

# Appendix 9F

# Distribution Connection Policy

Effective from 1 July 2021

PUBLIC



## About AusNet Services

AusNet Services is a major energy network business that owns and operates key regulated electricity transmission and electricity and gas distribution assets located in Victoria, Australia. These assets include:

- A 6,574 kilometre electricity transmission network that services all electricity consumers across Victoria;
- An electricity distribution network delivering electricity to approximately 660,000 customer connection points in an area of more than 80,000 square kilometres of eastern Victoria; and
- A gas distribution network delivering gas to approximately 572,000 customer supply points in an area of more than 60,000 square kilometres in central and western Victoria.

AusNet Services' purpose is 'to provide our customers with superior network and energy solutions.' The AusNet Services company values are:

- We work safely
- We do what's right
- We're one team
- We deliver

For more information visit: [www.ausnetservices.com.au](http://www.ausnetservices.com.au)

## Contact

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## 1 Introduction

### 1.1 Purpose of this Document

This document is AusNet Services' connection policy for its electricity distribution network. This Connection Policy has been developed in accordance with the requirements of the National Electricity Rules (NER) and the connection charge guidelines<sup>1</sup> published by the Australian Energy Regulator (AER).

This Connection Policy sets out the circumstances in which AusNet Services may require a retail customer or real estate developer to pay a connection charge for the provision of a connection service.<sup>2</sup> It specifies:

- the categories of persons that may be required to pay a connection charge and the circumstances in which such a requirement may be imposed;
- the aspects of a connection service for which a charge may be made;
- the basis on which connection charges are determined;
- the manner in which connection charges are to be paid (or equivalent consideration is to be given); and
- a threshold below which a retail customer (not being a non-registered embedded generator or a real estate developer) will not be liable for a connection charge for an augmentation.<sup>3</sup>

This Connection Policy complies with the AER's connection charge guidelines and the connection charging principles in the NER.

### 1.2 Commencement date

This Connection Policy applies from 1 July 2021 and supersedes the previous version published on 28 July 2018.

### 1.3 Chapter 5A

The NER establishes two connection regimes:

- Chapter 5 of the NER creates a framework for connecting load for a registered or intending market participant, connection of generation or large embedded generators, which exceed the exemption limit (currently 5 MW) for registration as a participant with AEMO.
- The regime in Chapter 5A applies to connecting load for retail customers, or a retailer or other person on behalf of a retail customer, or a real estate developer. It also applies to non-registered embedded generators and micro embedded generators (that is, embedded generator connections that comply with Australian Standard AS4777).

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<sup>1</sup> AER, Connection Charge Guidelines for Electricity Retail Customers under Chapter 5A of the National Electricity Rules, Version 1.0, June 2012.

<sup>2</sup> In accordance with Clause 6.7A.1 of the NER.

<sup>3</sup> A customer would be required to pay for an extension, where the customer is located outside the present boundaries of the distribution network.

The Chapter 5A connection process is short and more flexible than the Chapter 5 process. This Connection Policy only applies to Chapter 5A connections.

## 1.4 Other relevant documents

The Connection Policy should be read in conjunction with the following documents:

- Our approved Annual Pricing Proposal, which sets out the fees for connection services and ancillary network services.
- Our minimum system requirements for inverter systems, including photovoltaic installations. The Model Standing Offer for Basic Connection Services, which sets out the terms and conditions for providing a connection between the distribution system and a retail customer's premises.
- The Model Standing Offer for Basic Connection Services (Basic Micro Embedded Generation), which sets out the terms and conditions for connecting a retail customer who is a micro embedded generator.
- The Model Standing Offer for Standard Connection Services, which sets out the terms and conditions for underground extension connection services within a specified distance from the distribution network.
- The electricity distribution contract, which sets out the terms and conditions on which AusNet Services will maintain the connection.

These documents are available at:

- <https://www.ausnetservices.com.au/en/New-Connections/Electricity-Connections>
- <https://www.esc.vic.gov.au/electricity-and-gas/codes-guidelines-policies-and-manuals/deemed-distribution-contract-variations-review-2018#tabs-container2>

## 1.5 Structure of this document

The remainder of this connection policy is structured as follows:

- Section 2 provides an overview of the connection charging principles.
- Section 3 explains the charging arrangements for basic connections.
- Section 4 explains the charging arrangements for standard connections.
- Section 5 describes the arrangements for negotiated connections for small customers.
- Section 6 sets out the connection charging arrangements applying to real estate developers.
- Section 7 addresses other matters relevant to a connection, including security deposits and fees, payment of connection charges, and dispute resolution.



## 2 General connection pricing principles

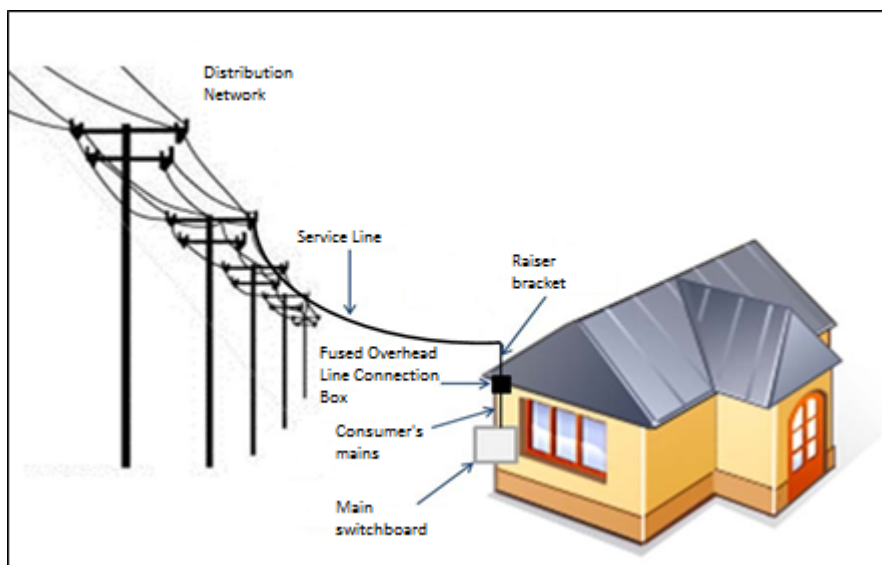
### 2.1 Overview of connection services

Distribution connection services encompass the services required to connect premises to AusNet Services' distribution network. The connection services generally include the design, construction and energisation of connection assets.

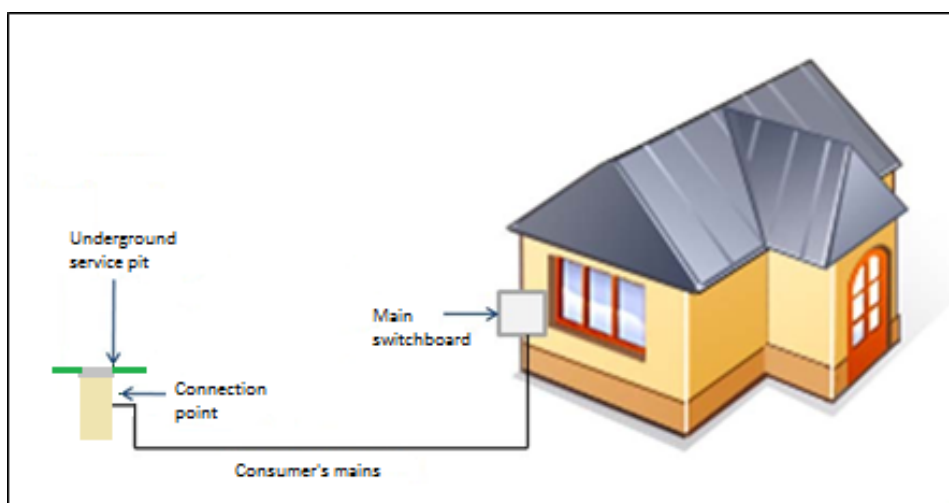
In some circumstances, the new connection or connection alteration may require an augmentation of the shared distribution network to ensure that there is sufficient capacity to service the connection. The new connection or connection alteration may also require a network extension to enable the connection of the standard service line to the distribution network.

The following diagrams illustrate the typical connections for a residential customer for overhead and underground supply.

**Figure 1: Typical Overhead Connection for Residential Customer**



**Figure 2: Typical Underground Connection for Residential Customer**





There are different types of connection services, depending on:

- the customer classification of the applicant for the purposes of connection charging;
- the nature of the connection; and
- whether line capacity is readily available in the existing distribution network.

The following sections detail the customer classifications, the classification of connection services and the connection charges that may be applicable.

## 2.2 Classification of customers

In broad terms, the connection service requirements and the associated charges will depend on the type of customer and the nature and location of the connection service. For the purpose of this connection policy, it is useful to identify the different classes of customers:

- Residential and small commercial premises not requiring any network augmentation;
- Customer connections requiring network augmentation;
- Customers requesting temporary supply;
- Customers requesting an unmetered supply;
- Micro embedded generators;
- Embedded generators, other than micro embedded generation;
- Real estate developers; and
- REFCL HV customers.

Within these customer classes, AusNet Services distinguishes between customers on the basis of their network requirements, including:

- energy consumption;
- maximum demand; and
- electricity import and export capacity.

The connection application process and the contractual arrangements vary accordingly.

## 2.3 Basic, Standard and Negotiated Connection Services

When an application is made for a new connection or alteration to an existing connection, AusNet Services will offer to provide:

- a Basic Connection Service; or
- a Standard Connection Service; or
- a Negotiated Connection Service.

The type of connection service AusNet Services offers will depend on the nature of the connection required and the network capacity available.

The following table summarises where in this Connection Policy each type of connection is explained in further detail. For connection types where one or more of the Basic, Standard or Negotiated connections are available, the choice of service will often depend on the customer's particular circumstances.

