

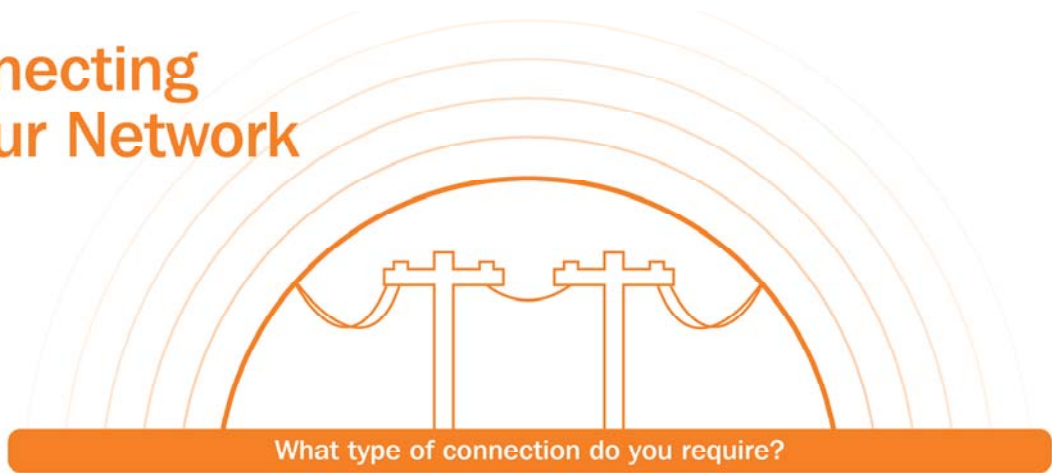
Connection Policy – Connection Charges

CEOP2513.06

April 2018



Connecting to our Network



Who funds the connection?

- B** Urban and rural customers who exceed the relevant threshold will be required to fund any augmentation
- B S N** Customers are required to fund their connection assets and any dedicated network extensions
- B S N** Fees and charges may apply in accordance with Essential Energy's approved ancillary network services fee schedule. Pioneer Scheme payments may also apply
- S N** Real estate developments and non-registered embedded generators will be required to fund any augmentation
- N** Negotiation fees may be required Financial Guarantee may be required

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1. Introduction

This document is Essential Energy's Connection Policy.

This connection policy takes into account customer and stakeholder feedback received as part of Essential Energy's 2019-24 customer and stakeholder engagement plan. The policy strengthens affordability and supports the objective of the National Electricity Rules (*NER*) to move towards cost reflective pricing and to remove cross subsidisation. The policy sets out the circumstances in which Essential Energy requires a *retail customer* or *real estate developer* to pay the cost of connecting their premises or development to the Essential Energy *network*. The costs are also known as connection charges for the provision of connection services under Chapter 5A of the *NER*.

A connection charge can be a fee payable to Essential Energy for a service, such as an inspection, or it could be a financial guarantee where Essential Energy has carried out an *augmentation* to its *network* or a combination thereof.

This policy has been prepared to be consistent with the following regulatory instruments, which regulate the fees and charges that Essential Energy can require a customer to pay:

- > The connection charge principles set out in Part E – Connection Charges, of Chapter 5A of the *NER*,
- > Part DA – Connection policies, of Chapter 6 of the *NER*,
- > The Australian Energy Regulator's (*AER*'s) Connection charge guidelines for electricity *retail customers*, under Chapter 5A of the *NER* (Connection Charge Guidelines), and
- > The *AER*'s determination for the 2019-24 regulatory control period in relation to the fees that Essential Energy can charge for ancillary network services and metering services for type 5 and 6 meters.

Note:

This policy does not apply to connections to Essential Energy's *network* by registered participants or intending registered participants in the wholesale market. These connections are covered by the provisions of Chapter 5 Network Connection of the *NER*.

1.1 General approach to funding connections

The fees and charges payable by a customer in order to connect to Essential Energy's *network* fall into two categories:

1. Third party fees and charges which relate to the services provided by Accredited Service Providers (*ASP*) and other third parties in relation to the provision and installation of *network* infrastructure; and
2. Essential Energy's fees and charges for connection services provided by Essential Energy.

A brief description of these fees and charges is set out below.

1.1.1 Third party fees and charges

The third party fees and charges are not payable to Essential Energy and therefore are not connection charges. They have been included in the connection policy to assist the customer to understand the scope of charges the customer may incur in establishing a connection to Essential Energy's *network*.

Contestable services provided by Accredited Service Providers

As a general rule, the services required to establish a customer's connection to Essential Energy's *network* are undertaken by Accredited Service Providers (*ASP*) and are known as *contestable* services. This means customers must fund the costs of *connection works* (i.e. make capital contributions), which include the following costs associated with establishing a new or altered connection of their installation or development to Essential Energy's *network*.

- > The costs of providing and installing the necessary *premises connection assets* at the customer's connection point or point of supply and also within the customer's electrical installation, and

- > The costs of providing and installing a dedicated *extension* from the connection point up to a defined point of connection on Essential Energy's existing *network* known as the *linkage point*.

The capital contributions payable by the customer for these *contestable* services are not specified in this Policy and are payable directly to the *ASP*.

1.1.2 Network Augmentations

Generally Essential Energy carries out and funds *augmentation* to the shared *network*. This is work on the shared assets beyond the *linkage point*. Connection applicants will be required to fund *augmentation* in the following circumstances:

- > All *real estate developers* must fund *augmentation* work.
- > Non registered embedded generators must fund *augmentation* work.
- > *Retail customers*: If the capacity applied for by the connection applicant exceeds the threshold set by Essential Energy in Section 3 of this policy, they will be required to make a capital contribution towards the cost of the *augmentation* of Essential Energy's shared *network*.

