DRAFT DECISION

CitiPower
Distribution Determination
2021 to 2026

Attachment 18
Connection policy

September 2020

AUSTRALIAN ENERGY REGULATOR

Inquiries about this publication should be addressed to:

Australian Energy Regulator
GPO Box 520
Melbourne Vic 3001

Tel: 1300 585 165
Email: VIC2021-26@aer.gov.au

Note

This attachment forms part of the AER's draft decision on the distribution determination that will apply to CitiPower for the 2021–26 regulatory control period. It should be read with all other parts of the draft decision.

The draft decision includes the following attachments:

Overview

Attachment 1 – Annual revenue requirement

Attachment 2 – Regulatory asset base

Attachment 3 – Rate of return

Attachment 4 – Regulatory depreciation

Attachment 5 – Capital expenditure

Attachment 6 – Operating expenditure

Attachment 7 – Corporate income tax

Attachment 8 – Efficiency benefit sharing scheme

Attachment 9 – Capital expenditure sharing scheme

Attachment 10 – Service target performance incentive scheme

Attachment 11 – Demand management incentive scheme and demand management innovation allowance mechanism

Attachment 12 – Not applicable to this distributor

Attachment 13 – Classification of services

Attachment 14 – Control mechanisms

Attachment 15 – Pass through events

Attachment 16 – Alternative control services

Attachment 17 – Negotiated services framework and criteria

Attachment 18 – Connection policy

Attachment 19 – Tariff structure statement

Attachment A – Victorian f-factor incentive scheme

Contents

18 Connection policy

We are required to approve a connection policy prepared by a distributor under the National Electricity Rules (NER).[1]

A connection policy sets out the nature of connection services offered by a distributor, when connection charges may be payable by retail customers and how those charges are calculated. A connection policy:[2]

- must be consistent with:
    - the connection charge principles set out in chapter 5A of the NER
    - the connection policy requirements set out in part DA of chapter 6 of the NER
    - our connection charge guidelines published under chapter 5A[3], and
- must detail:
    - 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 connection 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)
    - a threshold (based on capacity or any other measure identified in the connection charge guidelines) 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 other than an extension.

Our connection charge guidelines for electricity retail customers

A connection policy must be consistent with our connection charge guidelines for electricity retail customers to ensure that connection charges:

- are reasonable and take into account the efficient costs of providing the connection services arising from the new connection or connection alteration
- provide, without undue administrative cost, a user-pays signal to reflect the efficient costs of providing the connection services

---

1 NER, Part DA of chapter 6.

2 NER, cl. 6.7A.1(b).

3 AER, *Connection charge guideline for electricity retail customers, Under chapter 5A of the National Electricity Rules Version 1.0*, June 2012.

- limit cross-subsidisation of connection costs between different classes (or subclasses) of retail customers
- are competitively neutral, if the connection services are contestable.

18.1 Draft decision

We do not approve CitiPower's connection policy because it does not contain all the necessary information and because it contains some conditions that are inconsistent with our connection charge guidelines. These include:

- unclear definitions of shared network works and maximum demand
- incorrect threshold for upstream charges
- misalignment with service and installation rules requirements for basic overhead connections
- omission of reference to public lighting and application of augmentation unit rates.

We have amended CitiPower's connection policy to the extent necessary to enable it to be approved in accordance with the NER.[4]

18.2 CitiPower's proposal

CitiPower's connection policy provides an outline of its connection services, when connection charges may be payable by its retail customers and how those charges are calculated.[5]

18.3 Stakeholder consultation and Framework and Approach

Following stakeholder consultation, we proposed to classify standard connections as standard control service consistent with our 2016–20 determinations for Victorian distributors in the final framework and approach.[6] Our approach is to classify negotiated connections as a direct control service, and further, as a standard control service. We did not classify negotiated connection services in our 2016–20 determinations for Victorian distributors.[7] A classification of standard control is also appropriate because connection costs are based on the full cost of providing the service, subject to a cost revenue test that takes into account future revenue earned from tariffs paid by a connecting customer. Application of the cost revenue test means a connecting customer will eventually pay the full cost of their connection and

---

4 Rule 6.12.3(j)(2) provides that we may amend the proposed connection policy to the extent necessary to enable it to be approved in accordance with the NER.