Table 2-1: Further information for each type of connection

A connection for ...	... is covered in ...		
	Basic Connection	Standard Connection	Negotiated Connection
Residential and small business overhead	Section 3	Section 4	Section 5
Residential and small business underground	Section 3	Section 4	Section 5
Micro embedded generation	Section 3	n/a	Section 5
Temporary connection	Section 3	n/a	Section 5
Unmetered supply	n/a	n/a	Section 5
Customer connections requiring augmentation	n/a	n/a	Section 5
Embedded generation connections	n/a	n/a	Section 5
Real estate developments	n/a	n/a	Section 5

### 2.3.1 Basic Connection Service

As the name suggests, the Basic Connection Service is the most straightforward connection, and will apply in the vast majority of cases. If the property is eligible for a basic connection, all you have to do is contact your chosen electricity retailer to organise the connection and provide the necessary paperwork from your registered electrical contractor (electrician).

AusNet Services offers two classes of Basic Connection Service:

- A basic connection service where connection between the distribution system and the customer's premises requires minimal or no augmentation of the distribution network.
- A basic micro embedded generation connection service, which is for the connection of micro embedded generators with a maximum capacity less than 5 kVA per phase (or more than 3.5 kVA if connected to a SWER powerline).

A retail customer is only eligible for a Basic Connection Service if the proposed connection satisfies certain conditions. These conditions are described in further detail in Chapter 3 of this Connection Policy and in the relevant Model Standing Offer (MSO). If a retail customer is not eligible for a Basic Connection Service or prefers to negotiate the terms and conditions of the connection service, AusNet Services will offer a Negotiated Connection Service.

### 2.3.2 Standard Connection Service

AusNet Services offers a Standard Connection Service for underground connections within a specified distance from the distribution network, as set out in Table 4-1. This service includes trenching and boring under roads, if required. Underground connections that require longer extensions are classified as Negotiated Connection Services.

### 2.3.3 Negotiated Connection Service

A connection that does not meet the requirements of a basic or standard connection service is a negotiated connection service.

Most negotiated connection services are classified as a standard control service, meaning that the connection charges are approved by the AER.

An enhanced connection service is a specific type of negotiated connection service. This is a connection where the service is provided:

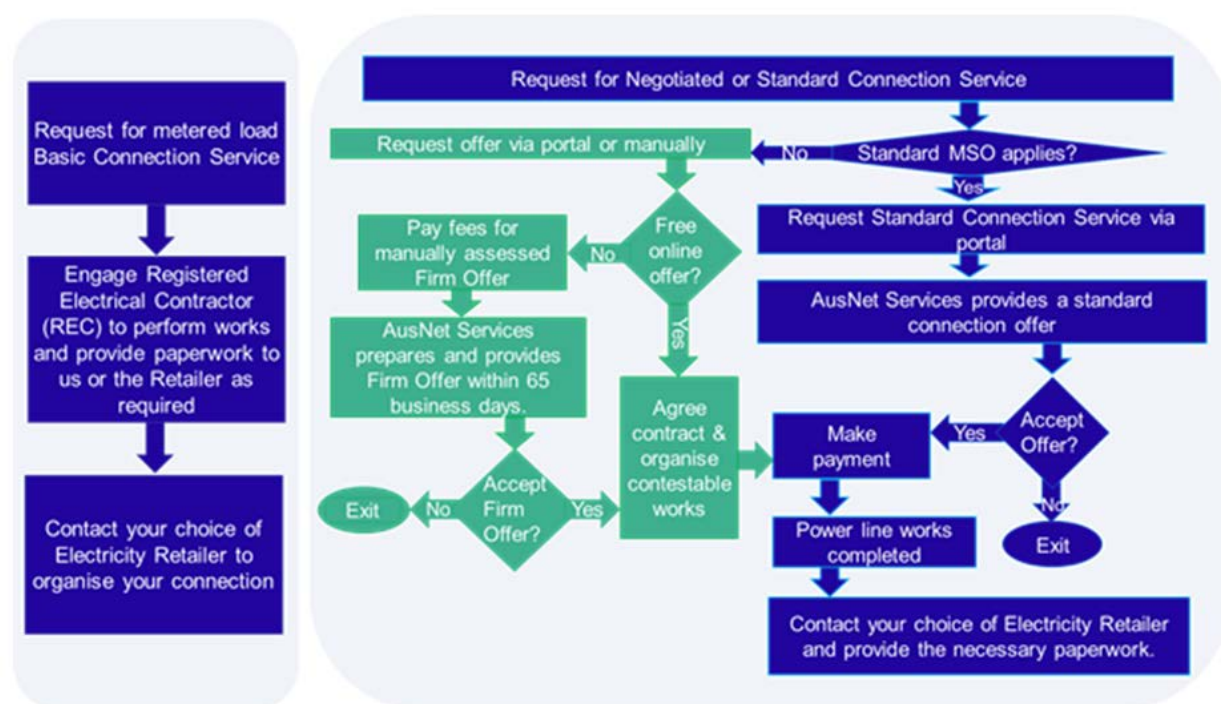
- with higher reliability standards, or lower reliability standards (where permissible) than those specified in the NER or any other applicable regulatory instruments; or
- at service levels or plant ratings in excess of those required by the regulatory framework to be provided by AusNet Services.

Enhanced connection services have been classified by the AER as alternative control services and connection charges will be calculated as quoted services.

## 2.4 Connection Process and Expedited Connections

The diagram below shows the typical steps required when arranging an electricity supply to a property. In particular, it illustrates the simplified process in obtaining a Basic Connection Service or Standard Connection Service, which does not require any negotiation between the connection applicant and AusNet Services.

Figure 4: Diagram of process for arranging an electricity supply



AusNet Services will use its best endeavours to provide connection applicant with an offer for:

- a basic connection services Model Standing Offer within 10 business days, or
- a standard connection services Model Standing Offer within 20 business days.<sup>4</sup>

We will notify the connection applicant within 10 business days if the request does not appear to satisfy the relevant qualifying conditions applying to that service. In these circumstances, the customer will require a Negotiated Connection Service.

If a connection applicant does not require a connection offer or signed agreement for a Basic Connection Service, the connection applicant may choose to expedite a connection. An

<sup>4</sup> AusNet Services will provide an offer within 10 business days of conducting a site-specific assessment or site inspection. It may take up to 10 business days to conduct this site-specific assessment or site inspection.

expedited connection request involves contacting an electricity retailer and providing the necessary paperwork from a Registered Electrical Contractor.

For an expedited connection, AusNet Services is taken to have made, and the connection applicant is taken to have accepted, a connection offer in accordance with the relevant Model Standing Offer on the date AusNet Services receives the application. An expedited connection is subject to the same qualifying conditions as a Basic Connection Service. AusNet Services will notify the customer as soon as possible if it becomes evident that these conditions are not satisfied.

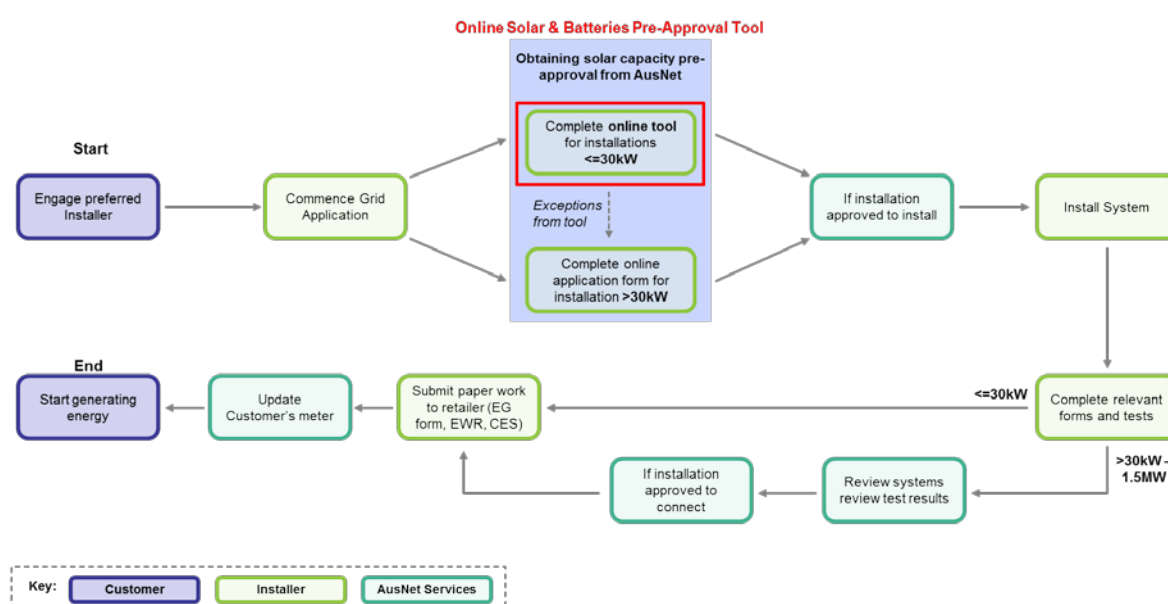
### 2.4.1 Connections of embedded generation (<1.5MW)

AusNet Services has an online tool that instantly assesses applications to connect solar and/or battery systems up to 10kW total inverter capacity per phase and 5kW (3.5kW for SWER) total export limit per phase. The online tool can be found here:

<https://www.ausnetservices.com.au/New-Connections/Solar-and-Battery-Connections/Small-Simple-Solar-Installations/Pre-approval-Tool-Welcome>

For systems greater than 30kW capacity and 15kW export, the connection applicant must apply for a manual technical assessment using the link above.

**Figure 5: Diagram of process for embedded generator connections**



## 2.5 Overview of Connection Charges

The charges payable for a connection application will depend on the nature of the connection service required, the demand and consumption profile and the work involved in establishing the connection. The connection charges that a connection applicant may be required to pay could include one or more of the following cost components:<sup>5</sup>

- Fees for connection services;
- A capital contribution charge;
- Metering costs;

<sup>5</sup> These components are set out in clause 5A.B.2(b)(5) of the NER and, in relation to pioneer schemes, clause 6.1.5 of the AER's connection charge guidelines for electricity retail customers.

- Costs of minor variations;
- Other incidental costs; and
- Charges payable to account for any pioneer schemes (also known as ‘reimbursement schemes’).

