



31 January 2023

Attachment 5.6.f: Connection policy

Ausgrid's 2024-29 Regulatory Proposal

Empowering communities for a resilient,
affordable and net-zero future.



Connection Policy

Purpose	This policy is Ausgrid's Connection Policy prepared in accordance with the <i>National Electricity Rules</i> (the Rules), the <i>Electricity Supply Act 1995</i> and the AER Connection Charge Guidelines. It outlines the circumstances when a customer is required to pay Ausgrid for connection services and how these connection charges are calculated.															
Applies to	Customers requesting a new connection, or connection alteration under Chapter 5A of the Rules.															
Effective period	This policy applies to the period from 1 July 2024 to 30 June 2029.															
Introduction	<p>In NSW, the majority of work to establish a new, or alter an existing, connection to Ausgrid's distribution system is performed by Accredited Service Providers (ASPs). Ausgrid determines whether the work required to make a new connection or connection alteration is a contestable service according to the AER service classification.</p> <p>There are some connection services that can only be provided by Ausgrid and for which Ausgrid charges the customer. These services and associated charges are regulated by the Australian Energy Regulator (AER).</p>															
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Correspondence	All correspondence should be directed to connectionpolicy@ausgrid.com.au															

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1 Key principles and requirements

1.1 Connection works Connection works are the works on or related to the electricity network required to connect a customer's installation to the electricity network, or to alter an existing connection (including disconnecting an existing supply). The works may involve augmenting the network by installing new network infrastructure; or upgrading, reconfiguring, or decommissioning existing infrastructure. They do not include works within a customer's electrical installation. Connection works may be provided by a customer funded ASP, or by Ausgrid.

1.2 Connection services funded by the customer Connection services funded by the connection customer are:

- 1. Contestable services provided by an ASP.** This includes the design and construction of connection assets at the customer's premises and may include augmentation of the distribution system. These services are provided to the customer by ASPs in the contestable marketplace and are known as contestable services.
- 2. Ancillary services** that can only be provided by Ausgrid and that are either necessary for the connection or requested by the customer. Connection charges for ancillary services are regulated by the AER and are published on Ausgrid's website.
- 3. Customer requirements.** Where a customer requests a higher standard of supply beyond the least cost technically acceptable standard offered by Ausgrid, the customer is required to fund the marginal cost of the additional work Ausgrid incurs.
- 4. Pioneer scheme contribution.** Where a new customer uses a network extension that was paid for by another customer within 7 years, the new customer may be required to make a payment towards the cost of the extension assets.
- 5. Providing land for connection assets.** The customer may be required to provide a location for connection assets on their site or a third party's site.

1.3 Types of connection services Ausgrid offers three categories of connection services:

- **Basic services** are offered to customers who are under the threshold set in **section 1.5**; or to customers (including those installing micro embedded generation) who require minimal or no augmentation of the network.
- **Standard services** are offered for most other connections.
- **Negotiated services** are offered to customers who do not qualify for Ausgrid's basic or standard services, or who prefer a negotiated agreement.

The AER approves model standing offers that cover the terms and conditions under which basic and standard services are provided.

1.4 Contestable services If Ausgrid determines that any of the required work is a contestable service, the customer must engage a suitably accredited and authorised Accredited Service Provider (ASP) to complete this work. The charges for contestable services are unregulated and subject to agreement between by the customer and their selected ASP. The contestable services required for a new connection or connection alteration may include:

- Providing and installing connection assets at the customer's connection point and also within the customer's electrical installation;
- Providing and installing an extension from the connection point to Ausgrid's existing network boundary; and
- Augmenting the existing Ausgrid network (except for retail customers below the threshold in section 1.5 of this policy).

Distribution system assets that are constructed as a contestable service must be gifted to Alpha Distribution Ministerial Holding Company (the owner and lessor of the Ausgrid network) as a contributed asset and form part of the Ausgrid network when they are energised.