In all cases:

- > The capital contribution will be limited to the *augmentation* required to enable the connection to be made while maintaining the existing performance of the *network*.
- > The *augmentation* work is *contestable* and undertaken by an *ASP* so the capital contribution is payable to the *ASP*, not Essential Energy.

Other third party fees and charges

In addition to *ASP* charges, the customer may also incur property tenure costs which relate to the granting and registration of leases and easements and associated plans over Essential Energy infrastructure located on the customer's premises. These costs are also not payable to Essential Energy, but directly to the relevant third party unless statutory or other requirements dictate that Essential Energy must perform the activity. In that case, costs will be payable direct to Essential Energy.

1.1.3 Essential Energy fees and charges

Ancillary network service fees

Ancillary network services are services which are provided to a customer on an "as needed" basis and are able to be directly attributed to the customer receiving the service. All customers will be required to pay the fees for Ancillary network services associated with their connection. These fees relate to the services that Essential Energy provides during the design and construction (on a *contestable* basis) of *premises connection assets*, *extensions* and *augmentation* by *ASPs*. An example would be inspection of assets built by a Level 1 *ASP*. These services and fees are explained in detail in section 4.

Metering Services for Type 5 and 6 meters

Metering services for type 5 and 6 meters are the only metering services provided by Essential Energy in relation to connection services. See section 5 for further details.

Other fees

In some circumstances, customers may be required to pay a site inspection fee if a site inspection is required. Customers who receive a negotiated connection offer can be required to pay Essential Energy's reasonable expenses in assessing the customer's connection application and preparing the offer. Essential Energy's approach to determining its reasonable expenses is set out in section 6.

Pioneer scheme payments

Retail customers or *real estate developers* who propose to connect to a part of the *network* funded by another customer in the previous seven years (a pioneer scheme) may be required to make a payment to connect to the pioneer scheme. See section 7.

Financial guarantees

In some circumstances, Essential Energy may require a customer to provide Essential Energy with a financial guarantee known as a Guarantee of Revenue (GoR) which guarantees Essential Energy a certain level of revenue in relation to a substantial *augmentation* that Essential Energy has funded in order for the customer to connect. Refer section 8.

1.1.4 Charges for Ongoing Supply Services

For information purposes only, this policy sets out miscellaneous fees that Essential Energy may charge once a new or altered connection has been energised. These fees are explained in Appendix D.

1.1.5 Connection Charges

The connection charges that customers seeking a new or altered connection of their premises to Essential Energy's distribution system are required to pay to Essential Energy are:

1. Ancillary network service fees for all ancillary network services provided by Essential Energy in order for the customer to connect – see section 4;
2. Metering service fees for type 5 and 6 meters – see section 5;
3. Other fees if a site inspection is required and/or negotiation fee for a negotiated connection offer – see section 6;
4. A pioneer scheme payment may be required – see section 7.
5. In addition, the customer may also be required to provide Essential Energy with a financial guarantee in certain circumstances, such as where Essential Energy funds a *network augmentation* – see section 8.

2. Customer Funded Connection Works & Augmentations

For ease of reference Essential Energy has described the types of *connection works* and services that customers fund by reference to whether the costs are incurred in relation to a basic, standard or negotiated connection services.

The charges for basic connection services are generally uniform and confined to funding the *premises connection assets* and paying ancillary network service fees and any applicable metering service fees, as the connections to which they relate generally do not require any *network augmentation* other than *extensions* for *premises connection assets* and dedicated asset *augmentation*.

The charges for standard connection services also include the *extension* and *augmentation* costs as well as funding *premises connection assets* and ancillary network service fees and any applicable metering service fees. The *augmentation* costs are determined by reference to a capital contribution threshold set by Essential Energy.

Appendix A provides a summary of the fees and charges payable in relation to each connection offer.

2.1 Basic Connection Offers

These offers are for small low voltage connections and are typically applicable to single residential premises, small commercial premises and small multi-occupant developments. They are also applicable to customers who install a micro embedded generator within their installation.

Customers who receive one of Essential Energy's basic connection offers will be required to fund the *contestable* works (i.e. make a capital contribution) associated with:

- > their *premises connection assets*, and
- > any dedicated *network extension*, and

These customers will not be required to fund any *augmentation* of Essential Energy's shared *network* beyond the *linkage point*. The capital contributions made by the customer are payable directly as charges to the *ASP* and are not set out in this policy.

The customer must also pay any ancillary network services fees and any applicable metering services fees associated with their connection. These are explained in detail in sections 4 and 5, and Appendixes B and C.

Essential Energy may require lodgement of security bonds for financial guarantee (see section 8 and / or activities that remain incomplete at time of energisation (such as Crown land licences).

In some circumstances a site inspection fee or pioneer scheme payment may also be required.

The *contestable* work required to install or alter the customer's *premises connection assets*, any dedicated *network extension*, and any dedicated asset *augmentation*, will be carried out by the customer's *ASP*. This includes the provision of the service line by the customer's level 2 *ASP*, refer to Appendix A.

2.2 Standard Connection Offers

These offers are for low voltage connections and are typically applicable to large multi-occupant developments, and large commercial and industrial developments, as well as to *rural customers* who require *augmentation* work.

Essential Energy's standard connection offers apply to connections where *augmentation* of Essential Energy's shared *network* may be required to enable the customer's connection to occur.

In addition, if a *network extension* is required that involves design by a Level 3 *ASP* and/or construction by a Level 1 *ASP*, then a standard connection offer will usually be made.