The following table describes each of these cost elements.

**Table 2-2: Summary of connection fees and charges**

Fee or Charge Group	Description
Connection Service Fee	<p>These fees cover the cost of the connection assets or alteration of the existing connection, including design, construction, commissioning and energisation of connection assets. The various connection services offered by AusNet Services are defined in Table 2-3 in section 2.6. The fees for these services are approved annually by the AER.</p> <p>Fees for connection services will need to be paid directly by the connection applicant.</p>
Capital Contribution Charge	<p>Capital contributions for extension or augmentation of the distribution system (including the customer's connection assets) may apply to connections where the expected demand exceeds an augmentation threshold. AusNet Services' augmentation threshold is 10 kVA on SWER lines<sup>6</sup> or 100A in total on 3 phase low voltage supply with no more than 40A per phase<sup>7</sup>. The rationale for these thresholds is discussed in section 2.7.</p> <p>All connection applicants will pay a capital contribution for any new network extensions required for their new connection or connection alteration, in addition to any augmentation of the connection assets.</p> <p>Capital contributions are calculated in accordance with section 2.7 of this Connection Policy.<sup>8</sup> Capital contributions do not apply in relation to Basic Connection Services.</p>
Metering costs	<p>The connection may require a change of meter, which would incur a metering charge. The metering costs will be charged in accordance with AusNet Services' published fees.</p>
Minor variations	<p>These costs arise if the connection requirements vary from the standard specifications as detailed in the applicable Model Standing Offer or as otherwise agreed with the connection applicant.</p>
Other incidental costs	<p>The connection applicant may be required to pay incidental costs arising from the connection, as detailed in the relevant Model Standing Offer or as otherwise agreed with the connection applicant.</p>
Pioneer Scheme Charge	<p>Where a connection is made to an extension funded by an original customer, AusNet Services may be required to refund customers already connected to the extension under a pioneer scheme (reimbursement scheme). The connection applicant (the subsequent customer) may be required to share costs of the original customer's connection by making an appropriate contribution towards the cost of the shared line.</p>

<sup>6</sup> SWER line means a single wire earth return (that is, a single-wire electricity distribution line which supplies single phase electrical power such that the earth is used as the return path for the current).

<sup>7</sup> Connections rated above 63A are capable of supplying current in excess of 100A. If the connection application does not include a 63A (or lower) protection device you will require a negotiated contract with AusNet Services.

<sup>8</sup> AusNet Services' capital contributions are calculated in accordance with section 5 of the AER's guidelines and the connection charge principles in clause 5.A.E1(c) of the NER.

Further information on the calculation of these cost components is provided in later sections of this Connection Policy and in the Model Standing Offer for Basic Connection Services and the Model Standing Offer for Standard Connection Services.

## 2.6 Regulation of connection fees

As noted in the previous section, the connection service fee is a component of the total cost of the connection. The AER classifies connection services depending on the nature of the service and the extent of competition in the provision of the service.

For the purpose of this Connection Policy, it is important to note that the AER's connection charge guideline requires AusNet Services to apply different connection charges depending on the AER's service classification. Given this requirement, the table below maps AusNet Services' connection services to the AER's service classification for regulatory purposes.

**Table 2-3: Connection services and the AER's service classification**

Service group	Further description	AER's Service Classification
Basic connection services	Means a <i>connection service</i> related to a <i>connection</i> (or a proposed connection) between a distribution system and a retail customer's premises (excluding a non-registered embedded generator's premises) in the following circumstances:  (a) either: 1. the retail customer is typical of a significant class of retail customers who have sought, or are likely to seek, the service; or 2. the retail customer is, or proposes to become, a micro embedded generator; and  (b) the provision of the service involves minimal or no augmentation of the distribution network; and  (c) a model standing offer has been approved by the AER for providing that service as a basic connection service.	Alternative control
Standard connection service	Means a connection service (other than a basic connection service) for a particular class (or sub-class) of connection applicant and for which a model standing offer has been approved by the AER.	Standard control
Negotiated connection	Means a connection service (other than a basic connection service) for which a DNSP provides a connection offer for a negotiated connection contract.  This includes connections under Chapter 5 of the NER.	Standard control



Service group	Further description	AER's Service Classification
Connection application and management services	<p>Connection application related services</p> <p>Works initiated by a customer or retailer that are specific to the connection point. This includes, but is not limited to:</p> <ul style="list-style-type: none"> <li>• field based de-energisation and re-energisation</li> <li>• non-basic supply abolishment or reposition non-basic connection</li> <li>• temporary connections (e.g. for builder's supply, fetes etc.)</li> <li>• overhead service line replacement – customer requests the existing overhead service to be replaced (e.g. because of a point of attachment relocation). No material change to load</li> <li>• protection and power quality assessment</li> <li>• supply enhancement (e.g. upgrade from single phase to three phase)</li> <li>• customer requested change requiring primary and secondary plant studies for safe operation of the network (e.g. change protection settings)</li> <li>• upgrade from overhead to underground service</li> <li>• rectification of illegal connections or damage to overhead or underground service cables</li> <li>• calculation of a site specific distribution loss factor on request in respect of a generating unit up to 10 MW or a connection point for an end-user with actual or forecast load up to 40 GWh per annum capacity, as per clause 3.6.3(b1) of the NER</li> <li>• calculation of site specific loss factors when required under the NER</li> <li>• power factor correction</li> <li>• embedded network management</li> <li>• assessing connection applications or a request to undertake relocation of network assets as contestable works and preparing offers</li> <li>• processing preliminary enquiries requiring site specific or written responses</li> <li>• undertaking planning studies and associated technical analysis (e.g. power quality investigations) to determine suitable/feasible connection options for further consideration by applicants</li> <li>• liaising with groups representing multiple connecting parties (e.g. community group upgrades)</li> <li>• site inspection in order to determine the nature of the connection service sought by the connection applicant and ongoing co-ordination for large projects</li> <li>• registered participant support services associated with connection arrangements and agreements made under Chapter 5 of the NER.</li> </ul>	Alternative control
Enhanced connection services (a specific type of negotiated connection service)	<p>Other or enhanced connection services provided at the request of a customer or third party that include those that are provided:</p> <ul style="list-style-type: none"> <li>• with higher reliability standards, or lower reliability standards (where permissible) than those specified in the NER or any other applicable regulatory instruments. This includes reserve feeder installation and maintenance.</li> <li>• at service levels or plant ratings in excess of those required by the regulatory framework to be provided by the AusNet Services.</li> </ul>	Alternative control/ negotiated/ Not classified

The AER regulates the connection fees that AusNet Services charges for the connection services set out above. The fees and the regulatory arrangements for annual changes are detailed in the current Victorian electricity distribution determination. AusNet Services submits an annual pricing proposal for the AER's approval to update the applicable fees in accordance with the AER's determination.

For a complete list of AusNet Services' current services and fees, please refer to AusNet Services' Annual Pricing Proposal at:

<https://www.ausnetservices.com.au/Misc-Pages/Links/About-Us/Charges-and-revenues/Network-tariffs>

## 2.7 Capital contribution

A capital contribution is a contribution paid by the connection applicant towards the cost of extending or augmenting the distribution network or building or installing other connection assets required to enable the new connection or connection alteration to be made. Where a capital contribution is required, AusNet Services will specify this and the amount of the contribution in the connection offer. The capital contribution must be paid as a lump sum before AusNet Services will commence the works.

Capital contributions for network augmentation (other than a network extension beyond the standard service line) are not required where:

- the connection service is offered under the terms and conditions of a Basic Connection Offer; or
- maximum demand at the connection point does not exceed 10 kVA on SWER lines or 100A on 3 phase low voltage supply (the augmentation threshold).

These maximum demand thresholds have been determined having regard to the principles set out in the AER guidelines for setting such thresholds. Based on the limited available capacity on SWER lines, the rural nature of AusNet Services' distribution network, and the average size of the connecting customers, AusNet Services considers that a threshold above 10 kVA for SWER connections would drive significant augmentation costs that would be unfair to share across all customers.

Where applicable, the capital contribution amount will be calculated in the following manner:

$$\text{Capital Contribution (CC)} = \text{ICCS} + \text{ICSN} - \text{IR}(n=X)$$

Where:

ICCS = Incremental Cost Customer Specific

ICSN = Incremental Cost Shared Network

IR (n=X) = Incremental Revenue.

A capital contribution is only payable where the incremental costs exceed the incremental revenue (i.e.  $CC > \$0$ ).

### 2.7.1 Incremental Cost of Customer Specific Connection Assets

The Incremental Cost Customer Specific (ICCS) is the incremental costs incurred by AusNet Services that are specific to the connection, such as network extension assets and augmentation of connection assets at the premises. The ICCS is calculated as the sum of the incremental costs specific to the connection, such as:

- design and construction of new customer-specific connection assets;
- design and augmentation of any existing connection assets at the customer's premises;
- network extension costs;



- administration costs (including design and certification costs);
- tender costs (where applicable); and
- provision of any other connection services that are to be used solely by the connection applicant.

Overheads will be applied in addition to the costs specific to the connection.

For the ICCS, AusNet Services will:

- determine the cost in a fair and reasonable manner and ensure that the cost estimate is reflective of the efficient cost of performing the service;
- calculate the cost on the basis of the least cost, technically acceptable (LCTA) standard necessary for the connection<sup>9</sup>, unless the connection applicant requests a connection service (or part thereof) to be provided to a higher standard. In these circumstances, the connection applicant is required to pay for the additional cost of providing the services to the higher standard; and
- include the relevant operating and maintenance costs for servicing the connection in the calculation of incremental cost and incremental revenue.

Where AusNet Services elects to provide the service to a higher standard or capacity than necessary to meet the connection applicant's requirement (other where the applicant is a real estate developer), AusNet Services will not charge the connection applicant for the additional cost. Where the connection applicant is a real estate developer, AusNet Services may provide the service to a higher capacity so as to efficiently provide for forecast load growth at that location and may charge the developer accordingly. The treatment of connection applications from real estate developers is discussed further in Chapter 6 of this Connection Policy.