5 CitiPower, *Distribution Connection Pricing Regulatory Policy, Control Period: 1 July 2019 to 30 June 2024.*

6 AER, *Final framework and approach, Victorian Distributors,* January 2019, p. 36

7 AER, *Final framework and approach, Victorian Distributors,* January 2019, p. 37.

contribute to shared network costs. This payment, however, will occur through both ongoing payment of distribution tariffs and, if required, a capital contribution.

Submissions

We received 21 submissions on the distributors' proposals and our issue paper.[8] Of these five were directly related to the connection policy.

Origin Energy's submission was concerned that connection related services are charged under alternative control services categories.[9] These issues are addressed in Attachment 16 – Alternative control services of our draft decision.

The AER's Consumer Challenge Panel (CCP17) commented that: [10]

> There has also been some mention of a proposed, albeit minor, change to the connections policy that applies to all Victorian DBs. If this is the case, we commend the work done by Endeavour Energy in New South Wales where, in conjunction with CCP10, it was highlighted that any change to connections policy should:
>
> a) Demonstrate a tendency towards 'causer-pays'; and
>
> b) Include robust engagement with consumers, in particular the DB's Customer Consultative Committee, to clearly explain the reasons for the change and the implications on all customers.

Our response: We agree with CCP17 that the connection policy should lead towards causer-pays principle. Our connection charge guideline published under Chapter 5A of the NER has been prepared to minimise cross-subsidies.

Evie Networks' submission focused on the relationship between the initial capital contribution for connection of new charging stations and the subsequent network tariffs that apply to electric vehicles. It considers that the current approved tariff structure statements do not appear consistent with the National Electricity Law requirements that tariffs are based on the long run marginal cost (LRMC).[11]

Our response:

- While related, connection cost is a separate matter from the network tariff. Connection charges are about ensuring that only inefficient connections need to pay for an upfront capital contribution through the application of the cost/revenue test—this approach will reduce the level of cross-subsidisation between new and

[8] Submissions to AER on the 2021–26 EDPR proposals can be found on the following webpage: https://www.aer.gov.au/networks-pipelines/determinations-access-arrangements/citipower-determination-2016-20/proposal.

[9] Origin Energy - *Submission to Victorian electricity distributors regulatory proposals*, 3 June 2020, p.7.

[10] CCP17 - *Comments on the CitiPower, Powercor and United Energy Draft Regulatory Proposal (Draft Plan) as part of the Victorian Electricity Distribution Businesses 2021–2025 Regulatory Reset,* 30 July 2020, p.13.

[11] Evie Networks - *Submission on the Victorian Electricity Distribution Regulatory Proposal 2021–26* - June 2020, pp. 3–10.

existing network users. It should also be noted that capital contributions from new customers are netted off from distributors' regulated asset base.[12]

- The objective of the network tariff is about appropriate allocation of network costs to network users.

The Electric Vehicle Council's submission raises the matter of timeliness of connections, amongst other matters.[13]

Our response: The timelines of connection processes are specified by chapter 5A of the NER, hence is not a matter covered by a network's connection policy.

Attachment 19 – Tariff structure statement of this draft decision includes a fuller discussion of the issues raised by electric vehicle stakeholders.

18.4 Assessment Approach

We examined the proposed connection policy against the requirements of Part DA of chapter 6 of the NER as stated above—whether it:

- is consistent with the connection charge principles set out in chapter 5A of the NER, and our connection charge guidelines
- contains all the information for new customers as prescribed by the NER.

In addition, we also examined whether:

- other connection related charges included in the connection policy, such as metering installation charges, are consistent with the service classification of this preliminary determination
- the connection policy contains terms that are not fair and reasonable.

18.5 Reasons for draft decision

We have not approved the proposed connection policy because:

- the description of ‘shared network works’ where upstream charges will apply is not fully reflective of the upstream charge framework under chapter 5A of the NER
- on various pages, the threshold for the upstream charge is set at loads up to 170 amperes (A). This is much lower than our connection charge guideline, which recommends 100A 3-phase supply [a total of up to 300A] (or 70 kilovolt amperes).
- the statement under basic connection definition that: ‘The overhead service wire can be no longer than 20 metres on the customer property and 45 metres in total.’

---

[12] Clause 11.1.1 of the AER connection charge guideline requires that: distribution network service providers must implement an accounting treatment which ensures that they do not earn a regulated rate of return on assets which are funded by customers or that were gifted to the distribution network service provider.

[13] Electric Vehicle Council - *Submission and Attachment A and B on the Victorian Electricity Distribution Regulatory Proposal 2021–26* - June 2020,pp. 3–8.

may set up an unreasonable expectation that an overhead connection could be longer, needs to be clarified as an ultimate limit rather than a limit for a basic connection.