Customers who receive standard connection offers will be required to fund the *contestable* works (i.e. make a capital contribution) associated with:

- > their *premises connection assets*,
- > any dedicated *network extension*, and
- > in relation to *real estate developers* and non-registered embedded generators, any *augmentation*,
- > in relation to *retail customers*, any *augmentation* of the shared *network*, if the capacity applied for exceeds the thresholds set out in section 3.

Different thresholds apply to *retail customers* depending on whether the connection is in an urban or rural area. Essential Energy will fund the shared *augmentation* works if a customer applies for a capacity below the threshold set out in section 3. This threshold has been established by Essential Energy to meet the requirements of clause 5A.E.1(b)(2) of the *NER* to indicate the threshold below which a *retail customer* will not be required to make a capital contribution towards the cost of the shared *network augmentation*.

The customer must also pay for ancillary network service fees and any applicable metering service fees associated with their connection. These are explained in detail in sections 4 and 5, and Appendixes B and C.

In some circumstances, a site inspection fee (see section 6) or pioneer scheme payment may also be required as explained in section 7 and Appendix D respectively.

Some customers may also be required to provide a financial guarantee or Guarantee of Revenue (GoR), where their connection requires substantial Essential Energy funded *augmentation* works. The circumstances in which a GoR may be required are set out in more detail in section 8.

Essential Energy may require lodgement of security bonds for activities that remain incomplete at time of energisation (such as Crown land licences).

The *contestable* work required to design and construct customer funded *augmentation* works will be carried out by the customer's Level 3 and Level 1 *ASPs* respectively. The capital contributions associated with the *contestable* works are payable as charges directly to the relevant *ASP* and are not set out in this policy.

Essential Energy will require reasonable prepayment of ancillary network service fees associated with standard connection offers – see section 9. Ancillary network service fees are listed in the appendixes at the end of this connection policy.

2.3 Negotiated Connection Offers

These offers are for applications that are not eligible for either a Basic Offer or a Standard Offer, or for use when the connection applicant elects to use this option.

Customers who receive a negotiated connection offer for Essential Energy will be required to pay connection charges to Essential Energy and/or make capital contributions to the *ASP* for the *connection works* on the same basis as for customers who receive basic or standard connection offers.

In addition, these customers may also be required to pay a negotiation fees to cover expenses reasonably incurred by Essential Energy in assessing the customer's application and preparing a negotiated connection offer – refer to section 6.

Customers who receive a negotiated connection offer may be required to provide a financial guarantee or GoR, where their connection requires substantial Essential Energy funded *network augmentation works*. The circumstances in which a GoR may be required are set out in more detail in section 8.

Essential Energy will require reasonable prepayment of ancillary network service fees associated with a negotiated connection offer – see section 9. Ancillary network service fees are listed in the appendixes at the end of this connection policy.

2.4 Contestability of Connection Works

Under section 31 of the Electricity Supply Act 1995 (NSW), where a customer is required to procure and fund *connection works* or *network augmentations*, the customer may do this by engaging an *ASP* to design and/or construct those works as *contestable* works. The *ASP* must be suitably accredited under the NSW Accreditation Scheme administered by the NSW Department of Planning and Environment, Division of Resources and Energy.

The customer pays the *ASP* directly for these services, including for any assets installed (i.e. a capital contribution).

2.5 Connection Works Carried out by Essential Energy

Essential Energy may determine that certain *connection works* or portions thereof which are *augmentation* that would normally be provided on a *contestable* basis will be carried out by Essential Energy and funded by the customer. Essential Energy will make this determination based on risk management principles, related to certain criteria such as safety, *network* security, protection of critical *network* infrastructure, and reliability of supply to customers.

Based on a risk assessment by Essential Energy, the following categories of *connection works* may be carried out by Essential Energy and funded by the customer:

- > All work within existing substations including pole transformer substations that are connected to the network and are energised
- > Based on an individual risk assessment carried out by Essential Energy, certain major projects such as transmission, sub-transmission, zone substation projects
- > Optical fibre termination
- > Works potentially impacting Essential Energy's existing telecommunications network infrastructure

2.6 Shared Connection Works

Essential Energy will consider the potential for any new dedicated high voltage (HV) mains *extension* supplying a multi occupant development or a customer substation in an *urban network*, to be used to supply other customers outside the development in the foreseeable future. This could occur via a direct connection to, or via a further HV mains *extension* of, the original HV mains *extension*. When Essential Energy receives the original application, it will determine any reasonable likelihood of such asset sharing taking place in the foreseeable future (maximum of seven years). This assessment by Essential Energy may determine that the original HV mains *extension* will be classed as *network augmentation*, with a funding contribution by Essential Energy.

2.7 Customer Requested Alternative or Additional Connection Works

Essential Energy specifies the economic optimum size *connection works* in accordance with its network standards, to adequately supply the assessed electrical load requirements of customers. However, if a customer requests any alternative or additional *connection works* to the standard Essential Energy construction, and Essential Energy agrees with the request, the customer will be required to fund any additional costs thereby incurred by Essential Energy. This includes the additional cost of any alternative or additional HV equipment that would otherwise be funded by Essential Energy in accordance with sections 2.5 and 2.6.

3. Capital Contribution Thresholds

A capital contribution is a payment made by a customer towards the cost of a connection to Essential Energy's *network*. In NSW, where a customer is required to fund *connection works*, the customer can engage an *ASP* to undertake the works (known as *contestable services*). This means the capital contribution is payable to the *ASP*, not Essential Energy. This policy sets out the circumstances when a capital contribution is payable. The amount of that capital contribution is separately determined between the customer and the *ASP* and is outside the scope of this policy.