## 2.7.2 Incremental Cost of Shared Network (ICSN)

The Incremental Cost Shared Network (ICSN) is the network cost AusNet Services incurs as a result of the new or altered connection, but which is not specific to the connection e.g. network augmentation (other than an extension beyond the standard service line). The ICSN is determined on the basis of unit rates, as follows:

$$\text{ICSN} = \text{Unit Rate} \times \text{Demand Estimate}$$

Where:

Unit Rate = Average cost of augmentation (other than an extension beyond standard service line) per unit of added capacity, expressed as \$/kVA

Demand Estimate = Estimated maximum demand at the connection point, measured in kVA

AusNet Services will apply the above ICSN formula when the connection applicant's expected demand is above the augmentation thresholds as described in section 2.7. The unit rates used to determine the ICSN are consistent with AusNet Services' approach in the AER's Electricity Distribution Determination for the 2016-20 regulatory control period.

The calculated unit rates reflect the average cost of shared network augmentation recently undertaken by AusNet Services, on a \$/kVA basis, for the following network components:

- Low voltage mains;
- Distribution substation;

<sup>9</sup> The LCTA standard may also depend on the location and nature of the connection. Please refer to section 7.3 of this Connection Policy for further details.

- Higher voltage feeder;
- Zone substation; and
- Sub-transmission line.

The unit rates vary according to the network component requiring augmentation, reflecting the cost that we incur in adding each unit of capacity to the network (measured in kVA), exclusive of overhead costs. The unit rates reflect the useful life of the network assets and the assumed period that the connection applicant is expected to use the network.

The applicable unit rates for residential and business customers in 2020 are presented in the following table.

**Table 2-4: AusNet Services' Augmentation Unit Rates, (\$ per kVA, \$2020 excluding overheads)**

	<b>Residential Customers</b>	<b>Business Customers</b>
LV feeder	\$1,191.75	\$872.60
Distribution substation	\$1,011.95	\$740.95
HV feeder	\$587.01	\$429.80
Zone substation	\$416.68	\$305.09
Sub-transmission line	\$76.30	\$55.87

Source: AusNet Services

Note: excludes overheads

In addition to the quoted augmentation unit rates presented in Table 2-5 above, AusNet Services will:

- apply price escalation in each year according to movements in the Consumer Price Index (CPI); and
- apply an overhead charge.

In determining the connection applicant's demand estimate for the purposes of the ICSN calculation, AusNet Services will:

- apply an average diversity factor for the corresponding customer type to estimate the customer's expected contribution to system peak demand; and
- in the case of a request to alter or upgrade an existing supply, apply a location-based diversity factor to the estimated increase in the connection applicant's maximum demand at the time of system peak.

In respect of these diversity factors:

- the cumulative diversity factor applied will vary depending on the point of connection and its geographic location; and
- the diversity factors vary for residential and business customers, reflecting the variations in the expected load placed on the network by different types of customers.

AusNet Services will apply the unit rates listed in Table 2-4 for all negotiated load connections where the cost-revenue test is applied, except for very large high voltage customers that require major upstream augmentation such as the establishment of a new zone substation and/or 66kV feeder assets including major upgrades. In such cases, AusNet Services will estimate the cost

of the shared network components used by the customer, having regard to the amount of capacity required to meet specific connection requirements and the retail customer's estimated maximum demand.

AusNet Services will also include the relevant operating and maintenance costs for servicing the connection in the calculation of the incremental cost of shared network.

The process for determining the estimated maximum demand is described in greater detail in section 2.9 of this Connection Policy.

### 2.7.3 Incremental Revenue Calculation

The Incremental Revenue ( $IR(n=X)$ ) is the present value of the incremental revenue stream expected to be received from the new or altered connection over a pre-defined period. For residential premises, this period is 30 years. For commercial and industrial premises, the period varies depending on the nature of the business and will be defined in the connection offer to a maximum of 15 years.

To estimate the incremental revenue, AusNet Services will:

- when calculating the present value of the revenue stream, apply the pre-tax weighted average cost of capital as:
  - set out in the AER Final Distribution Determination, or
  - updated annually in accordance with the AER Final Distribution Determination;
- use the price profile in the Final Distribution Determination and apply a flat profile in real terms thereafter;
- remove the component attributable to shared network augmentation costs from the network tariff where a customer's expected demand is below the augmentation threshold (in accordance with the AER connection charging guideline, clause 5.3.1(b));
- include the component attributable to incremental operational and maintenance costs in the network tariff.

All capital contributions will be calculated specifically for the connection applicant except in the case of Standard Connection Services which apply pre-calculated capital contributions. Standard Connection Services are discussed in Chapter 4 of this Connection Policy.

## 2.8 Higher standards under Electricity Safety (Bushfire Mitigation) Regulations

The least cost technically acceptable standard may depend on the location of the connection. For example, a higher standard may apply in areas specified as hazardous bushfire risk areas for the purposes of the Electricity Safety (Bushfire Mitigation) Regulations 2013. In these circumstances, the connection applicant will be required to pay for the additional cost of providing the services to the higher standard.

A codified area will usually require the use of covered or insulated conductor. A supply fed from a zone substation supported by Rapid Earth Fault Current Limiting (REFCL) technology or its transfer feeders may require additional works to maintain the capacity prescribed by the Electricity Safety (Bushfire Mitigation) Regulations 2013.

## 2.9 Measuring demand and consumption

Where the connection applicant is required to make a capital contribution, the connection offer will set out the demand and consumption estimates used to determine the amount of the capital contribution.

In general, the demand and consumption estimates will reflect the information supplied in the connection application. However, AusNet Services may also have regard to the actual

consumption and demand information from existing connections with similar characteristics. The demand and consumption estimates will account for the load characteristics, which will reflect the impacts of any embedded generation relevant to the connection offer.

Where AusNet Services and the connection applicant cannot reach agreement on the demand and consumption estimates for use in determining the capital contribution payable for the connection point, AusNet Services will apply a provisional estimate.

Where a provisional estimate is used to determine a capital contribution, the connection applicant may be subject to an additional charge or receive a refund of an upfront security deposit once the difference between the actual consumption and demand and provisional estimates of consumption and demand.

AusNet Services will assess the additional charge or security deposit refund payable within three years of the connection being energised. The amount of the additional charge or security deposit refund will be the difference between the actual capital contribution paid and the contribution calculated using the actual demand and consumption.

A security deposit refund will only be paid where the connection applicant is still solvent and continuing to utilise the premises at the contracted demand rates.

## 2.10 Pioneer Scheme

It is important that customers share in the costs of extending the network. Cost sharing arrangements or 'Pioneer Schemes' ensure that a customer that initially funds a network extension recovers part of their expenditure when other customers subsequently make use of that asset. For new connections that require network extensions, AusNet Services will apply a Pioneer Scheme in accordance with the AER's connection charge guidelines.

The Pioneer Scheme means that a connection applicant may be required to contribute to the costs of an existing line that is subject to the scheme as part of their connection fees and charges. The amount the customer will need to pay will be identified in AusNet Services' connection offer. If other customers subsequently connect, the connection applicant may recover a proportion of the contribution they paid from the subsequent customers.

AusNet Services applies the following principles under the Pioneer Scheme:

- The scheme applies for seven years after the network extension is complete.
- Capital contributions made in relation to an augmentation or alterations that did not involve a network extension are not subject to the Pioneer Scheme.
- Each extension is subject to a separate cost sharing arrangement under the Scheme, even if it connects to a pre-existing extension.
- The capital contribution paid by the customer for the network extension (which includes contributions to upstream augmentation and connection assets) is the maximum amount that may be recovered from new customer(s).
- The reimbursement amount payable by new customer(s) in relation to a network extension is based on the depreciated value of the relevant assets at the time of the connection application and the relative usage made by the new and existing customers, taking into account:
  - the physical attributes of the assets to be used by the new customer(s) (for example, length of line) relative to other customers already connected to the extension;
  - the amount of electricity demand forecast to be used by the new customer(s) relative to other customers already connected to the extension; and
  - the depreciated value of the assets, calculated on a straight line basis over a period of 20 years for the purpose of the scheme.

- A reimbursement under the Pioneer Scheme will only be paid where the minimum threshold is met. In accordance with the AER's connection charge guideline, the reimbursement threshold is \$1,198 for 2019/20.<sup>10</sup>
- Where a reimbursement is payable, the payment is made to the original connection applicant(s) that contributed to the relevant network extension.
- Where the network extension was built by a third party, AusNet Services estimates the cost of the extension and adopts this as the amount it would have charged to build the extension.
- Where the original extension was built to a higher standard or capacity than the least cost technically acceptable standard required by the original customer, the cost of constructing the network extension to the least cost technically acceptable standard will be used for the purpose of the Pioneer Scheme.
- In relation to real estate developments, the Pioneer Scheme only applies to customers connecting to the extension assets outside the pioneer developer's site boundary and not to premises connecting within the development.
- The Pioneer Scheme replaces AusNet Services' earlier cost sharing arrangements. AusNet Services will resolve any inconsistencies arising from earlier schemes and the current Pioneer Scheme by exercising reasonable discretion, having regard to the AER's connection charge guidelines and AusNet Services' previous practices.

## 2.11 Other cost sharing arrangements

AusNet Services may offer alternative cost sharing arrangements to those provided by the Pioneer Scheme.

Alternative cost sharing arrangements are specifically designed for circumstances where land adjacent to a development is expected to be rezoned for real estate development. In these cases, it is important that the electricity infrastructure is appropriately sized and the associated costs are shared appropriately between the initial and subsequent customers.

In broad terms, the alternative cost sharing will apply a \$/lot rate to reflect an appropriate contribution to the initial costs of the infrastructure. The calculation of the \$/lot rate and the payment arrangements will be subject to negotiation between AusNet Services and the developer.

Where these cost sharing arrangements apply, it is not necessary or appropriate to apply the Pioneer Scheme.

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<sup>10</sup> This figure reflects the AER's threshold of \$1,000 (2012 dollars), updated for CPI. The threshold will be updated annually by applying ABS CPI All Groups, Weighted Average of Eight Capital Cities, March to March Quarter.