1.5 Threshold for retail customers Ausgrid does not require a retail customer (other than a real estate developer or a non-registered embedded generator) to fund an augmentation of the existing network if they are:

- A low voltage customer with a maximum capacity less than:
- 100 amps single phase for a customer in a rural area; or
- 100 amps per phase, three phase, in a non-rural area.

1.6 Scope of augmentation works for the connection

Ausgrid specifies the least cost technically acceptable standard for works required to make the new connection or connection alteration in accordance with its network policies, standards and legal obligations to adequately supply the maximum capacity.

If a real estate developer applies for a new connection or connection alteration, or the connection services are provided under a negotiated connection contract, Ausgrid's assessment of the electrical load requirements of customers may include forecast load growth.

If Ausgrid determines that the supply services required by a customer exceeds that which can be provided by a service line from the street mains, then Ausgrid may require the customer to fund the installation of transformers, switchgear and other equipment.

The customer is only responsible for the cost of network augmentation that is required to enable the connection to be made.

1.7 Interests in land The customer is required to provide Ausgrid, free of cost, a place on their premises, or (if appropriate) a third party's premises, to accommodate network infrastructure required for their connection; and easements, leases or any other reasonable interests in land required by Ausgrid in order to provide the connection.

1.8 Where Ausgrid funds augmentation works

Ausgrid funds augmentation works associated with a connection in the following circumstances:

- Any augmentation of the shared network required for customers who qualify for basic connection services;
- Where Ausgrid asks the customer's ASP to construct network infrastructure additional to that necessary for the connection as set out in 1.6;
- Where Ausgrid uses a network extension that was paid for by another customer within 7 years to supply general network load, Ausgrid will make a payment towards the cost of the extension assets under the pioneer scheme reimbursement scheme set out in section 4;
- For certain augmentation works that are required for the connection that can only be done by Ausgrid and which are not ancillary services to be funded by the customer. In these circumstances Ausgrid may require the customer to provide a financial guarantee to cover its costs as set out in section 3 of this policy; and
- Under exceptional circumstances, where Ausgrid has agreed to fund the augmentation works under a negotiated connection agreement with a customer (generally a customer with demand greater than 10MVA). Ausgrid will only agree to fund these works where appropriate revenue security mechanisms are in place (e.g. negotiated tariffs or a financial guarantee) so that the cost of those works will be recovered from that customer and not materially from the general customer base.

These works are classified as standard control services and Ausgrid does not charge the customer a connection charge for these works.

1.9 Customer requirements

If a customer requests any augmentation works as an alternative to, or in addition to Ausgrid's standards, and Ausgrid agrees with the request, the customer is required to pay any additional costs incurred by Ausgrid. This charge is payable to Ausgrid and is determined as follows:

- Labour costs are calculated by multiplying the estimated number of hours to complete the work by the relevant hourly ancillary service rate; and
 - Other costs, including material and contracted services costs, are charged at cost.
-

1.10 Work outside normal business hours

If Ausgrid is required to perform work outside of normal business hours, either at the customer's request or because works must be carried out after hours, then Ausgrid will charge its approved overtime rate for the service.

1.11 Payment of charges

Ausgrid will seek payment of ancillary service fees for all connection services it provides. Generally, an upfront payment will be required prior to the service being performed.

Where Ausgrid completes works under section 1.9 of this policy, if the connection works can be logically segmented into distinct stages of construction then a payment schedule that aligns with the construction stages may be negotiated.

2 Maximum capacity and export constraints

2.1 When applying to connect

When an applicant submits a connection application to Ausgrid, they must also submit the expected and planned future maximum demand calculations in accordance with AS/NZS 3000. The maximum demand worksheet must be included with a connection application for standard connection services or negotiated connection services. Where an embedded generation unit is proposed, the applicant must provide the installed capacity for all embedded generating units proposed and existing at the premises.

