

Clause 5A.E.1(c) exclusively deals with capital contribution in relation to:

- an *extension* to the distribution network
- an *augmentation of premises connection assets* augmentation of the *distribution system*
- an *augmentation of the distribution system* is necessary in order to provide a standard connection service

In the NEL or the NER as the case may be the terms augmentation, extension and distribution system are all defined:

augmentation – Augmentation of a transmission or distribution system means work to enlarge the system or to increase its capacity to transmit or distribute electricity [emphasis added]

extension – An augmentation that requires the connection of a power line or facility outside the present boundaries of the transmission or distribution network owned, controlled or operated by a Network Service Provider

distribution system – A distribution network, together with the connection assets associated with the distribution network, which is connected to another transmission or distribution system. Connection assets on their own do not constitute a distribution system

Clause 5A.E.1(c) (2) states:

“if *augmentation of premises connection assets* at the retail customer's connection point is necessary in order to provide a connection service, connection charges for the service may include a reasonable capital contribution towards the cost of the *augmentation of premises connection assets* at the connection point necessary to provide the service”

It refers to *augmentation* of premises connection assets – that is, enlarging or increasing the capacity of the premises connection assets that is already there. Where a customer requests such an *augmentation* of the *premises connection assets*, they may include a reasonable capital contribution – which means, the cost of the *augmentation of premises connection assets* can be subjected to a cost-revenue test – but not if it is a request for a new connection asset.

Under the scenario contemplated in clause 5A.E.1(c)(2), JEN believes the customer must pay the full cost of the *augmentation of premises connection assets* plus any capital contribution attributable to the *augmentation* of the shared *distribution system* and the extension (if any).

Clause 5A.E. (c) (5) states:

(5) despite subparagraphs (1) to (4) if *augmentation of the distribution system* is necessary in order to provide, on the application of a *real estate developer*, *connection services* for premises comprised in a *real estate development*, *connection charges* for the services may, subject to any agreement to the contrary, include a reasonable capital contribution towards the cost of *augmentation of the distribution system* to the extent necessary to provide the services and to any further extent that a prudent service provider would consider necessary to provide efficiently for forecast load growth;

Again this clause explicitly states that if *augmentation of the distribution system* is necessary, then a DNSP may include a reasonable capital contribution towards the cost of *augmentation of the distribution system* to the extent necessary to provide the services. It does not in any way imply the cost of developing the electricity distribution infrastructure in the subdivision of the real estate developer should be offset by the DUoS revenue. The costs associated with the design and construction of the electricity reticulation in a real estate development should not be subject to a cost-revenue test – only the works associated with *augmentation of the distribution system*.

AER's preliminary position is that a cost-revenue-test will be applied in the form of:

$$CC = ICCS + ICSN - IR \quad (n=X)$$

Where:

CC = Capital Contribution

ICCS = Customer specific incremental costs incurred by the DNSP

ICSN = Incremental costs in the upstream (shared) network directly attributable to the new connection, where applicable

IR (n=X) = Present value of a X year revenue stream directly attributable to the new connection

The AER considers it appropriate that an additional constraint be placed on this formula that $CC \geq 0$.

JEN considers the above cost-revenue test should not be applied to the premises connection asset (i.e. the direct connection costs) of customer or in the case of a real estate developer, the cost of developing the electricity distribution infrastructure in the subdivision.

JEN proposes the connection charge calculation be:

$$CC = ICCS + [ICSN - IR (n=X)]$$

Where:

CC = Connection Charge

ICCS = Customer specific incremental costs

Capital Contribution = $ICSN - IR (n=X)$, with an additional constraint be placed on this formula that $[ICSN - IR (n=X)] \geq 0$.

ICSN = Incremental costs in the upstream (shared) network directly attributable to the new connection, where applicable


IR (n=X) = Present value of a X year revenue stream directly attributable to the new connection

We believe our proposed methodology is consistent with the principles of clause 5A.E.1.