## 3 Basic Connection Services

### 3.1 Qualifying conditions

The majority of AusNet Services' new connections for load and solar PVs do not require any augmentation. As such, the connection application process is relatively simple and the connection timeframes are typically within 10 business days from the customer's acceptance of a connection offer.

In order for a connection to be classified as a 'Basic Connection Service' the proposed connection must satisfy a number of qualifying conditions, which are set out in the table below. These qualifying conditions ensure that more complex connections, including those requiring augmentation of the distribution network, are not inappropriately classified as 'Basic Connection Services'.

**Table 3-1: Qualifying conditions for Basic Connection Services**

Basic Connection Service	Qualifying conditions
Customer connection to the distribution network	<p>For connection of residential and small business premises where:</p> <ul style="list-style-type: none"><li>• a low voltage supply with the necessary capacity is available;</li><li>• minimal or no augmentation is required;</li><li>• the maximum connection capacity does not exceed 100A<sup>11</sup> in total with no more than 40A per phase;</li><li>• the connection complies with our technical and metering requirements, as outlined in the relevant Model Standing Offer; and</li><li>• the proposed connection is not to a SWER line.</li></ul>

<sup>11</sup> Connections rated above 63A by the electrical contractor are capable of exceeding the 100A maximum allowed capacity. Therefore, unless the connection application includes a 63A (or lower) circuit breaker or equivalent maximum demand-limiting device, the customer will require a negotiated connection service.

Embedded generator connection to the distribution network	<p>For connection of a micro embedded generator where:</p> <ul style="list-style-type: none"> <li>• a low voltage supply with the necessary capacity is available;</li> <li>• The export capability and inverter capacity is consistent with the requirements of AS4777;</li> <li>• The proposed connection satisfies AusNet Services' safety and technical requirements<sup>12</sup>;</li> <li>• minimal or no network augmentation is required;</li> <li>• The total maximum export of all micro embedded generating units connected must not exceed: <ul style="list-style-type: none"> <li>○ 5 kVA per phase or</li> <li>○ 3.5 kW in the case of SWER connections.</li> </ul> </li> <li>• The export limits must not exceed: <ul style="list-style-type: none"> <li>○ 5 kW in the case of single-phase connections per phase; and</li> <li>○ 3.5 kW in the case of SWER connections.</li> </ul> </li> <li>• The total maximum inverter capacity of all micro embedded generating units connected must not exceed 10kVA per phase.</li> </ul>
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If the above conditions are not satisfied, the connection application will be classified as a Standard Connection Service or Negotiated Connection Service (see Chapters 4 and 5 of this Connection Policy for details).

It should also be noted that connection applicants who are entitled to a Basic Connection Service or Standard Connection Service have a right to negotiate the terms and conditions of their connection offer. Where the connection applicant prefers a negotiated outcome, the Model Standing Offer (and the associated processes) for Basic Connection Services do not apply. In these circumstances, AusNet Services will offer to provide a Negotiated Connection Service (see Chapter 5 of this Connection Policy for details).

## 3.2 Basic customer connections to the distribution network

AusNet Services will provide the following Basic Connection Services for customer connections to the distribution network:

**Table 3-2: Basic Connection types for customer connections**

Connection Types	Description
Routine connection of new premises – customers up to 100A	<p>Connection services to customers making connection of a new premise to the network. This service includes:</p> <ul style="list-style-type: none"> <li>• the provision of a service cable in areas with overhead supply; and</li> <li>• making a connection in an existing pit for customers in underground supply areas.</li> </ul> <p>See Table 3-3 for further details.</p>

<sup>12</sup> AusNet Services' safety and technical requirements are specified in the Model Standing Offer. It should be noted that these requirements may change from time to time in response to technological developments and operational experience.



Temporary connections and disconnections	Distributors provide temporary connection and/or disconnection services to specific customers on request. This is most commonly used for construction sites, although other examples include blood bank vans and community fetes.
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AusNet Services offers a number of different types of connections as Basic Connection Services. The table below describes each of these services.

**Table 3-3: Routine Connections up to 100A**

Service Name	Description
Single overhead (single-phase) connection	<p>Establish a single-phase connection between the connection point at a premises and our distribution system.</p> <p>The connection will be between the connection point and an existing low voltage pole that is no more than 20 metres from the premises' boundary on the same side of the street with no requirement to cross another property, and complying with statutory clearance requirements over driveways.<sup>13</sup></p>
Multi overhead (multiphase) – Direct connected meter	<p>Establish a multiphase connection between the connection point at a premises and our distribution system.</p> <p>The connection will be between the connection point and an existing low voltage pole that is no more than 20 metres from the premises' boundary on the same side of the street with no requirement to cross another property, and complying with statutory clearance requirement over driveways. The service is dependent upon the requested number of phases being available from existing network assets.</p> <p>A CT connected meter service is also available, but the connection is likely to exceed 100A and therefore will be provided as a Negotiated Connection Service.</p>
Single underground (single-phase) connection	<p>Establish a single-phase connection at a connection point between the premises and our distribution system.</p> <p>The connection point will be in an existing service pit or pillar located on the property boundary that has sufficient capacity for the connection requested. The location of the connection point must not require the consumer mains to cross another property.</p>
Multi underground (multiphase) – Direct connected meter	<p>Establish a multiphase connection at a 'connection point' between the premises and our distribution system.</p> <p>The connection point will be in an existing service pit or pillar located on the property boundary that has sufficient capacity for the connection requested. The location of the connection point must not require the consumer mains to cross another property.</p> <p>The service is dependent upon the requested number of phases being available from existing network assets.</p> <p>A current transformer (CT) connected meter service is also available, but the connection is likely to exceed 100A and therefore will be provided as a Negotiated Connection Service.</p>

<sup>13</sup> Section 7.4.4 of the Service Installation Rules (SIRs) requires a minimum line clearance of 4.6 metres (including in service sag) over driveways and vehicle accessible areas.



Service Name	Description
Temporary Overhead Supply	<p>Establish a single-phase connection at a 'connection point' between the premises and our distribution system.</p> <p>The connection point will be on an existing low voltage pole that is no more than 20 metres from the premises' boundary on the same side of the street with no requirement to cross another property, and complying with statutory clearance requirements over driveways.</p>

### 3.3 Basic micro embedded generator connections

For micro embedded generators that qualify as a Basic Connection Service, AusNet Services conducts an automatic assessment and approval process at no cost to the customer. An expedited application process is available online, whereby the connection application is taken to have accepted our Basic Connection Service offer by the submitting the connection application. Where there insufficient information to process an expedited assessment or there are capacity constraints on the network, a manual technical assessment will be undertaken.

AusNet Services does not levy a specific connection service fee for basic micro embedded generator connection applications. However, ancillary services may be required of the kind set out in the table below. The cost of these services will be charged to the connection applicant.

**Table 3-4: Connection application and management services for micro embedded generation**

Service name	Service description
Meter exchange upon installation of a small scale renewable energy generation system	A meter is required to be changed at a site as a result of the installation of a renewable energy installation such as solar generation.
Meter reconfiguration upon installation of a small scale renewable energy generation system	An existing meter is required to be reconfigured at a site as a result of the installation of a renewable energy installation such as solar generation.

### 3.4 Fees and charges

The following table sets out the fees and charges that may be payable under a Model Standing Offer for Basic Connection Services or Model Standing Offer for Basic Connection Services (Micro Embedded Generation).

**Table 3-5: Applicable fees for Basic Connection Services**

Service Charge Group	Routine connection of new premises – customers up to 100A	Temporary connections and disconnections	Micro embedded generation
Fees for connection services	✓	✓	✗ <sup>14</sup>
Capital contribution for network extension <sup>15</sup>	✗	✗	✗
Charges for connection augmentation <sup>16</sup>	✗	✗	✗
Capital contribution for network augmentation <sup>17</sup>	✗	✗	✗
Charges for meter type	As required	As required	As required
Minor variations/other incidentals	As required	As required	As required
Reimbursement Payment (Pioneer Scheme) - See section 3.6 below.	As required	✗	As required

<sup>14</sup> Customers requesting a micro embedded connection will either already have an existing connection service or will request a connection service and pay the relevant service fee for connection to the distribution network.

<sup>15</sup> If a network extension is required, the connection service is a Negotiated Connection Service.

<sup>16</sup> If augmentation of the connection assets is required, the connection service is a Negotiated Connection Service.

<sup>17</sup> The Basic Connection Service does not include connections that require network augmentation.

### 3.5 Capital contributions

For Basic Connection Services, the connection applicant is not required to pay a capital contribution for shared network (upstream) augmentation (such as a requirement to increase the distribution network capacity because of the applicant's connection).

Where a new connection gives rise to a need for a network extension or augmentation of the shared network or existing connection assets, the applicant is required to contribute to the cost of these works. In these circumstances, the connection service is classified as a Standard or Negotiated Connection Service and the relevant provisions described below apply.

### 3.6 Pioneer Scheme

As explained in section 2.10, AusNet Services applies a Pioneer Scheme in accordance with the AER's connection charge guideline. In order to give effect to this arrangement, a connection applicant may be required to make a reimbursement payment where the proposed connection makes use of a network extension that was initially funded by another customer. The operation of the Pioneer Scheme is described in section 2.10 of this Connection Policy.

### 3.7 Payment of connection charges

The total connection charges payable is the sum of the applicable fees and charges set out in Table 3-5. AusNet Services requires these charges to be paid as a lump sum at the time the connection offer is accepted, and prior to any construction work being undertaken. Alternatively, the customer may request the connection service through their retailer and the retailer will recover the costs from the customer.

### 3.8 Further information

Further information on basic connections is available in the following AusNet Services publications:

- Basic Connections Standing Model Offer
- Customer Connection Guide

These publications, and other related fact sheets, are available from the AusNet Services website at: <https://ausnetservices.com.au/New-Connections>

## 4 Standard Connection Services

### 4.1 Qualifying conditions

AusNet Services offers Standard Connection Services for underground connections that require a network extension, not exceeding a specified distance from the existing low voltage supply. Customers may be eligible for a Standard Connection Service depending on whether:

- the proposed connection is within 15 metres or between 15 and 40 metres of the existing low voltage supply; and
- the service pit is for dual use or single use.