- it does not have a section that explains that metering cost is charged separately
- references to maximum demand do not clarify that the term means the peak coincident demand regarding how the shared network augmentation charge is charged
- there was no reference to public lighting
- the shared network augmentation unit rates tables in appendix A does not say whether the charge rate at each segment of the network is cumulative of all the charge rates upstream of the connection point, or the actual rate for the specific segment.

We noted further that:

- the document did not include page numbers
- a typographical error referenced '0' rather than the correct reference 4.1.1.

Following questions on the above issues, CitiPower proposed further improvements to the connection policy to (1) provide more clarity to the document; and (2) include a section on electric vehicles connections treatment.[14] We consider the proposed improvements are reasonable.

We have modified CitiPower's proposed connection policy to reflect the above draft decision on this matter.[15] This revised connection policy is appended to this chapter.

18.6 Approval of upstream charge rates

We benchmark CitiPower proposed upstream augmentation unit rates appendix A (of the proposed connection policy) against its historical cost.

Comparison with historical cost

We calculated that CitiPower's historical average overall network cost at low voltage levels to be about $3,373,458 per megavolt ampere (MVA) based on its latest Economic Benchmarking Regulatory Information Notices report for 2018–19.[16] This represents a charging rate of $2,495,961 and $1,652,935 per MVA for residential and non-residential customers connecting at the low voltage networks respectively. This historical cost is higher than CitiPower's proposed charge rates for shared network

[14] CitiPower, Powercor, United Energy - Information Request # 037 - connection policies - 17 June 2020.

[15] Clause 6.12.3(j)(2) provides that we may amend the proposed connection policy to the extent necessary to enable it to be approved in accordance with the Rules.

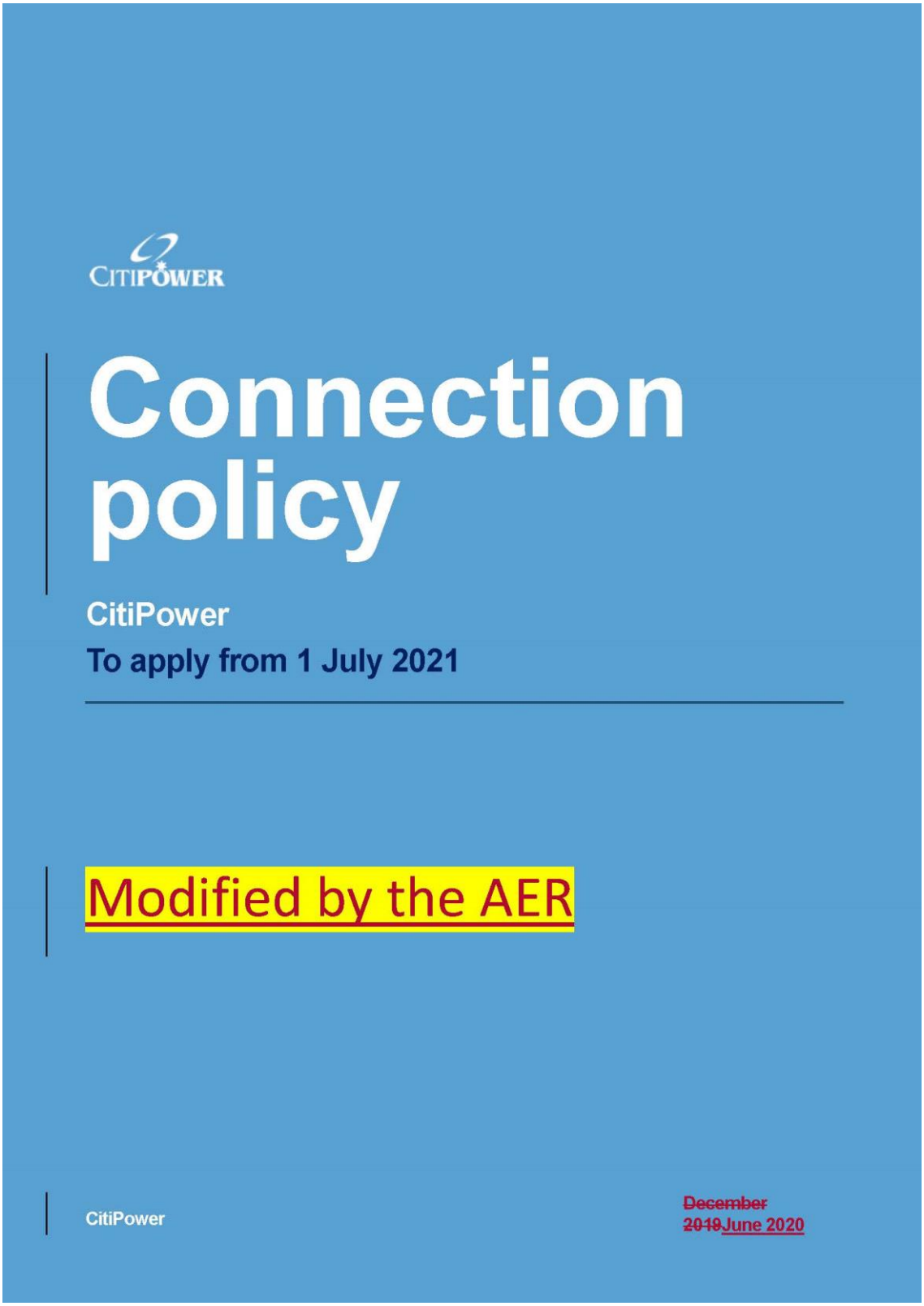
[16] Available at www.aer.gov.au at https://www.aer.gov.au/networks-pipelines/network-performance/citipower-network-information-rin-responses.