6.2 Application of cost-revenue test to in a contestable environment

On page 15 of the consultation paper the AER states:

“The AER's preliminary view is that the cost-revenue-test should be applied only on the costs incurred, and revenue received, by the DNSP. Where the costs are borne by a third party, they should not feature in the cost-revenue-test. Otherwise, the AER considers a customer would always seek the DNSP to perform the works given that the DUoS payment would offset the cost of the project, whereas if an accredited service provider undertook the works, the customer would pay the full cost to that provider in addition to DUoS payment to the DNSP. The AER considers that not including competitive services in the



cost-revenue-test is more likely to facilitate competitive neutrality of contestable services in accordance with the purposes of the guideline.”

In practical application of the AER’s preliminary position is to that when a customer (or a real estate developer) elects to contest the works – that is, they engage a third party to undertake the connection works and incur the costs – the cost-revenue test will not apply. In other works the customer does not stand to receive a discount on the cost of their connection works because invariably the incremental revenue exceeds the incremental cost of augmenting the shared network.

However, if the customer was to choose not to contest the works, and the DNSP is required to apply the cost-revenue test and the result would be a lower connection charge or none at all.

JEN considers this approach would encourage customers and developers to nearly always obtain that service from the DNSP, as this is the only way they can get the connection cost included in the cost-revenue test and therefore obtain a reduction in the cost of those works. This approach has the potential to create significant resourcing issues for DNSPs in a market where there is a significant penetration of third parties providing these services (as is the case in Victoria and NSW). There appears to be only a small difference in the contestability environment between NSW and Victoria – that is, basic overhead service connections (less than 100 Amps) are not contestable in Victoria.

JEN believes the AER’s preliminary view is inconsistent with connection charge guideline clause 5A.E.3 (b) (4), which states:


“if the connection services are contestable – are competitively neutral”

To facilitate competitively neutrality, JEN believes the cost-revenue test should apply regardless of the customer’s decision on their contestable options.

JEN notes the contestability issues identified above can be avoided if the cost of *premises connection assets* and *extensions* were to be based purely on the incremental cost that is customer specific (ICCS) – that is, if the incremental revenue were to be removed from the connection charges calculation. This approach is administratively simple, fully transparent to the customer, and if the connection service is contestable, then the connecting customer or developer can simply engage a third party to undertake that connection works, if it is economically efficient for them to do so.

7 Incremental revenue

The cost-revenue-test relies upon an estimation of the incremental revenue that a DNSP will receive from the connecting customer. The AER considers that the four primary issues to consider in determining the appropriate estimate of total revenue to use in the cost-revenue-test are: the appropriate measure of revenue; the appropriate time period over which to assume revenue for a particular connection



is earned by the DNSP; the price path to assume beyond the current distribution determination and; the appropriate discount rate to use for calculating the net present value of the future revenue stream.

7.1 Appropriate measure of revenue

The AER considers that the measure of revenue used in the cost-revenue-test should be consistent with the costs which it will offset. Accordingly, the AER considers that DUoS is the appropriate measure of revenue to use because it compensates DNSPs for these costs. JEN agrees with the AER proposal to use DUoS in the cost-revenue-test.

JEN notes the AER proposes that its cost-revenue test will apply to all capital and operational and maintenance costs borne by the DNSP due to the connection of the new customer. JEN does not support the test being applied to direct connection assets. Refer to discussions in section 6.1 of this submission.

7.2 Appropriate time period

The AER considers that the cost-revenue-test should include an assumption about future revenue that reasonably reflects the period over which a DNSP will receive revenue from the connection. The AER's initial view is that a default assumption for residential customers connecting for 30 years and business customers connecting for 15 years may be appropriate.

Due to the greater variance in the nature of business connections, the AER considers that DNSPs and business customers should have the flexibility to vary the assumed connection period taking into account the circumstances of the new connection.

JEN supports the AER's initial default assumption connection periods as being reasonable and welcomes the flexibility to vary the assumed connection period for business customers. If there is a risk that the connection period may be shorter, the DNSP can mitigate the risk by asking for a security deposit.