Given the different combination of circumstances, AusNet Services currently offers six Standard Connection Services, with additional charges applicable if there is a road crossing or a site-specific Aboriginal cultural heritage due diligence assessment is required. AusNet Services anticipates adding additional Standard Connection Services during the 2022-26 regulatory period and these will be available on our website here:

<https://www.ausnetservices.com.au/New-Connections/Electricity-Connections>

A pre-calculated capital contribution applies to the provision of each Standard Connection Service, and must be paid by the connection applicant in accordance with the Model Standing Offer. The amount payable is based on average cost and incremental revenue estimates. This approach delivers the following benefits to customers:

- It reduces the volume of customer-specific information required by AusNet Services to prepare a quote for the connection service; and
- The customer is not required to pay a security deposit, because the capital contribution is based on average data, rather than the customer's particular usage.

AusNet Services has also identified 'minor variations/other incidentals' that may be required by a customer, where:

- the proposed connection service crosses more than one road; and/or
- a site specific Aboriginal cultural heritage due diligence assessment is required.

To further assist customers, the Model Standing Offer for Standard Connection Services also specifies the costs of these 'minor variations/other incidentals', in addition to specifying the pre-calculated capital contribution for each Standard Connection Service.

The qualifying conditions for each Standard Connection Service closely align with those for Basic Connection Services. The key difference is that for Standard Connection Services, the low voltage supply can be some distance from the customer's premises. Therefore, the qualifying conditions for each Standard Connection Service require that:

- a low voltage supply is available with the necessary capacity and within the specified distance from the proposed connection;
- maximum connection capacity of 100A with no more than 40A per phase;
- compliance with the technical and safety obligations; and
- connection to a line that is not a SWER line.

It should be noted that the Standard Connection Service applies to single underground extensions, not to connection applications involving multiple underground extensions. If a connection application does not satisfy the qualifying conditions for a Standard Connection Service, the connection will be classified as a Negotiated Connection Service.

## 4.2 Standard connection to the distribution network

A description of the Standard Connection Services is set out in the table below. To simplify the presentation of information in Table 4-1, we describe three connection types:

- Underground extension of up to 40 metres to the existing overhead supply;
- Underground extension of up to 15 metres to the existing underground supply; and
- Underground extension of between 15 and 40 metres to the existing underground supply.

As already noted, however, each of these services has two options depending on the service is for dual use or single use.

**Table 4-1: Standard Connection types for customer connections**

Standard Connection Service	Description
Underground extension (up to 40 metres) to the existing overhead supply	<p>Provision of an underground connection service to a customer's single premises, where requested to do so by the customer, and the proposed connection point is within 40 metres of an existing low voltage pole. This service involves installing an underground service pit and undertaking the necessary trenching and boring.</p> <p>AusNet Services offers two standard services at different prices, depending on whether the service is single use or dual use. If a road crossing is required, an additional Connection Service charge applies.</p>
Underground extension (up to 15 metres) to the existing underground supply	<p>Provision of an underground connection service to a customer's single premises, where requested to do so by the customer, and the proposed connection point is within 15 metres of the existing low voltage underground reticulation (mains cabling). This service involves installing an underground service pit and undertaking the necessary trenching and boring.</p> <p>AusNet Services offers two standard services at different prices, depending on whether the service is single use or dual use. If a road crossing is required, an additional Connection Service charge applies.</p>
Underground extension (between 15 and 40 metres) to the existing underground supply	<p>Provision of an underground connection service to a customer's single premises, where requested to do so by the customer, and the proposed connection point is between 15 and 40 metres of the existing low voltage underground reticulation (mains cabling). This service involves installing an underground service pit and undertaking the necessary trenching and boring.</p> <p>AusNet Services offers two standard services at different prices, depending on whether the service is single or dual use. If a road crossing is required, an additional Connection Service charge applies.</p>

## 4.3 Fees and charges

The following table sets out the fees and charges that are payable under a Model Standing Offer for the Standard Connection Services. The underground extension to the existing overhead or underground supply does not include Basic Connection Services for routine new connections and addition of micro EG generation. These Basic Connection Services must be requested separately.

The table simplifies the presentation by only showing the charges that apply for underground extensions to an existing overhead supply or an existing underground supply. The applicable charges are the same in both cases, as they are for each of the six of standard connection services that we offer.

Table 4-2: Applicable fees for the Standard Connection Service

Service Charge Group	Underground extension to the existing overhead supply	Underground extension to the existing underground supply
Fees for the relevant Basic connection services	Requested separately	Requested separately
Pre-calculated capital contribution	✓	✓
Minor variations/other incidentals	As required	As required
Reimbursement payment (Pioneer Scheme) - see section 4.5 below.	As required	As required

#### 4.4 Pre-calculated capital contribution

The AER's connection charge guidelines allow distributors to set a pre-calculated capital contribution if the connection applicants are expected to have substantially the same connection service and expected usage characteristics. Pre-calculated capital contributions are specified in the model standing offer for standard connection services.<sup>18</sup>

The AER's guideline requires that the pre-calculated capital contribution charge must be included in a distribution network service provider's basic or standard connection offers and should:<sup>19</sup>

- not create unreasonable cross subsidisation within the class; and
- reflect the average or typical capital contribution that would be charged to connection applicants within the class, if the cost-revenue-test was individually applied to each connection applicant's connection service.

To ensure that all customers are treated fairly and cross-subsidies are minimised, AusNet Services has defined its underground connection services so that customers are likely to have similar connection service and usage characteristics.

In addition, as each Standard Connection Service is essentially a Basic Connection Service with a small underground extension, it is important that there is equitable treatment between customers requesting a Basic Connection Service and those requesting a Standard Connection Service. Given this objective, AusNet Services' approach is that a connection applicant for a Standard Connection Service:

- should pay the AER-approved connection fee for the equivalent Basic Connection Service.
- should pay the pre-calculated capital contribution; and
- should not contribute to the augmentation of the shared network, as Basic Connection Services are not subject to these charges

#### 4.5 Pioneer Scheme

A connection applicant will be required to make a reimbursement payment where the proposed connection will make use of an existing network mains extension that was funded by an original customer through a capital contribution. However, network extensions that are provided as part of a Standard Connection Service featuring an underground extension to the existing overhead supply are not subject to the Pioneer Scheme, as the reimbursement amount will be below the

<sup>18</sup> <https://www.ausnetservices.com.au/-/media/Files/AusNet/New-Connections/Model-Standing-Offer-for-standard-connection-submission.ashx?la=en>

<sup>19</sup> AER, Connection charge guidelines for electricity retail customers, June 2012, clause 5.5.2.

threshold amount (as described in section 2.10 of this Connection Policy). In the case of a Standard Connection Service including an underground extension to the existing underground supply, the extension is typically provided to real estate developers sub-dividing land and are not subject to Pioneer Scheme payments.

#### 4.6 Payment of connection charges

The total connection charges payable is the sum of the applicable fees and charges set out in Table 4-2. AusNet Services requires the connection applicant to pay these charges as a lump sum at the time the connection offer is accepted, and prior to any construction work being undertaken.

#### 4.7 Further information

Further information on the Standard Connection Services is available in the following AusNet Services publications:

- Standard Connections Standing Model Offer; and
- Customer Connection Guide.

These publications, and other related fact sheets, are available from the AusNet Services website at <https://ausnetservices.com.au/New-Connections>

## 5 Negotiated Connection Services

This chapter sets out information regarding AusNet Services' provision of Negotiated Connection Services. As previously noted, all connection applicants have a right to negotiate the terms and conditions of their connection offer. Where the connection applicant elects to negotiate the terms and conditions of their connection, the Model Standing Offers for Basic and Standard Connection Services do not apply.

### 5.1 Qualifying conditions

There are a number of qualifying conditions for Negotiated Connection Services. Any service that is not a Basic or Standard Connection Service is classified as a Negotiated Connection Service.

**Table 5-1: Qualifying conditions for Negotiated Connection Services**

Negotiated Connection Service	Qualifying conditions
Customer connections to the distribution network	<p>For connection of residential and business premises where:</p> <ul style="list-style-type: none"> <li>• a network extension is required because low voltage supply is not available;</li> <li>• the maximum connection capacity exceeds 100A<sup>20</sup> or more than 40A per phase; or</li> <li>• augmentation of the shared network or connection assets is required; or</li> <li>• the connection does not comply with our technical and metering requirements, as outlined in the Basic or Standard Connection Services Model Standing Offer; or</li> <li>• the proposed connection is to a SWER line.</li> </ul>
Embedded generation connections to the distribution network	<p>For connection of an embedded generator where:</p> <ul style="list-style-type: none"> <li>• Low voltage supply is available;</li> <li>• The export capability and inverter capacity is not consistent with the requirements of AS4777;</li> <li>• The proposed connection satisfies AusNet Services' safety and technical requirements<sup>21</sup>;</li> <li>• Connection or network augmentation is required;</li> <li>• The export limits exceed: <ul style="list-style-type: none"> <li>○ 5 kW in the case of single-phase connections per phase; and</li> <li>○ 3.5 kW in the case of SWER connections.</li> </ul> </li> <li>• The total maximum inverter capacity of all micro embedded generating units connected exceeds 10kVA per phase.</li> </ul>

<sup>20</sup> Connections rated above 63A by the electrical contractor are capable of exceeding the 100A maximum allowed capacity. Therefore, unless the connection application includes a 63A (or lower) circuit breaker or equivalent maximum demand-limiting device, the customer will require a negotiated connection service.



## 5.2 Negotiated customer connections to the distribution network

AusNet Services will provide Negotiated Connection Services for customer connections to the distribution network, as set out in the table below.