A *retail customer* (other than a *real estate developer* or a non-registered embedded generator) will not be required to make a capital contribution towards the cost of *augmentation* on the shared *network* beyond the *linkage point* (to the extent that it involves more than an *extension*) if:

- > The connection services being sought by the connection applicant are basic connection services; or
- > The capital contribution thresholds set by Essential Energy are not exceeded.

3.1 Capital Contribution Thresholds

Essential Energy has established two thresholds below which *retail customers* will not be required to make a capital contribution towards the cost of *network augmentations*:

1. An urban threshold for customers in urban areas;
2. A rural threshold for customers in rural areas.

The Capital Contribution Thresholds will apply for the 2019-24 regulatory control period.

3.1.1 Real Estate Developments and Embedded Generators

Real estate developments and embedded generators that cannot be supplied by the adjacent Essential Energy *network* will be required to fund one or more substations on or in the vicinity of the development or additional capacity in the vicinity of the development or embedded generator.

In this case Essential Energy will require the connection applicant to fund as *contestable works*:

- > For substations (usually onsite): The design and construction by an *ASP* of the substation(s) and *network extension(s)* consisting of the dedicated HV mains to the substation;

Note: The standard reticulation is a loop-in arrangement, i.e. 2 cables, or if an alternative arrangement consisting of a single (radial) HV cable connection and an LV interconnector is agreed to by Essential Energy, this LV interconnector will also be funded by the customer.

- > For other *network augmentations*, in the vicinity of the premises or otherwise: The design and construction of any *network augmentations* that are required to make the required capacity available at the premises of the connection applicant while maintaining the existing performance of the *network*;
- > The substation building construction for chamber substations; and any site preparation works, including special foundations, footings, piers, retaining walls and railings for kiosk substations;
- > All easement costs and other approvals, whether new or adjustments.

The connection applicant must provide a suitable substation site on their premises as close as possible to the street frontage where requested by Essential Energy.

3.1.2 Retail Customer Threshold for Urban Areas

Essential Energy has adopted the following threshold to determine when a *retail customer* must contribute to the cost of expanding the capacity of the Essential Energy *network* (i.e. make a capital contribution):

Retail Customer > 100 Amps

Where a *retail customer* in an *urban network* requires 100 Amps or more (per phase over 3 phases) and the adjacent Essential Energy *network* cannot supply the required load, the customer will be required to fund either:

- > One or more new substations on or in the vicinity of the premises of the development;
- > Additional *network* capacity in the vicinity of the premises of the development.

This will require the customer to fund as *contestable* works:

- > For substations (usually onsite): The design and construction by an *ASP* of the substation(s) and *network extension*(s) consisting of the dedicated HV mains to the substation;

Note: The standard reticulation is a loop-in arrangement, i.e. 2 cables, or if an alternative arrangement consisting of a single (radial) HV cable connection and an LV interconnector is agreed to by Essential Energy, this LV interconnector will also be funded by the customer.

- > For other *network augmentation* in the vicinity of the development: The design and construction of *network augmentations* that are required to make the required capacity available at the premises of the development while maintaining the existing performance level of the *network*.
- > The substation building, construction for chamber substations, and any site preparation works, including special foundations, footings, piers, retaining walls and railings for kiosk.
- > All easement costs and other approvals, whether new or adjustments.

The connection applicant may be required to provide a suitable substation site on their premises as close as possible to the street frontage where requested by Essential Energy.

The nature and scope of the additional capacity will be determined by Essential Energy to meet the proposed customer load and Essential Energy *network* requirements.

The new substation or additional *network* capacity will be designed to be the minimum economic size or accommodate the minimum number of transformers necessary to supply the ultimate forecast load requirements of the proposed development.

Essential Energy may fund certain equipment in accordance with clause 2.6.

3.1.3 Threshold for Rural Customers

Rural customers are required to fund any shared *network augmentation* that is required for their connection where the customer's new load is greater than 16kVA (63 amps). The *network augmentations* required will be those that are required to make the required capacity available while maintaining the existing performance level of the *network*.

Rural customers must also fund any *augmentation* or *network extension* by way of any required dedicated customer substation equipment.

Essential Energy may fund certain equipment in accordance with clause 2.6.

3.2 Calculation of Capital Contributions

This policy sets out the circumstances when a capital contribution will be payable by a customer. It does not set out how the amount of any capital contribution is calculated because the customer does not pay Essential Energy a capital contribution. When a customer is required to make a capital contribution, the connection work related to the contribution is a *contestable* service in NSW and the customer engages an *ASP* to undertake the work. The customer pays the capital contribution to the *ASP* and the cost is determined on a competitive basis.

Capital contributions arise in the following circumstances:

- > by *real estate developers* and non-registered embedded generators for all *connection works* including *extensions* and *augmentations*;
- > by *retail customers* below the Capital Contribution Thresholds identified in section 3.1 (i.e. for *premises connection assets*, *extensions*, and dedicated asset *augmentations*);
- > by *retail customers* above the Capital Contribution Thresholds identified in section 3.1.

If a pioneer scheme relates to the assets for which the customer has made a capital contribution, the customer may be entitled to a pioneer scheme refund. See section 7.

3.3 Estimation of Connection Applicant's Consumption and Demand

Information provided in the connection application will be used to estimate the applicant's consumption and demand. Essential Energy may use other methods to estimate the connection applicant's consumption or demand where the information provided on the connection application is not consistent with other customers of a similar type, or, where the existence of *network* constraints, emerging or otherwise, requires engineering intervention to manage impact on the *network*.