While Ausgrid takes into consideration the capacity applied for, we are not obligated to agree to the requested capacity, and may offer a different figure, taking into account, for example, network limitations, load diversification and the timing of augmentation works.

2.2 Exceeding the maximum capacity

If a premises owner exceeds the maximum capacity for their premises, then they are required, at their expense, to either:

- Remediate their maximum demand or export to within the agreed limit (e.g. by installing a load or export limiting device at their premises); or
 - Enter into a new connection agreement for a greater maximum capacity.
-

2.3 Ausgrid may reduce the maximum capacity

Ausgrid may subsequently reduce the maximum capacity of a connection to a premises if:

- The customer's measured demand or export (as determined by standards published by us from time to time) has remained less than the corresponding agreed maximum capacity for at least the previous two years;
- Ausgrid requires the unused network capacity to relieve a forecast network constraint; and
- The premises owner does not have a current negotiated agreement with Ausgrid to reserve this capacity.

Ausgrid will notify the premises owner in writing if this occurs. The revised maximum capacity will not be less than the demand measured during the previous two years.

2.4 Ausgrid may impose export and import constraints

The *maximum capacity* that you can export will normally be your *maximum export capacity* unless we notify the premises owner in writing. However, the actual load exported may be less than your *maximum export capacity*. This is because the amount of electricity that may be exported from your premises will depend upon various factors including the location of the premises, the number of embedded generator units already connected within the area in which your premises is located, the capacity of our distribution system, time of day and safety and technical factors impacting the distribution system.

Ausgrid may introduce a *dynamic operating envelope* for new or existing customers to assist in the efficient operation of the distribution system or to address network constraints either alone or in combination with a change to the maximum capacity in accordance with clause 2.4 by notifying the premises owner in writing. *Dynamic operating envelopes* will not change your *maximum capacity* but will affect when it might be possible for this to be achieved.

2.5 Static Zero Export Limits

Ausgrid will only impose *static zero export limits* where a customer requests the limit or in accordance with any standard assessment framework for zero static export limits it develops over the course of this regulatory period in accordance with the following principles:

- The identification of network limitations caused by constraints such as (but not limited to):
 - Thermal issues
 - Voltage issues
 - Protection systems
 - Network expenditure that has not already been undertaken to relieve these network constraints;
 - That a static zero export limit is the least cost option for addressing the above network constraints; and
 - Provided the connection applicant is not utilising a suitable dynamic response system, specified by Ausgrid.
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3 Financial guarantee for Ausgrid works

3.1 Ausgrid works

There are certain types of work that can only be done by Ausgrid due to system security, reliability or health and safety obligations, or because the work requires specialised services that cannot be provided by other parties. To decide if work required for a new connection or connection alteration can only be done by Ausgrid, we carry out a risk assessment and make a decision based on our risk management principles.

Where Ausgrid carries out this work and the work is not ancillary services to be funded by the customer:

- It is funded by Ausgrid as a standard control service and the costs are recovered on an ongoing basis via distribution use of system charges; and
- Ausgrid may require the customer to provide a security fee to ensure the costs are adequately recovered from that customer.

The security fee is required where the Ausgrid funded work is substantial (nominally \$1m or more) and the augmentation is initially only for the customer's benefit. In these circumstances Ausgrid considers there is a material risk that Ausgrid may not receive the estimated incremental revenue from the construction of the augmentation works.

3.2 Security fee is provided as a financial guarantee

The security fee is provided in the form of a financial guarantee.

The financial guarantee is a binding legal agreement the customer commits to pay Ausgrid a minimum level of network revenue each year to cover the costs of the Ausgrid funded augmentation works. The period of the financial guarantee is generally between 5 and 10 years as determined by Ausgrid.

The financial guarantee is secured by a bank guarantee or other suitable financial instrument as agreed by Ausgrid. Ausgrid is entitled to draw down on the bank guarantee any shortfall in revenue in accordance with the terms stated in the bank guarantee or other financial instrument.