**Table 5-2: Negotiated Connection types for customer connections**

Negotiated Connection Service	Description
Routine connection of new premises – customers over 100A	Routine connection services to customers making connection of a new premise to the network where that customer is above 100A. These services do not require augmentation of the shared network.
New connections requiring augmentation	This service applies in circumstances where: <ul style="list-style-type: none"> <li>• augmentation of the shared network is required; or</li> <li>• a network extension is required outside the scope of a Standard Connection Service; or</li> <li>• alterations are required to existing connection assets.</li> </ul>
Rearrangement of existing assets at customer request, excluding alteration and relocation of public lighting assets	Works associated with any rearrangement of existing assets at the customer's request.
Unmetered supply	Unmetered supply is rarely available to connection customers. Telstra and NBN are the primary customers that require unmetered supply.
Enhanced connection services (a specific type of negotiated connection service)	Other or enhanced connection services provided at the request of a customer or third party, including those that are provided: <ul style="list-style-type: none"> <li>• with higher reliability standards, or lower reliability standards (where permissible) than those specified in the NER or any other applicable regulatory instruments. This includes reserve feeder installation and maintenance.</li> <li>• at service levels or plant ratings in excess of those required by the regulatory framework to be provided by AusNet Services.</li> </ul>

## 5.3 Negotiated embedded generation connections

Where an embedded generator connection does not qualify for the basic micro embedded generation connection then AusNet Services will offer a Negotiated Connection Service. AusNet Services provides a manual assessment of the PV and small generator installation applications (described in the table below) to determine the technical implications of the proposed connection.

As noted in Table 5-1, a low voltage supply must be available in order to obtain a negotiated embedded generation connection service. If it is not, a connection application must be made concurrently. Where the connection applicant is also seeking a connection to the distribution network, the network requirements arising from the proposed connection of the embedded generator are considered at the same time. The capital contribution for non-registered embedded generators that are also load customers is calculated based on the total cost of the

<sup>21</sup> AusNet Services' safety and technical requirements are specified in the Model Standing Offer. It should be noted that these requirements may change from time to time in response to technological developments and operational experience.

works required to support both the generation (expected electricity output) and load components of the connection service.

**Table 5-3: Approval services for embedded generator connections**

Service name	Description
Manual assessment of PV & small generator installation enquiry, 4.6kW to 15kW.	These services involve AusNet Services manually assessing whether or not the connection of a PV or small generator installation at a particular site will have any technical implications for its upstream distribution network and require further augmentation.  This only occurs in situations where a request for preliminary assessment of whether a DER connection would be allowed without network augmentation application is referred by the online site approval web portal for manual assessment.
Manual assessment of PV & small generator installation enquiry, 15kW to 30kW.	
Manual assessment of PV & small generator installation enquiry, 30kW to 1.5MW	A manual assessment will be performed on a quoted basis.

As part of the pre-approval process, AusNet Services may recommend the customer install an export-limiting device in order to avoid incurring the cost of upstream augmentation. If the embedded generation applicant chooses not to install an export-limiting device, these augmentation costs would otherwise fall on AusNet Services and other network customers. In these circumstances, the embedded generation connection applicant must obtain a 'new connection requiring augmentation' service and pay the associated connection costs.

The following ancillary services may also be required on completion of the embedded generation connection.

**Table 5-4: Connection application and management services for embedded generation connections**

Service name	Service description
Meter exchange upon installation of a small scale renewable energy generation system	The meter at the site must be changed as a result of the installation of a renewable energy installation such as solar generation.
Meter reconfiguration upon installation of a small scale renewable energy generation system	The existing meter at the site must be reconfigured as a result of the installation of a renewable energy installation such as solar generation.

## 5.4 Fees and Charges

The fees and charges that are payable for a Negotiated Connection Service are subject to negotiation with AusNet Services'. AusNet Services will determine:

- the technical requirements for the proposed new connection or connection alteration; and
- the extent and costs of any necessary augmentation of the distribution system; and
- any consequent change in charges for distribution use of system services.

In accordance with clause 5A.C.4 of the NER, AusNet Services charges the connection applicant a reasonable fee (a Negotiation Application Fee) to cover expenses directly and reasonably incurred by us in assessing the application and making a connection offer.

The table below summarises the applicable fees for Negotiated Connection Services.

**Table 5-5: Connection Charges for Negotiated Connection Services**

Fees and charges	Routine Connections over 100A <sup>22</sup>	New connections requiring augmentation	Re-arrangement of existing assets	Unmetered supply	Embedded generation
Pre-approval service	✗	✗	✗	✗	✓
Negotiation Application fee	✗	✓	✗	✓	✓
Design and construction of connection assets	As required	As required	As required	As required	As required
Capital contribution for network extension	✗	As required	✗	As required	As required
Capital contribution for network augmentation	✗	As required	As required	✗	As required
Charges for meter type	As required	As required	As required	✗	As required
Minor variations/other incidentals	As required	As required	As required	As required	As required
Reimbursement Payment (Pioneer Scheme) - see section 5.7	✓	✓	✓	✗	✗ <sup>23</sup>

## 5.5 Augmentation threshold

As shown in Table 5-5, a capital contribution for network extension or shared network augmentation may apply to some connections. However, a capital contribution is not payable if the capacity of the connection does not exceed the following threshold:<sup>24</sup>

- 10 kVA for a connection to a SWER line; or
- a maximum capacity of 100A<sup>25</sup> on 3 phase low voltage supply elsewhere in AusNet Services' distribution network.

The rationale for these thresholds is explained in section 2.7. Any capital contribution is calculated in accordance with the formula, which is also set out in section 2.7 of this Connection Policy.

## 5.6 Payment of connection charges

The total connection charges payable are the sum of the applicable fees and charges set out in Table 5-5. AusNet Services requires these charges to be paid as a lump sum at the time the connection offer is accepted, and prior to any construction work being undertaken.

<sup>22</sup> This service applies where there is no augmentation of the shared network required. If the connection requires augmentation, the charges for "New connections requiring augmentation" would apply.

<sup>23</sup> As the connection to the distribution network is a qualifying condition for this service, any reimbursement relating to a pioneer scheme would be made as part of the load connection.

<sup>24</sup> No augmentation fee is payable if the connection service is offered under the terms and conditions of a Basic Connection Offer (see section 2.7) or a Standard Connection Offer (see section 4.4).

<sup>25</sup> Connections rated above 63A by the electrical contractor are capable of exceeding the 100A threshold, unless limited by a circuit breaker or equivalent maximum demand-limiting device.

## 5.7 Pioneer Scheme

As already noted, the Pioneer Scheme operates to ensure a fair sharing of network extension costs between existing and future customers.

A connection applicant may be required to make a reimbursement scheme payment where the connection will make use of a network extension that is subject to the Pioneer Scheme (i.e. the network extension was funded by an original customer via a capital contribution).

Further detail on the application of the Pioneer Scheme may be found in section 2.10 of this Connection Policy.

## 5.8 Security deposits and fees

AusNet Services may require a connection applicant to provide a security deposit and may withhold a security fee from the deposit where:

- the customer fails to take supply/utilise the capacity of the new or additional assets within the first three years of supply being made available; or
- the customer discontinues the use of the supply without warning; or
- the customer's actual consumption is less than the amount estimated in calculating the capital contribution.

Further information about the application of security deposits and fees is contained in section 7.2 of this Connection Policy.

## 5.9 Minimum demand agreements

As an alternative to charging a security deposit for a single site connection with minimum demand exceeding 50 kVA, AusNet Services may negotiate a minimum demand agreement with the customer. Under this arrangement, the customer agrees to be assigned to a minimum demand-based network tariff for a specified period. This approach gives AusNet Services greater certainty about its ability to recover the costs it incurs in providing the connection service. The terms of any such agreement will depend on the particular circumstances and will be subject to negotiation.

## 5.10 Further information

Further information on negotiated connections is available from AusNet Services' website at: <https://ausnetservices.com.au/New-Connections>

# 6 Real estate developers

## 6.1 Overview

Real estate developers are responsible for the design and construction of electrical reticulation and connection assets within the boundaries of their property development. For the purpose of this connection policy, real estate development includes the commercial development of land in one or more of the following ways:

- residential housing and commercial / industrial subdivisions;
- construction of commercial and / or industrial premises (e.g. shopping centres); and
- construction of multiple new residential premises.

Connecting real estate developments to AusNet Services' distribution network typically involves extending the distribution network and augmenting the upstream network. These works are

necessary to ensure the network is sized to allow for the expected future electricity demand from the development.

All connections for real estate developments are subject to a Negotiated Connection Offer. Connection applications for real estate development connections will only be accepted from the real estate developer.

## 6.2 Connection charges

The connection charges for real estate developments are summarised in the table below:

**Table 6-1: Applicable charges for Negotiated Connection Services**

<b>Fees and charges</b>	<b>Applicable to Negotiated Connection Service?</b>
Negotiation Application Fee	✓
Design and construction of connection assets	As required
Capital contribution for network extension and/or modification	As required
Capital contribution for network augmentation	As required
Charges for meter type	As required
Minor variations/other incidentals	As required
Reimbursement Payment (Pioneer Scheme)	As required

These charges relate solely to the connection of the real estate development to the distribution network, and are additional to any costs the real estate developer may incur in the design and construction of reticulation assets within the development.

The connection charges are payable in accordance with the terms and conditions set out in AusNet Services' Negotiated Connection Offer.

## 6.3 Capital contributions

The capital contributions for augmentation of the shared network are calculated in accordance with section 2.7 of this Connection Policy, with the exception that the augmentation threshold does not apply (as mandated by the AER's connection charge guidelines and the NER).

A real estate developer is treated as a single customer for the purpose of calculating a capital contribution. The estimated incremental revenue from the development includes all the sites/connection services within a real estate development. The incremental costs may include the costs of the connection services and the efficient cost of providing for forecast demand.

## 6.4 Pioneer Scheme

Real estate developers seek to recover their connection costs through the sale of real estate. As such, it is not appropriate to require customers within a development to make payments to share the connection costs. Therefore, developers are typically not entitled to receive the reimbursement payments under the Pioneer Scheme.