4. Ancillary network services and Fees

Ancillary network services provided by Essential Energy fall into three categories:

1. Ancillary network services which are required in order for a customer to connect to Essential Energy's *network* (connection related ancillary network services);
2. Ancillary network services, which are provided to customers as part of their ongoing supply service provided by Essential Energy under a customer connection contract (Miscellaneous ancillary network services); and
3. Metering related ancillary network services, which are services provided on an 'as needed' basis relating to the maintenance of metering installations.

Connection related ancillary network services

These are customer specific connection services, including processing of connection applications and *contestable connection works* carried out by ASPs and which are required for connection. These services are necessary to ensure that an appropriate level of reliability, quality of supply and safety is maintained in the operation of Essential Energy's *network*.

The *AER* reviews and approves these services and sets their rates and conditions. These services were previously known as Monopoly Services, but since 1 July 2014 are known as ancillary network services.

A list of these services is contained in Appendix B for guidance. The current charges for ancillary network services are approved by the *AER* for each financial year and are available at essentialenergy.com.au.

Miscellaneous ancillary network services

These ancillary network services are provided by Essential Energy on an "as needed" basis to the customer after the connection has been established. These ancillary network services are not part of the connection service provided under Chapter 5A of the *NER* and are not connection charges under Chapter 5A.

These services are included in the Policy for information purposes and are payable by the customer under its ongoing supply contract with Essential Energy. A list of these services is contained in Appendix D.

Ancillary network services related to metering

Essential Energy also provides ancillary network services which specifically relate to metering, such as carrying out special meter readings and meter testing. A list of these services is contained in Appendix C for guidance. The current charges for ancillary network services are approved by the *AER* and are available at essentialenergy.com.au.

5. Metering Services for type 5 and 6 meters

Metering services for type 5 and 6 meters are the only metering services provided by Essential Energy in relation to connection services.

The service relating to the provision and installation of the metering equipment is provided by the customers Retailer and the cost of the service is payable to the Retailer. Other metering services provided by Essential Energy are payable by the customer as part of the customer's ongoing supply network charges and are not subject to this connection policy.

6. Other Fees

Chapter 5A of the *NER* allows Essential Energy to charge certain fees to recover its costs from providing certain connection services relating to processing the connection application.

Site inspection fee

Where Essential Energy reasonably needs to make a site inspection in order to determine the nature of the connection service sought by the connection applicant, Essential Energy may charge its reasonable expenses to the connection applicant and recover those costs as a debt.

Essential Energy will calculate the fee payable in accordance with the labour charge rates that have been approved by the *AER*.

Negotiation fee

Where a connection applicant's application relates to a negotiated connection contract under Chapter 5A of the *NER*, Essential Energy may charge the applicant a reasonable fee to cover expenses directly and reasonably incurred by Essential Energy in assessing the applicant's application and making a connection offer.

Essential Energy requires the connection applicant to pay an upfront fee of \$250 to assess the applicant's application prior to the commencement of negotiations. Following Essential Energy's initial assessment of the connection application, and to ensure full transparency, Essential Energy will provide the connection applicant with an estimate of the charges the connection applicant will be required to pay in order for Essential Energy to assess the application and make a connection offer.

7. Pioneer Schemes

Under Chapter 5A of the *NER*, Essential Energy is required to operate a pioneer scheme which requires Essential Energy to make refunds to *retail customers* who funded connection assets within seven years, which are no longer being dedicated to the exclusive use of that customer. The refund is made by way of a connection charge (known in this policy as a pioneer scheme payment) payable by the new users of the assets.

The entitlement of *real estate developers* to access a pioneer scheme for *extension* assets they fund will be determined in accordance with the *AER* Connection Charge Guidelines.

Appendix E sets out how Essential Energy calculates the pioneer scheme payments and refunds in respect of assets which are subject to a pioneer scheme.

8. Financial Guarantees (Security Fee)

In accordance with Chapters 5A and 6 of the *NER*, to avoid any cross subsidisation Essential Energy will require a customer to provide a financial guarantee (also known as a security fee) or Guarantee of Revenue (GoR), where their connection requires substantial Essential Energy funded *network augmentation* works that is initially only for the customer's benefit, and where Essential Energy considers there is a high risk that Essential Energy may not earn the estimated incremental revenue from the construction of the *network augmentation* works.

A GoR is a legally binding agreement between Essential Energy and the connection applicant where the connection applicant guarantees to pay Essential Energy a minimum level of network revenue each year for the duration of the GoR agreement, to make up any shortfall in their actual Network Use of System (NUoS) charges over the period, which is nominally five years, although this can be varied between five and 10 years on a case by case basis. The security amount will not be greater than the present value of the incremental costs that Essential Energy incurred by undertaking the *network augmentation*. The security amount under the GoR will be calculated by reference to the incremental revenue that Essential Energy expects to receive from the *network augmentation*. The security amount will not be greater than the amount of estimated incremental revenue which Essential Energy assesses as having a high risk of not being recovered.

The GoR will be established at the same time as the connection offer is accepted and/or the design information package is issued and prior to the *network augmentation* works being initiated. This will allow the *network augmentation* works to proceed in parallel with the associated *contestable* works.

The GoR is secured by a bank guarantee provided by the customer, or other suitable financial instrument as agreed by Essential Energy. Essential Energy is entitled to withdraw from the bank guarantee any shortfall in actual NUoS payments, in accordance with the terms stated in the deed and the bank Guarantee.

9. Prepayments

Essential Energy will only seek prepayments in circumstances which are permitted by the regulatory environment and in particular Chapter 5A of the *NER* and the AER Connection Charge Guidelines.

10. Dispute Resolution

A dispute between a *retail customer* or *real estate developer* and Essential Energy about connection charges is an access dispute for the purposes of section 2A of the National Electricity Law, which may be referred to the *AER* for resolution in accordance with part G of Chapter 5A of the *NER*.