7.3 Appropriate price path

The calculation of incremental revenue requires an assumption to be made regarding the price path of DUoS. For the period until the end of the current distribution determination this price path is reasonably clear. However, it becomes more difficult to accurately estimate the revenue the customer will be contributing after the active distribution determination. The AER has identified four price paths to follow in subsequent periods are:

1. Continue the current price path indefinitely
2. A historical average growth rate
3. Trend prices in line with CPI

4. Flat price path

JEN does not support the continuation of the current price path indefinitely. It considers the other three paths as reasonable paths for the in subsequent periods. However, the historical average growth rate price path would mean each DNSP would have to determine this average. JEN considers a flat price path or a CPI adjusted price provides definitive and consistent application across all DNSPs nationally.

8 Incremental cost

Generally, a connection can be broken into three separate components being the direct connection costs, the extensions and the shared network augmentation. The AER notes:

“Under clause 5A.E.3(c) (5) of the NECF, the AER’s guideline must “describe the methods for calculating the augmentation component for the connection assets and, if the augmentation consists of, or includes an extension, the extension component of a connection charge”.”

8.1 Direct connection assets cost


In section 7.1 of the consultation paper, the AER notes:

“Generally the costs associated with direct connection assets are easily identifiable and attributable to an individual customer. Hence, this cost element should be included in setting the connection charge. Where the service is classified as standard control, the charges for direct connection assets should be based on the efficient costs of providing the required service in accordance with the form of control applied by the AER in a distribution determination.”

JEN agrees with the above and would like to add that where the service is classified as an alternative control services, the charges for direct connection assets in Victoria have been approved by the AER in the Victorian electricity distribution determination. We understand that in NSW, the services are contestable and consequently no charges have been approved.

8.2 Extension cost shared network augmentation cost

The AER’s initial view is that the full cost of an extension should be funded by the customer which requires the extension, subject to a cost-revenue-test and rebate scheme. JEN considers this view is consistent with the clause 5A.E.1(c)(1) which states “if an extension to the distribution network is necessary in order to provide a connection service, connection charges for the service may include a reasonable capital contribution towards the cost of the extension necessary to provide the service”.



With respect to establishing a competitive market price for extension works, JEN supports a requirement to offer contestability options to the customer because it ensures efficient prices. In fact this is a requirement under the ESCV's Guideline No.14. In practice, JEN offers the following options in its connection offer:

- customer accepts JEN's fixed connection price; or
- customer chooses to contest the works by conducting its own tender; or
- customer requests JEN to conduct a tender process for a tender fee.


Generally, customers are capable of deciding for themselves if the extension work is significant enough to warrant testing the market. The fee for conducting a tender process can range from \$4000 for it to be conducted through a preferred tender panel or as high as \$8,000 for an open tender. The cost of preparing the tender documents can be expensive. In JEN's opinion, the AER's proposed threshold of \$3000 for performing the works seems too low. After applying the cost-revenue test, the customer contribution may be very low. JEN suggests the concept of setting a threshold be applied to the customer contribution and not the cost of performing the works. As a minimum, the customer contribution threshold should be set at \$5000. Another alternative would be, in place of a \$5000 capital contribution threshold, JEN proposes the AER require the DNSPs to publish its tendering policies including costs/rates for conducting a tender process. This would provide sufficient information on conducting a tender to enable a customer to reasonably judge the cost-effectiveness of a tender.

AER proposal that DNSPs should use pre-established period (standing) contract prices from qualified third party contractors as the basis for cost calculation for works below a threshold. JEN supports this proposal, but considers the DNSP's should specify the threshold amount having regard to the DNSP's costs/rates for conducting a tender process.

8.3 Shared network augmentation cost

Under chapter 5A, the AER must set a threshold below which customers will not pay for specific shared network augmentation. The AER considers that shared network augmentation costs should be met by the connecting customers where relevant.

In section 7.3.4 of the consultation paper, the AER considers three approaches to determining the incremental cost of augmenting a shared network. The AER's preliminary view is to adopt a unit rate charge approach to calculate shared network augmentation charge. Moreover, the AER is of the view that the shared network augmentation charges should only be applied to a customer's peak demand in excess of the shared network augmentation threshold level.



JEN supports the AER's preliminary view of adopting a unit rate charge approach to calculate the shared network augmentation charge. Moreover, JEN believes the unit rate charge be on the basis of \$ per kVA.