There is an exception for line extensions that are outside the developer's site boundary. Under this exception, a developer may receive a rebate if that line extension is later used by a subsequent real estate development outside the initial development. Similarly, developers may be required to make a reimbursement scheme payment where their development makes use of

a network extension that is subject to a Pioneer Scheme (i.e. that was funded by an original customer via a capital contribution).

As explained in section 2.10, AusNet Services may negotiate alternative cost sharing arrangements with developers, under which a charge is levied on a \$/lot basis. Such arrangements may be a more efficient and administratively simpler way to ensure effective cost sharing.

### 6.5 Payment of connection charges

The total connection charges payable by the connection applicant is the sum of the applicable fees and charges set out in Table 6-1 above. At AusNet Services' discretion, the payment terms may be subject to negotiation between the parties. In the absence of mutually acceptable terms, the connection cost must be paid as a lump sum at the time the connection offer is accepted, and prior to any construction work being undertaken.

### 6.6 Security deposits and fees

AusNet Services requires the developer to provide a security deposit and may charge the customer a security fee from the deposit to mitigate the risks to AusNet Services associated with the development, including the risk that AusNet Services may not recover the projected future revenue from the provision of standard control services.

Further details of the application of security fees are provided in section 7.2 of this Connection Policy.

### 6.7 Further information

Further information for connection of real estate developments please contact us by calling 1300 360 795 or emailing us on [supplyrequest@ausnetservices.com.au](mailto:supplyrequest@ausnetservices.com.au).

## 7 Other matters

### 7.1 Contestable Services

There are certain tasks in the connection process that only AusNet Services can undertake for safety or operational reasons, such as physical connections to our network ('tie-ins') and auditing third party network system designs and connection assets. AusNet Services will allow customers to arrange most other works, including the tendering and construction of extension works. Works that can be undertaken by a third party are "Contestable Services", and typically include:

- project management;
- some design, including surveying and drafting services; and
- construction, which includes the provision of all materials and 'as-constructed' plans.

The cost of Contestable Services depends on a number of variables, including:

- the distance of line extension to the property;
- addressing environmental considerations (such as impacts on trees) or overcoming objections from third parties;
- the type and size of equipment used to provide the amount of supply requested; and
- meeting regulatory requirements, such as those applied by the Department of Natural Resources and Environment and local Councils.

A customer can elect to use an Approved Contractor (instead of AusNet Services) to provide Contestable Services. An Approved Contractor has demonstrated to AusNet Services that they have the necessary qualifications, training, experience, and quality systems of work to provide the Contestable Services lawfully and safely. If the customer elects to use an Approved Contractor, the customer can request AusNet Services to conduct the tender exercise on their behalf. A fee applies for this service.

All Contestable Services designs are subject to approval by AusNet Services to ensure they are technically appropriate and have considered the overall impact and potential future needs of the electricity network.

When the customer chooses an Approved Contractor to perform Contestable Services, AusNet Services may require a Refundable Guarantee from the customer to cover any costs associated with fixing faults or defects that may arise from the contractor's work. Any unused portion of the Refundable Guarantee will be returned after one year from the completion of the connection works.

A compliance audit of the Approved Contractor's work must be completed to ensure compliance with our construction standards prior to connecting to our system. This inspection is necessary because AusNet Services is responsible for the safety and future maintenance of the line after connection occurs. The customer must pay the Audit Fee for this inspection and any necessary subsequent inspections.

### 7.2 Security deposits and fees

In certain circumstances, AusNet Services may require the payment of a security deposit or bank guarantee and may withhold a security fee from the deposit. We do this in circumstances where we consider there is a significant risk that we may not earn the estimated incremental revenue from the connection services we provide. If a security deposit is charged, AusNet



Services may require an amount to be paid upfront, or we may require a financial security<sup>26</sup> to be provided for an the amount which is the lesser of:

- the incremental revenue at risk of non-recovery; and
- the incremental cost incurred by AusNet Services in providing the connection service.

Under these circumstances, where the security deposit is provided as an upfront payment, AusNet Services will rebate the security deposit via annual instalments, with the annual rebate being:

- any interest earned on the security, calculated at the interest rate (cost of debt) approved by the AER for the current revenue determination; plus
- the lesser of:
  - the actual incremental revenue received from the customer for the year; and
  - the security deposit that was paid for that year.

AusNet Services will not require a security deposit:

- for an amount that exceeds the value of the incremental revenue which is at risk of not being recovered;
- for an amount that exceeds the present value of the incremental costs incurred by us; or
- where the total value of the network augmentation or connection asset augmentation is valued at less than \$10,000.

### 7.3 Dispute resolution

If a connection applicant wishes to dispute AusNet Services' connection charges or the terms and conditions of a connection agreement, disputes are managed in accordance with AusNet Services' Customer Complaint and Dispute Resolution Policy and the principles of the International Standard ISO 10002. A copy of the Customer Complaint and Dispute Resolution Policy is available from our website at: <https://www.ausnetservices.com.au/Misc-Pages/Links/Contact-Us>

AusNet Services will endeavour to resolve any disputes in a timely, fair and transparent manner.

A connection applicant is entitled to refer a dispute to the AER. Information on the AER's customer connection dispute resolution process is available on the AER's website at: <http://www.aer.gov.au/about-us/dispute-resolution>.

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<sup>26</sup> Such as a bank guarantee.



## Glossary

Abbreviation	Full Name
AEMO	Australian Energy Market Operator
AER	Australian Energy Regulator
CC	Capital Contribution
CPI	Consumer Price Index
DUOS	Distribution Use of System
EG	Embedded Generation
ICCS	Incremental Cost Customer Specific
ICSN	Incremental Cost Shared Network
IR	Incremental Revenue
kVA	Kilovolt amperes
PV	Photovoltaic

## Definitions

Alternative Control Services	A distribution service provided by AusNet Services that the AER has classified as an Alternative Control Service under the NER.
Approved Contractor	A contractor approved by AusNet Services that can provide Contestable Services.
Augmentation	Work to enlarge the distribution system or to increase its capacity to distribute electricity.
Australian Energy Regulator (AER)	The AER is an independent statutory authority that is part of the Australian Competition and Consumer Commission. The AER is responsible for the economic regulation of electricity networks in the National Electricity Market.
Basic Connection Service	A connection service that meets the requirements for a Basic Connection Offer as set out in Chapter 3 of this Connection Policy.
Capital Contribution	A capital contribution may be charged where a network extension, augmentation or connection assets are required for a new connection or alteration in accordance with this policy.
Codified Area	Defined under the Electricity Safety (Bushfire Mitigation) Regulations as 'Electric Line Construction' areas.
Connection	A physical link between a distribution system and a retail customer's premises to allow the flow of electricity.
Connection alteration	An alteration to an existing connection including an addition, upgrade, extension, expansion, augmentation or any other kind of alteration.
Connection applicant	An applicant for a connection service who is either a retail customer; retailer or other proxy for a retail customer, or a real estate developer.
Connection application	An application made under clause 5A.D.3 of the NER.
Connection assets	Those components of a transmission or distribution system which are used to provide connection services. Connection assets are those assets required to connect an electrical installation to the shared network and are all the assets from the connection point back up to and including the network coupling point.
Connection charge	A charge imposed by a Distribution Network Service Provider for a connection service.
Connection contract	A contract formed by the making and acceptance of a connection offer.
Connection offer	An offer by a Distribution Network Service Provider to enter into a connection contract with a retail customer or a real estate developer.

Connection point	The agreed point of supply established between Network Service Provider(s) and another Registered Participant, Non-Registered Customer or franchise customer.
Connection policy	A document, approved as a connection policy by the AER under Chapter 7, Part E of the NER.
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.
Contestable Service	A service is contestable where it can be provided on a competitive basis. Contestable Services can be provided by AusNet Services or an Approved Contractor.
Customer	A person or entity that receives, or wants to receive a supply of electricity for a premises, or any other distribution service from AusNet Services.
Distribution Network Service Provider	A person that owns, controls or operates a Distribution Network and the associated connection assets. AusNet Services is a distribution network service provider.
Distribution system	The electrical system used to transport electricity from the high voltage transmission network connection point to distribution network users.
Distribution Use of System (DUOS) charge	The component of the network tariffs which covers costs associated with connection services and/or use of the distribution network for the conveyance of electricity.
Energy	The amount of electricity consumed by a consumer over a period of time. Energy is measured in terms of watt hours, such as kilowatt hours (kWh), megawatt hours (MWh) or gigawatt hours (GWh).
Extension	Work that involves the construction and connection of a power line or facility outside the present boundaries of the distribution network owned, controlled or operated by AusNet Services.
National Electricity Rules	Rules made under the National Electricity Law which govern the operation of the National Electricity Market.
Negotiated Connection Service	A connection service that is not a Basic Connection Service or a Standard Connection Service.
New connection	A connection established or to be established, in accordance with Chapter 5A of the NER and applicable energy laws, where there is no existing connection.
Non-registered embedded generator	An embedded generator that is neither a micro embedded generator nor a Registered Participant.
Original customer	The connection applicant who triggered the requirement and paid for the construction of an extension asset.
Pioneer scheme	A scheme to enable original customers to receive a partial refund of their capital contributions where the network extension funded by the capital contribution is subsequently used by other customers.

Real Estate Developer	A person who carries out a real estate development.
Real estate development	<p>The commercial development of land including its development in one or more of the following ways:</p> <ul style="list-style-type: none"><li>(a) subdivision;</li><li>(b) the construction of commercial or industrial premises (or both);</li><li>(c) the construction of multiple new residential premises.</li></ul>
Registered participant	A person who is registered by AEMO in any one or more of the categories listed in rules 2.2 to 2.7 of the NER (in the case of a person who is registered by AEMO as a Trader, such a person is only a Registered Participant for the purposes referred to in rule 2.5A of the NER). However, as set out in clause 8.2.1(a1), for the purposes of some provisions of rule 8.2 of the NER only, AEMO, Connection Applicants, Metering Providers and Metering Data Providers who are not otherwise Registered Participants are also deemed to be Registered Participants.
Standard Connection Service	A connection service that meets the requirements for a Standard Connection Offer as set out in Chapter 4 of this Connection Policy