Prior to referring the matter to the *AER*, Essential Energy encourages customers to first attempt to resolve the dispute directly with Essential Energy, in accordance with Essential Energy's Complaints and Dispute Resolution Procedure. Details of how to apply for review of a decision by Essential Energy and how Essential Energy will conduct the review are available on Essential Energy's website: essentialenergy.com.au.

Small customers may also refer their dispute to the relevant Ombudsman to resolve the matter.

For small customers in New South Wales, the ACT and Victoria:

Energy and Water Ombudsman of New South Wales

Freecall: 1800 246 545

Freefax: 1800 812 291

Email: omb@ewon.com.au

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11. Definitions

As far as possible, Essential Energy has used terms and definitions which are consistent with Chapter 5A of the *NER*. So for instance we use the term “*premises connection assets*” to refer to the components of a distribution system used to provide connection services. However, in some instances we also use other terms, such as “*linkage point*”, as these terms are necessary to explain the extent to which a customer funds *premises connection assets*, *extensions* and *augmentations*.

The terms shown in italics throughout this document have the following meanings:

<i>augmentation</i>	Work to enlarge a distribution or transmission system or to increase its capacity to transmit or distribute electricity.
<i>AER</i>	The Australian Energy Regulator
<i>ASP</i>	An Accredited Service Provider, being an entity accredited under Part 3 of the Electricity Supply (Safety and Network Management) Regulation 2014 (NSW)
<i>connection works</i>	<p>In relation to a new customer, are those works yet to be constructed which will upon construction:</p> <ul style="list-style-type: none"> a. Enable Essential Energy to provide customer connection services requested by that new customer; and b. Form part of the <i>network</i> on the side of the <i>linkage point</i> where all the <i>network</i> assets on that side are dedicated to one or more customers. <p>These include (without limitation)</p> <ul style="list-style-type: none"> c. In the case of services to new connection points (as defined in the National Electricity Rules) requested by a new customer, works to connect the customer’s premises at that connection point to the existing <i>network</i>; and d. In the case of services to existing connection points: <ul style="list-style-type: none"> i. Replacements of existing assets servicing that connection point, where those existing assets, at the time of their replacement, satisfy (a) and (b) above; or ii. Additional new works that satisfy (a) and (b) above in relation to that connection point, <p>in order to provide additional service at that connection point requested by the new customer.</p>
<i>contestable</i>	a service is contestable if the laws of the participating jurisdiction in which the service is to be provided permit the service to be provided by more than one supplier as a contestable service or on a competitive basis.
<i>embedded generator</i>	means a person that owns, controls or operates and <i>embedded generating unit</i>
<i>extension</i>	New <i>network</i> infrastructure outside the present boundaries of Essential Energy’s <i>network</i> to a customer’s premises.

linkage point	The point on the <i>network</i> where the use of assets changes from being dedicated to one or more customers (where all the <i>network</i> assets on that side of the point are so dedicated), to being shared with customers generally. For this purpose, assets are considered to be dedicated to one or more customers only if they are: <ul style="list-style-type: none"> a. Used by one customer exclusively; or b. Shared by more than one customer in circumstances where Essential Energy has required that those customers together procure and fund the same <i>connection works</i>.
micro EG connection	means a <i>connection</i> between an <i>embedded generating unit</i> and a <i>distribution network</i> of the kind contemplated by <i>Australian Standard AS4777</i> (Grid connection of energy systems via inverters)
micro embedded generator	means a <i>retail customer</i> who operates, or proposes to operate, an <i>embedded generating unit</i> for which a <i>micro EG connection</i> is appropriate.
NER	The National Electricity Rules
network	Essential Energy's electricity distribution system
premises connection assets	means the components of a <i>network</i> used to provide connection services.
real estate developer	means a person who carries out a <i>real estate development</i> .
real estate development	means the commercial development of land including its development in 1 or more of the following ways: <ul style="list-style-type: none"> a. subdivision; b. the construction of commercial or industrial premises (or both); c. the construction of multiple new residential premises.
retail customer	includes a non-registered embedded generator and a micro embedded generator.
rural customer	A new customer whose premises, the subject of its application for customer connection services, are connected or will be connected (once any relevant <i>connection works</i> are constructed) to the <i>network</i> at a point at which the <i>network</i> is a <i>rural network</i> .
rural network	The part of the <i>network</i> : <ul style="list-style-type: none"> a. Where the average demand on the HV feeders within it is less than 0.3MVA/km; or b. That is in an area zoned as rural under a local environment plan (made under the Environmental Planning and Assessment Act 1979 (NSW)); or c. That is in an area predominantly used for agricultural purposes.
urban network	That part of the <i>network</i> that is not a <i>rural network</i> .