The AER's preliminary view is that the rate should be based on average recent project shared network augmentation costs for an area as outlined in the South Australia, Guideline No. 13. The guideline requires standard unit cost to be determined through consideration of the augmentation costs associated with four components:

- sub-transmission lines
- substation
- high voltage feeder exit; and
- high voltage feeder.

The guideline requires the four component unit costs will then be added to give an aggregate average unit cost for all augmentation in the metropolitan area.


JEN believes the proposed methodology (i.e. the South Australian methodology) can be improved to provide better locational signals.

It is noteworthy that in section 4.4 of this consultation paper, the AER succinctly states that:

“it considers that it would be unreasonable that the customer who happens to trigger the shared network augmentation should pay the full cost of this augmentation. Rather each customer who connects to the network should contribute an amount towards the cost of shared network augmentation reflective of the load they place on the network. Hence, the AER considers the shared network augmentation charge should be based on the per unit usage of each new customer, above the shared network augmentation threshold.”

Given the majority of the connections occurs at low voltage mains level and at distribution substation exit points, JEN's current approach of segmenting the distribution system into five network components is worthy of consideration. The network segments are:

- sub-transmission line
- zone substation
- high voltage feeder
- distribution substation
- low voltage mains



The incremental upstream network cost is calculated by adding together the unit costs of the upstream segments from the point of connection including the unit cost at the connection point. This methodology provides a locational signal, and minimises cross subsidisation of connection costs between different classes of customers.

For example, consider a medium size connection at the exit point of a distribution substation. The incremental cost of the shared network would be the sum of the unit costs of the sub-transmission, zone substation, high voltage feeder and distribution substation. For a smaller connection that is above the set threshold, incremental cost of the shared network will be the sum of all five unit rates. This approach ensures that the customers who trigger the shared network augmentation at the distribution substation and low voltage mains levels do not have pay the full cost of augmentation.

The same approach would be used to determine the incremental cost of the shared network a very large (e.g. shopping centre) connected at the zone substation (which is the same as connection at the high voltage feeder exit). The incremental cost of the shared network would be the sum of the unit costs of the sub-transmission and zone substation. If the connection is made at the high voltage feeder, then the incremental cost of the shared network will include an additional network segment, being the high voltage feeder segment.

Our project planners easily perform these calculations in Excel specifically modelled for the calculation of customer connection charges.


The South Australian Guideline No. 13 shows how the unit rate for the 66 kV sub-transmission network is calculated. For each of the other network segments, the most recent augmentation expenditures can be used to determine the unit rates. JEN thinks the approach advocated in the guideline is reasonable.

8.4 Operational and Maintenance (O&M) cost

In section 7.3.4 of the consultation paper, the AER notes that its preliminary view is that the operations and maintenance cost should be based on the current network average for each class of customers. This is because AER is proposing to use DUoS to calculate the incremental revenue and DUoS is used to recover both capital and operation and maintenance costs. Otherwise, the future operation and maintenance costs contributions from the new customer would be used to subsidise their connection cost.

Given this preliminary view, the AER asks the question: what is the most appropriate manner to calculate the operation and maintenance costs imposed by a new customer?

JEN believes the operation and maintenance costs should be calculated as a percentage of the incremental DUoS revenue of the new connection. The percentage should be based on the total forecast opex and total annual revenue



requirements set out in the AER's final determination in the latest relevant electricity distribution price review.

9 Capacity threshold for shared network augmentation charge

9.1 Setting threshold for shared network augmentation charge

The AER proposes to set the demand threshold at the higher of either:

- the level of customer demand in each DNSP's network that would result in approximately 10 per cent of new customers paying for specific shared network augmentation (based on existing customer demand information); or
- 70 kVA (equivalent to 100 Ampere 3-phase low voltage supply);

JEN supports the proposed demand threshold as JEN agrees with the AER's assessment that these threshold levels of demand are substantially less than the typical network capacity of a DNSP's network. Hence, the AER considers that these thresholds meet the chapter 5A requirements of:


- the connection is a low voltage connection
- the connection would not normally require shared network augmentation of the network beyond the extension to the distribution network necessary to make the connection
- the connection is not expected to increase the load on the distribution network beyond a level the DNSP could reasonably be expected to cope with in the ordinary course of managing the distribution network.