augmentation for low voltage networks at $824,258 and $537,024 for residential and non-residential customers respectively.

Our conclusion on the proposed upstream cost based on the above comparisons

We conclude that CitiPower's proposed marginal cost for shared network augmentation is reasonable because the rate is less than the actual historical cost, which is a good representation of the LRMC.

A AER approved connection policy for CitiPower



Contents

1 Introduction

1.1 Background and scope

A connection is the physical link between the electricity distribution network and customers' premises to allow the flow of electricity. Every year we connect thousands of households, businesses and generators to our network.

This policy outlines the connection services we provide, how connection charges are calculated and the application process. It accords with the Australian Energy Regulator's (**AER**) connection charge guidelines for electricity retail customers and the requirements in Chapter 5A of the National Electricity Rules (**Rules**).

This policy applies to retail customer or real estate developer connections requested from 1 July 2021. The policy does not apply to Registered Participants or intending Registered Participants—which are typically large industrial customers or large generators—as outlined in the Rules.[1]

The types of connections covered by this policy are:

- connecting new premises
- making alterations to existing connections to meet a customer's new requirements[2]
- connecting embedded generators such as solar, wind power generators, or embedded storage.

1.2 Overview of connection works and categories

To connect a customer we will need to undertake:

- **premises connection** works—typically consisting of a new line between the closest pole and the dwelling, or a connection to an existing underground service pit.

Where adequate supply is not available in an area to make a connection, we may also need to undertake:

- **customer specific** works—extend the network or augment the connection assets at the customer's premises
- **shared network** works— where the network's capacity is insufficient to support a connection, we may need to upgrade or augment the network 'backbone' to the benefit of all customers, including the new customer. All connections require use of shared network capacity and add to the need for network augmentation.[3] ~~where the network's capacity is insufficient to support a connection, we may need to upgrade/augment it. This can be thought of as upgrading the network 'backbone' that services all customers.~~

As set out in this policy, we provide two types of connection offers: basic (where supply is available) and negotiated (where adequate supply is not available). The way we calculate connection charges and timeframes depend on the connection type. A summary of the most common connection types is provided below.

---

1 These connections will be considered under the requirements of Chapter 5 of the Rules.

2 Such as increasing the supply capacity or the number of phases that supply a premise, relocating the connection point at a premises or changing from an overhead to underground service

3 Under Rule 5A.E.1(b) of the NER, a retail customer (other than a non-registered embedded generator or a real estate developer) who applies for a connection service for which an augmentation is required cannot be required to make a capital contribution towards the cost of the augmentation (insofar as it involves more than an extension) if: (1) the application is for a basic connection service; or (2) a relevant threshold set in the Distribution Network Service Provider's connection policy is not exceeded.