Appendix A: Summary of Essential Energy's connection offers and their associated connection charges

Connection Offer	Typical application	Fees and charges involved in establishing connection	Contestable works carried out by
Basic:			
1. Model Standing Offer for a Low Voltage Basic Connection Service	All Low Voltage connections not requiring <i>network augmentation</i> beyond the <i>linkage point</i>	<ul style="list-style-type: none"> Installation of dedicated <i>premises connection assets</i>, payable to the customer's level 2 ASP. Ancillary network service fees associated with the <i>contestable work</i>, payable to Essential Energy 	<p>Level 2 ASP, for the installation of the dedicated <i>premises connection assets</i>, i.e. the service line and energising the connection.</p> <p>In the event of a <i>network extension</i> being required level 3 and level 1 ASP, for the design and construction of the <i>premises connection assets</i> and <i>network extension assets</i>, as applicable.</p>
2. Model Standing Offer for a Low Voltage Basic Connection Service with Micro Embedded Generation	All Low Voltage connections with micro embedded generator not greater than 30kW not requiring <i>network augmentation</i> beyond the <i>linkage point</i>	<ul style="list-style-type: none"> Installation of new or upgraded meter, payable to the customers Retailer Site inspection fee payable to Essential Energy, if a site inspection is required Pioneer Scheme costs as applicable 	
Standard:			
1. Model Standing Offer for a Low Voltage Standard Connection Service	All Low Voltage connections requiring <i>network augmentation</i>	<ul style="list-style-type: none"> <i>Premises connection assets</i> payable to ASP, refer to section 3 for customer substation thresholds, <i>Network augmentation</i> or <i>extension</i> payable to ASP, refer to section 3 for associated customer <i>network</i> thresholds, Ancillary network service fees associated with the <i>contestable work</i> payable to Essential Energy Pioneer Scheme costs as applicable Installation of new or upgraded meter, payable to the customers Retailer Site inspection fee payable to Essential Energy, as applicable Property tenure costs payable to third parties A GoR may be required if the connection requires significant Essential Energy funded <i>network augmentation</i>, refer section 7 	<p>Level 3 and level 1 ASP, for the design and construction of the <i>network extension</i> and <i>network augmentation assets</i>, as applicable.</p> <p>Level 2 ASP, for the installation of the dedicated <i>premises connection assets</i>, i.e. the service line and energising the connection.</p>
2. Model Standing Offer for a Low Voltage Standard Connection Service with Micro Embedded Generation	All Low Voltage connections with micro embedded generator not greater than 30kW requiring <i>network augmentation</i>		
Negotiated:			
In accordance with Essential Energy's Negotiation Framework	Connections not classified as Basic or Standard	<ul style="list-style-type: none"> As above for the Standard Offer Negotiation expenses, payable to Essential Energy 	As above for the Standard Offer

Appendix B: Connection related ancillary network services

The AER approved charges for the connection related ancillary network services are available at essentialenergy.com.au

Charge types and descriptions to be added once approved by the AER.

Appendix C: Metering Services for type 5 and 6 meters and Metering Related Ancillary Services

The AER approved charges for metering services for type 5 and 6 meters, and metering related ancillary network services are available at essentialenergy.com.au.

Charge types and descriptions to be added once approved by the AER.

Appendix D: Miscellaneous Ancillary Network Services

The AER approved charges for the miscellaneous ancillary network services are available at essentialenergy.com.au

Charge types and descriptions to be added once approved by the AER.

Appendix E: Pioneer Schemes

In accordance with the AER Connection Charge Guidelines, connection applicants may be required to make a contribution (payment) towards *connection works* that provide a connection to their premises and which were previously funded by another customer (within a seven year period).

The contribution by a subsequent customer to works previously funded by the original customer will be based on the physical attribute of the asset or the demand of a subsequent customer as applicable.

For new connections less than 50kVA, then a pre-calculated refund will be used and this is based on the length of distribution lines as well as a pre-calculated share of any distribution substation.

For new connections over 50kVA, the refund will be based on the demand of the new customer.

Depreciation calculated in accordance with clause E5 will also be taken into account in determining the contribution payable.

E1 Establishment and Administration of Schemes

A pioneer scheme will be established and administered in accordance with this appendix in relation to each original customer's works (as defined in clause E2.1).

E2 Contributions by Subsequent New Customers towards Connection Works

E2.1 General

Where:

- a. a customer (the original customer) procures and funds, or becomes liable to procure and fund, *connection works* that are network extensions (original customer's works); and
- b. within seven years of the date of the original customer's application for customer connection services, with respect to the original customer's works (refund period), a new customer requests customer connection services from Essential Energy; and
- c. in order to provide those customer connection services to the new customer, Essential Energy will use all or any part of the original customer's works, then the new customer is liable, in addition to paying for any *connection works* for which that customer is liable, to pay Essential Energy a proportion of the costs of the original customer's works, calculated in accordance with clause E2.2 (cost share refund).

E2.2 Calculation of Cost Share Refund

- a. Where the new customer's load (as specified in its application for customer connection services) is equal or less than 50kVA, the cost share refund will be the lesser of:
 - i. the pre-calculated refund (see clause E2.3); and
 - ii. the original customer's outstanding amount (see clause E2.5)
- b. Where the new customer's load (as specified in its application for customer connection services) is greater than 50kVA, the cost share refund will be the lesser of:
 - i. the pro-rata refund (see clause E2.4); and
 - ii. the original customer's outstanding amount (see clause E2.5).

E2.3 Pre-calculated Refund

The pre-calculated refund (for the purposes of clause E2.2(a)(i)) is:

- a. Where the original customer's works are a distribution line, an amount calculated in accordance with the following formula:

$$\frac{\text{Cost of original customer's works x Depreciation Factor}}{\text{Number of prospective new customers + original customer}} \times \frac{\text{Length of original customer's works used by the new customer (km)}}{\text{Total length of original customer's works (km)}} \times \frac{\text{CPI(2)}}{\text{CPI(1)}}$$

- b. Where the original customer's works are other than a distribution line, an amount calculated in accordance with the following formula:

$$\frac{\text{Cost of original customer's works x Depreciation Factor}}{\text{Number of prospective new customers + original customer}} \times \frac{\text{CPI(2)}}{\text{CPI(1)}}$$