JEN welcomes the AER's proposal to provide flexibility to the DNSPs to nominate a different threshold in less developed parts of the network.

Additionally the AER proposes a default threshold on SWER lines of 25 KVA. This threshold may not suit all networks and so the AER proposes to allow DNSPs to vary from this default value, if they can satisfy the AER that a different value is more appropriate.

JEN agrees with the AER's preliminary view that it will be difficult to verify and enforce a customer's peak coincident demand and therefore the threshold should be a set based on peak demand.

The AER preliminary view is that the approach outlined in ESCOSA's Guideline No. 13 is a fair and practicable approach for estimating peak demand that should be adopted.



“In South Australia, it is the customer’s responsibility to specify its maximum demand, however, the customer must satisfy ETSA Utilities that its estimate is reasonable. If the customer does not have the necessary data, ETSA Utilities will estimate the demand based on its experience of existing customers with similar characteristics. When agreement cannot be reached, a provisional value will be used. After three years the appropriate demand value will be reconsidered and there is a corresponding refund or additional charge based on it and the actual DUoS charges. “

JEN considers the South Australian approach is a reasonable approach to estimating peak demand.

9.2 How to charge for shared augmentation

JEN supports the AER preliminary view that a customer who is required to pay for shared network augmentation, would pay for shared network augmentation on the amount of their peak demand that is above the shared network augmentation threshold.

9.3 Shared network augmentation charges to embedded generators

The AER seeks comments on its proposal that embedded generators should fund specific network shared network augmentation to remove constraints on their outputs due to limits of the existing network.

JEN supports the AER’s preliminary view.


10 Other Issues

10.1 Prepayments

The AER considers that any prepayment is largely a commercial matter for agreement between the two parties. As such, the AER proposes that its connection charge guideline will provide DNSPs with a degree of discretion in deciding whether to require the prepayment of a capital contribution and the amount of any prepayment.

However, JEN is concerned with the AER’s intention to limit the prepayment to a defined percentage of the capital contribution.

The current practice is to provide an estimate of the connection charge free of charge to the connection applicant. If the customer decides to proceed to a firm connection offer, then JEN requests full prepayment of the costs of design, administration and site survey including the cost of ascertaining the level of spare capacity in the network. This cost is generally small in comparison to the actual project cost. Prepayment is important because if the customer decides not to proceed with the connection, the recovery of costs already spent may become problematic resulting in high administrative cost of the connection process.



JEN believes when a customer decides to accept the connection offer, the DNSP should be allowed to require full prepayment of the costs it would incur for the connection project. For small projects, full prepayment of the capital contribution should be allowed in the interest of administrative efficiency.

JEN notes the AER's concern that requiring the full capital contribution upfront may not be reasonable especially if the connection is large. This concern can be addressed dividing a large connection project into a number of construction stages in consultation with the customer or a real estate developer.

The DNSPs should not be obligated to commence procurement of material and begin construction before it receives full prepayment of the connection stage. Otherwise, the DNSP will be exposed to the risk of not recovering its costs if the customer (or a developer) experiences financial difficulty.

To date, JEN has not experienced any issues with its policy of full prepayment of the connection costs, because customers (or developers) are free to decide on the staged development of the connection. Customers understand that if small or some medium size connection is unduly broken into too many stages, it will attract undue administrative costs.

10.2 Security fee (financial guarantee) scheme


Financial guarantees or security fee schemes insure DNSPs against the risk of failing to collect the total incremental revenue estimated with regard to a connection offer. It is worth noting that total incremental revenue is a best estimate. There is equal chance of the estimate being under or over the actual revenue.

JEN's current connection policy reserves the right to ask for a security fee. Security fees are only required if JEN considers there is a risk of not collecting the revenue. For example, if a connection applicant says that they intend to operate their manufacturing equipment above the average consumption level in a particular tariff class, then JEN may seek a security deposit – for example, 24 hours operation per day and/or 7 days a week. JEN believes there are circumstances where there is a real risk of significantly under collecting the total incremental revenue estimated with regard to a connection offer. For that reason, JEN supports DNSPs having the option to implement security fee schemes.