The financial guarantee is established at the same time as the design of the augmentation and prior to the works being initiated.

3.3 Amount of the security fee

The maximum amount of a security fee will be:

1. The present value of the incremental costs incurred by Ausgrid in undertaking the work; and
 2. (if this amount is smaller) the estimated incremental revenue that Ausgrid assesses as having a high risk of not being recovered,
- and is determined in accordance with the AER Connection Charge Guidelines.
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4 Pioneer Reimbursement Scheme

4.1 Establishing Pioneer schemes

A customer (the original customer) who has fully funded a network extension is entitled to have some of their costs reimbursed by Ausgrid if new customer(s) connect to that network extension within 7 years of the asset being electrified under Ausgrid's pioneer scheme.

A pioneer scheme only applies to connection applicants connecting to the network extension at a point outside the boundary of the original customer's development. The pioneer scheme commences on the date the extension asset was electrified.

4.2 Payment of the refund

Ausgrid may recover the reimbursement amount from the new customer(s) as part of their connection charges.

As soon as practicable after the new customer pays Ausgrid the reimbursement amount, Ausgrid will pay the reimbursement to either:

- The current owner of the original premises, if the original premises has a single customer; or
 - The original connection customer who funded the extension, if the original premises has multiple connected customers.
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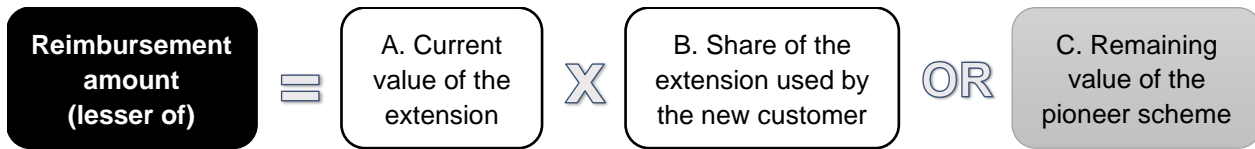
4.3 How much is the reimbursement amount

The reimbursement amount is the lesser of the calculated refund and the remaining value of the pioneer scheme. The calculated refund is determined based on:

- The current value of the network extension assets, depreciated on a straight line basis over a 20 year period, calculated at the date the new customer accepts the connection offer; and
- The share of the extension used by the new customer(s) relative to other customer(s) already supplied by the extension in terms of maximum capacity, and/or other physical attributes (e.g. length) as applicable.

However, no amount is payable if the total reimbursement payable to all customers already connected is less than \$1000 (\$, real, 2012), adjusted for CPI.

Details of this calculation are provided on the following page.



$$\text{A. Current value of the extension} = \text{original value of the extension} \times \frac{\text{CPI (2)}}{\text{CPI(1)}} \times \text{depreciation factor}$$

where: **original value of the extension** means Ausgrid’s estimate of the value of the works and only includes the construction works funded by the original customer(s). If the extension assets were constructed to a higher standard or capacity than the least cost technically acceptable standard required by Ausgrid, then only the cost of constructing the extension to the standard required by Ausgrid will be subject to the pioneer scheme.

CPI(1) is the average of the consumer price indices (All Groups, All Capital Cities), published by the Australian Bureau of Statistics for the previous 4 quarters immediately prior to the date that the original customer’s works are completed.

CPI(2) is the average of the consumer price indices (All Groups, All Capital Cities), published by the Australian Bureau of Statistics, for the previous 4 quarters immediately prior to date of the new customer’s application for customer connection services.