E2.4 Pro-rata Refund

The pro-rated refund (for the purposes of clause E2.2(b)(i)) is an amount calculated in accordance with the following formula:

$$\text{Cost of original customer's works x Depreciation Factor} \times \frac{\text{New utilisation of original customer's works}}{\text{Total utilisation of original customer's works}} \times \frac{\text{CPI(2)}}{\text{CPI(1)}}$$

E2.5 Original Customer's Outstanding Amount

The original customer's outstanding amount (for the purposes of clause E2.2(a)(ii) and E2.2(b)(ii)) is calculated as follows:

$$\begin{aligned} & \text{Cost of original customer's works x Depreciation Factor} \\ & \times \\ & \frac{\text{Number of prospective new customers}}{\text{Number of prospective new customers + original customer}} \\ & \times \\ & \frac{\text{CPI(2)}}{\text{CPI(1)}} \\ & \text{less} \\ & \text{Total cost share refunds paid by new customers to Essential Energy in respect of those} \\ & \text{works as at date of the new customer's application for customer connection services.} \end{aligned}$$

E2.6 Minimum Refund

Despite any other provision in this appendix, a new customer is not liable to pay a cost share refund if the total amount payable to all customers already connected is less than \$1,000 plus CPI.

$$\begin{aligned} & \$1,000 + \text{CPI} \\ & \text{Where CPI} = \text{CPI(2)/CPI(3)} \text{ (see clause E2.7)} \end{aligned}$$

E2.7 CPI Adjustments

Despite any other provisions in E2 of this appendix:

- a. The formulas in E2.3, E2.4 and E2.5 are deemed not to include any references to CPI in the case where the beginning of the relevant period for the calculation of CPI(2) is less than 12 months after the end of the relevant period for the calculation of CPI(1); and
- b. The formula in E2.6 is deemed not to include any references to CPI in the case where the beginning of the relevant period for the calculation of CPI(2) is less than 12 months after the end of the relevant period for the calculation of CPI(3).

E2.8 Explanation of Terms in this Appendix

Cost of original customer's works means:

- a. where Essential Energy carried out the original customer's works as an *ASP*, the cost (based on actual cost) of performing those works to the least cost technically acceptable standard; and
- b. where an *ASP* carried out the original customer's works, the estimated amount that Essential Energy would have charged to carry out those works to the least cost technically acceptable standard.

CPI(1) means the average of the consumer price indices (all groups, all capital cities), published by the Australian Bureau of Statistics, for the four quarters immediately prior to the date the original customer's works were completed.

CPI(2) means the average of the consumer price indices (all groups, all capital cities), published by the Australian Bureau of Statistics, for the four quarters immediately prior to the date of the new customer's application for customer connection services.

CPI(3) means the average of the consumer price indices (all groups, all capital cities), published by the Australian Bureau of Statistics, for the four previous quarters ending 30 June 2012.

New utilisation of original customer's works means:

- a. Where the original customer's works are a distribution line, a figure in kVA.km, representing the new customer's expected load in kVA (as specified in its application for customer connection services), multiplied by the length of the original customer's works used by the new customer, in kilometres; and
- b. Where the original customer's works are works other than a distribution line, a figure in kVA, representing the new customer's expected load (as specified in its application for customer connection services).

Number of prospective new customers means the number of new customers (excluding the original customer) that Essential Energy expects, prior to construction of the original customer's works, will use those works or any part of them during the refund period, determined in consultation with the original customer, and taking into account all relevant factors including but not limited to:

- the capability of the proposed works,
- the current number of properties that could potentially utilise those works,
- the current zoning of the area and any rezoning proposals,
- any proposed subdivisions or development applications, and
- historical patterns of customer connection in similar areas.

Total utilisation of original customer's works means:

- a. where the original customer's works are a distribution line, a figure in kVA.km, representing the total loads of each customer (including the original customer and the new customer) who use or will use the original customer's works, in kVA (as specified in their respective applications for customer connection services), multiplied by the length of distribution line constituting the original customer's works, in kilometres; and
- b. where the original customer's works are works other than a distribution line, a figure in kVA, representing the total loads of each customer (including the original customer and the new customer) who use or will use the original customer's works (as specified in their respective applications for customer connection services).

E3 Refunds

1. Where a new customer pays to Essential Energy an amount under E2 of this appendix, Essential Energy will, as soon as practicable after receiving that amount, repay that amount to the current owner of the premises to which the original customer's works were connected.
2. Where there are two or more customers constituting the original customer, as a result of Essential Energy requiring those customers to procure and fund their common works together, the repayment by Essential Energy referred to in E3(1) must be divided between those customers in accordance with the proportions in which they funded the works.

E4 Obligation to Notify

1. Essential Energy will notify all new customers who apply to Essential Energy for customer connection services and who may be obliged to make refunds under an existing pioneer scheme, and all ASPs known to Essential Energy who are likely to have customers who will so apply, of the existence of the pioneer scheme and that connecting customers may be obliged to contribute towards refunds.
2. Essential Energy will also notify original customers, to which a pioneer scheme applies, of the existence of the pioneer scheme and that they may be entitled to receive a refund.

E5 Depreciation Factor

A straight line depreciation, over a twenty year asset life, is to be applied to unadjusted values to determine the current day depreciation value of the asset.

The depreciation factor is to be determined as follows:

$$\frac{(\text{Deemed asset life (20 years)} - \text{asset age})}{\text{Deemed life (20 years)}}$$

For example:

A distribution line cost \$12,000 and has an actual asset age of 2 years.

$$\begin{aligned}\text{Depreciation Factor} &= (20 - 2)/20 \\ &= 0.9\end{aligned}$$

$$\begin{aligned}\text{Depreciated Asset value} &= \$12,000 \times 0.9 \\ &= \$10,800\end{aligned}$$