JEN supports the AER's intention to adopt security fee principles similar to those set out in the ESCV's Guideline No. 14 with appropriate modification as noted in the consultation paper.

10.3 Refund of connection charges for extension assets

JEN notes that chapter 5A rebate scheme will only apply when an extension asset is used by subsequent customers within seven years of installation. JEN welcomes the AER's preliminary position is that the DNSP should have a high



degree of flexibility in developing their own rebate scheme having regard to equity, the extent of any extension required and the capacity used by subsequent customers.

The AER is proposing the calculation of the rebate to be paid under this rebate scheme should be calculated on the depreciated value of the assets to which it applies. The AER notes:

“The amount of a rebate to be paid under the rebate scheme should be calculated on the depreciated value of the assets to which it applies. Although, for the purpose of the rebate scheme, depreciating the asset over seven years (the period which the rebate scheme operates across) would reduce the step change in the cost borne between customers connecting in year seven or in year eight, the assumed depreciation would not be reflective of the true value of the assets after seven years. Depreciating the asset over a period of seven years would also result in the first connecting customer receiving substantially less value than the original cost. However, depreciating the asset over its useful life—typically 40 to 60 years—may create a different impediment to investment, where a subsequent connecting customer would have a greater incentive to not connect to an extension until year eight when the rebate scheme is no longer operational. Therefore, the AER’s preliminary view is that, for the purposes of calculating the amount of a rebate, the extension assets could be depreciated over 20 years. This may better balance the incentives and possible investment impediments between the original customer requiring an extension and subsequent customers.”

JEN considers that the matters described above are overly detailed and detract from other first principle matters that are much more important to the issue of determining appropriate rebates.

Application of a rebate scheme is complex. Take the example of a first customer who funds the network extension of 500 metres from the connection point of a distributor’s distribution system. The asset remains a direct connection asset for a period of two years and a second customer connects to the network extension at a distance of 200 metres from the original point of extension. The most equitable method of calculating the refund to the first customer is to calculate what would be the first and second customers’ share of the capital contribution of the network extension if they have applied for the connection services together. It would involve consideration of the location points of the two customers, the extent of sharing of the network capacity of the extension assets and the time value of money.

If a third customer was to connect at a different point of the extension at a later time, then the calculation had to be repeated to determine, the rebated payable to the first and second customer.

JEN considers the AER should not prescribe the depreciating period for calculating the refund of connection charges for extension assets. Instead it should provide the DNSPs with flexibility and list the matters that DNSPs should take into consideration in determining the rebate payments. In this regard, JEN favours the

level of guidance provided in the ESCV's Guideline No. 14, in particular, clause 3.4.2

“ If a **distributor** is to undertake **new works and augmentation** as part of the **connection services** the **distributor** is offering to provide to more than one **customer** (in this clause 3.4, a **group extension**), whether in response to a request those **customers** have collectively made or to requests each has separately made, the **distributor** must offer a price to each of the **customers** that has been determined on the basis set out in clauses 3.2 and 3.3 but adapted as the **distributor** may determine is fair and reasonable having regard to the principle that each **customer** should contribute equitably to the capital cost of the **new works and augmentation**.”

11 Appendix A – Definitions of supply from overhead distribution mains, figures 1.1 and 1.2

Figure 1.1 shows the supply points and connection points where the supply is from overhead distribution mains. JEN agrees with the depictions, except that the supply point is deemed to be at the property boundary, where the connection is via an underground service cable.

In Victoria, the service pits are located in the footpath on the road reserve. The pits are generally installed adjacent to the customer's property boundary. The connection point is at the pit as shown in figure 1.2. However, the point of supply is deemed to be at the property boundary. Consequently, JEN does not support the definition as shown in figure 1.2(a) nor does it support the support the supply point shown at the meter position.

The term 'consumer's mains' signifies the portion of the supply cable that is owned by the customer and it is their responsibility to maintain it. The term 'service' signifies the portion of the supply cable is in owned and maintained by the DNSP.