Table 1 Connection offer types

Seeking a new connection or modified connection for...	Conditions	This connection is typically a...
Residential premises or small commercial premises such as small shops	Where supply is available	Basic connection
	Where adequate supply is not available	Negotiated connection
Temporary supply, e.g. for carrying out construction works or holding a special event	Where supply is available	Basic connection
	Where adequate supply is not available	Negotiated connection
Unmetered supply e.g. electronic parking meters, bus shelters or phone boxes	Less than 2 amps	Basic connection
Micro-embedded generator with pre-approval of exported capacity e.g. solar panels	With an inverter capacity of less than 5kW single phase, or less than 30kW for a three phase connection	Basic connection
	With an inverter capacity greater than 5kW single phase or 30kW for a three phase connection	Negotiated connection
Embedded generator that is not a micro-embedded generator e.g. thermal or wind generating systems	N/A	Negotiated connection
Commercial premises and/or multi-tenancy residential e.g. apartment building, shopping complex	N/A	Negotiated connection
New land subdivision/ real estate development	N/A	Negotiated connection

Source: CitiPower

2 Basic connections

2.1 Service description

Our basic connection service covers most routine connections such as:

- residential dwellings and small commercial premises, including temporary and permanent connections
- micro-embedded generator connections, such as inverter energy systems using solar, thermal or wind
- unmetered supply connections, such as electronic parking meters, bus shelters or phone boxes.

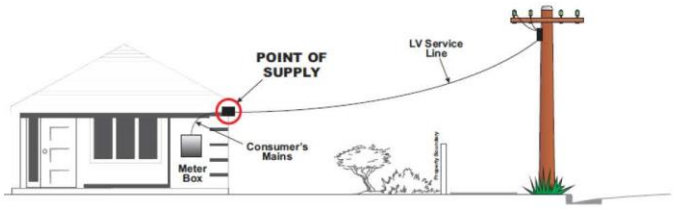
Whether a connection is a basic connection is discussed in more detail below.

2.1.1 Load connections

Basic connections are available for loads up to 170 amperes (**amps**) where adequate supply is available.

For premises located in areas with overhead power lines, the connection involves a service wire to a point of supply (typically a fuse) on the customer's premises. A compliant overhead service is where the length of the service cable does not exceed 45 metres in total, the portion on the customers' property does not exceed 20 metres, and there is no need for a service pole, in order to meet the minimum ground clearance requirements under the safety regulations~~The overhead service wire can be no longer than 20 metres on the customer property and 45 metres in total.~~[4] A typical overhead service~~This~~ is illustrated in the following diagram.

Figure 2.1 Typical overhead connection for residential or small commercial premises

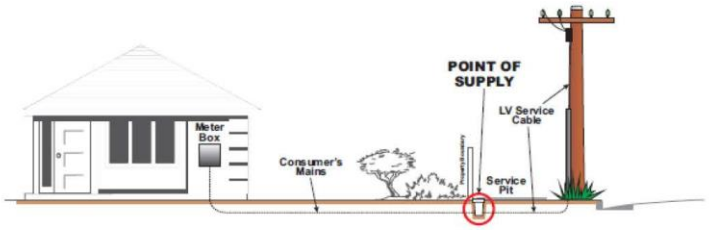


Source: CitiPower

An underground connection can be included as a basic connection where there is an existing underground service pit located at the property boundary. Where there is no underground service pit, it can be installed as a negotiated connection service as outlined in chapter 3. The customer is responsible for the Consumer's Mains to the premises as illustrated in the following diagram.

[4] The overhead line must comply with the requirements of the Victorian Service and Installation Rules, available from: http://www.victoriansir.org.au/

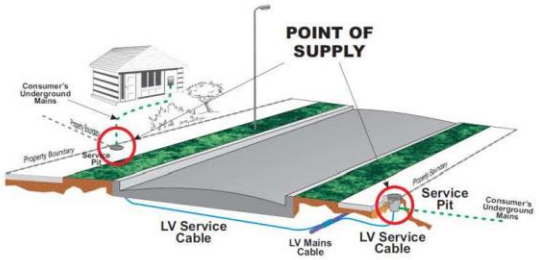
Figure 2.2 Typical underground connection for residential and small commercial premises



Source: CitiPower

In new housing estates, customer connections are often underground. Generally, the electricity infrastructure would be installed under a negotiated connection contract with the developer and then each dwelling would be connected as a basic connection service. A typical customer connection in an underground residential housing development is shown in the following diagram.

Figure 2.3 Typical underground connection in a residential housing estate



Source: CitiPower

Basic connections also include connection modifications, such as upgrades from a single phase connection to a three phase connection (up to 170 amps) or an upgrade of the service fuse. The alterations must not require customer specific or shared network works.