The depreciation factor is determined as follows:
 Deemed asset life (20 years – asset age) / (Deemed life (20 Years))

$$\text{B. Share of the extension used by a customer} = \frac{\text{customer's use of the extension}}{\text{total utilisation of the extension}}$$

where: **customer’s use of the extension** is the proportion of the extension used by a particular customer as specified on their application for connection services, generally expressed in:

- For a distribution feeder, the customer’s maximum capacity in kVA multiplied by the length of the feeder used by the customer in km;
- For substations, the customer’s maximum capacity in kVA; or
- The customers maximum capacity in amps for the extension

Total utilisation of the extension is the total utilisation of the extension by all customers who use or will use the extension, including prospective customers, and generally expressed in:

- For a distribution feeder, load in kVA multiplied by the length of the feeder in km;
- For substations, load in kVA; or
- The load in amps for the extension.

C. Remaining value of the pioneer scheme =
$$\begin{array}{l} \text{current value of the} \\ \text{extension (A)} \\ \times \\ (1 - \text{share of the} \\ \text{extension used by the} \\ \text{original customer (B)}) \end{array}$$
 less: total refunds paid by new customers to Ausgrid in respect of those works as at date of the new customer's application for customer connection services.

5 Dictionary

Terms marked by an asterisk (*) have the meaning given in the Rules, the *Electricity Supply Act 1995* and the *National Electricity (NSW) Law* as amended from time to time. These terms (as at the time of publication of this policy) are reproduced here for convenience of the reader.

ancillary services	Non-routine services provided to the customer by Ausgrid on an as needed basis and for which ancillary service fees are payable.
augmentation*	Work to enlarge the distribution system or to increase its capacity to transmit or distribute electricity
AER	The Australian Energy Regulator
ASP	An Accredited Service Provider, accredited under the Electricity Supply Act 1995 (NSW)
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 point	The agreed point of supply established between Ausgrid and its customer.
contestable service	A service that Ausgrid determines must be provided by an ASP
customer	A retail customer, or a real estate developer who requests (or on whose behalf a request is made for) a new connection or connection alteration.
distribution system	Ausgrid's distribution network, together with the associated connection assets
dynamic operating envelope	An <i>operating envelope</i> which is time-varying, based on the available capacity of the local network or the power system as a whole
embedded generating unit	A unit that generates electricity at a customer's premises and is connected to the distribution system.
extension	An augmentation that requires the connection of a power line or facility outside the present boundaries of the distribution network owned, controlled or operated by Ausgrid
feeder	Any overhead line or underground cable that is part of Ausgrid's distribution system
maximum capacity	The maximum capacity of a connection is the maximum load approved by Ausgrid that a connected customer may draw from or export to from the distribution system
maximum export capacity	This is the installed capacity for all embedded generating units proposed or existing at the premises.
micro embedded generator	A retail customer who operates, or proposed to operate, an embedded generating unit for which a micro EG connection is appropriate (being a connection of the kind contemplated by Australian Standard AS 4777 (Grid connection of energy systems via inverters))
network*	The apparatus, equipment, plant and buildings used to convey, and control the conveyance of, electricity to customers (whether wholesale or retail) excluding any connection assets. In relation to Ausgrid, the electricity network owned, operated or controlled by Ausgrid
new connection*	A connection established or to be established, in accordance with Chapter 5 of the NER and applicable energy laws, where there is no existing connection
Operating envelope	The combination of export limits and import limits applied to a connection point or to one or more devices behind a connection point.
the Rules	The National Electricity Rules or the National Electricity Retail Rules
real estate developer*	A person who carries out real estate development (being the commercial development of land including its development in one or more of the following ways: <ul style="list-style-type: none"> • subdivision; • the construction of commercial or industrial premises (or both); and • the construction of multiple new residential premises

<i>retail customer</i>	A person to whom electricity is sold by a retailer, and supplied in respect of connection points, for the premises of the person, and includes an embedded generator and a micro embedded generator (as those terms are defined in the Rules)
<i>rural area</i>	An area zoned as rural under a local environment plan made under the Environmental Planning and Assessment Act 1979 (NSW)
<i>static zero export limit</i>	a limit which means that the customer may not export power into the distribution at any time of day or under any network operating conditions
<i>supply services</i>	means a service (other than a connection service) relating to the supply of electricity (whether for import or export).