For clarity, we note that where a connection exceeds 100 amps per phase but less than 170 amps per phase, we may initially require the connection to be submitted as a negotiated connection to assess whether supply is available. Where supply is available, it will be treated as a basic connection. Where supply is not available, it will be treated as a negotiated connection which may attract charges if the capacity exceeds the shared augmentation charge threshold discussed in section 3.2.2~~**Error! Reference source not found.**~~

2.1.2 Micro-embedded generation and storage

Rooftop solar PV is the most common type of micro embedded generator. Other examples include thermal or wind powered generators, or embedded storage such as a battery. To be eligible for a basic connection, the generator must meet the following requirements:

- be connected to our distribution network by an inverter with a capacity of no more than 5 kilowatt (**kW**) on a single phase, or no more than 30kW on a three phase connection

- comply with Australian Standard 4777 (**AS4777**) (see the Clean Energy Council website for a list of approved inverters)
- not require customer specific or shared network works
- the customer must have sought and received pre-approval from us for the requested capacity of the generator, as discussed in section 4.1.1~~2~~.

2.1.3 Unmetered supply

Unmetered supply connections are typically provided for electronic parking meters, CCTV, bus shelters or telephone boxes. We offer unmetered supply when it is impractical to read or maintain a meter. Connections eligible to be unmetered must be small (i.e. less than 2 amps) and have a steady and uniform load so the energy consumption can be accurately estimated.

2.2 Basic connection charges

A fixed fee is charged for basic connection services. The applicable fee depends on the connection characteristics, such as whether a current transformer is required (typically required for loads between 100-170 amps). These fees are approved by the AER and published in our General Service Charge Pricing Schedule available on our website.

2.3 Other charges

Other (non-connection) charges may also apply depending on your connection characteristics. These charges are outlined in our General Service Charge Pricing Schedule and have been approved by the AER. For example, a typical charge that may apply is for reconfiguring the electricity meter where you are connecting a micro embedded generator.[5]

2.4 Application process

You can apply for a basic connection service by:

- engaging a registered electrical contractor (**REC**) to advise on supply availability, prepare the premises for connection and to provide a certificate of electricity safety
- once the above has been completed, your REC can apply for a basic connection service on your behalf via our eConnect online portal.

Once your application is submitted and validated, we will contact your nominated retailer and request them to lodge an electronic service order authorising us to connect you to the network. By submitting the service order, your retailer is accepting the applicable model standing offer (**MSO**)—that is available on our website and approved by the AER—on your behalf. We will perform the connection service once the basic connection contract is formed.

If you would prefer a written offer, you or your REC must complete the basic connection service application form available on our website. We will provide a letter of offer within 10 business days of receiving a completed application (or within 10 business days of receiving additional information sought). The offer will remain open for 45 business days. Once the offer is accepted and an electronic service order is received by your retailer, the connection service contract is formed and we will perform the connection service.

[5] Where we are the meter provider.

Upon receiving a connection request, we will review the application to assess whether it meets the criteria for a basic connection.[6] If your connection does not meet the criteria, you reject our model standing offer, or you wish to negotiate the terms and conditions of an offer, we will refer you to the negotiated connection service process.

[6] This will involve assessing the customer's maximum demand and/or estimated energy consumption based on information supplied in the connection application and actual energy consumption from similar customers.

3 Negotiated connections

3.1 Service description

Negotiated connections are those that may be too large or complex to meet the basic connection service criteria. This includes:

- connecting residential dwellings and small commercial premises where adequate supply is not available
- embedded generation or storage that is not compliant with AS4777 or requires greater than 5kW per single phase connection and 30kW for a three phase connection up to 5MW (connections above this threshold are not governed by this policy)
- high voltage (**HV**), reserve capacity or dedicated assets
- public electric vehicle charging facilities
- two or more dwellings on a site
- enabling embedded networks
- real estate developments
- where customers construct and gift connection assets to us under our contestability framework, discussed in chapter 5.

3.2 Negotiated connection charges

Negotiated connection charges are calculated in accordance with the AER's cost-revenue-test:

$$CC = ICCS + ICSN - IR + SF$$

Where:

- **CC** *is the capital contribution the customer must pay*
- **ICCS** *is the incremental cost of customer specific works, reflecting the cost for the connection services used solely by the customer (e.g. an extension)*
- **ICSN** *is incremental cost of shared network work, reflecting the costs incurred for connection services that are not used solely by the customer (e.g. an augmentation)*
- **IR** *is incremental revenue which is calculated as the present value of expected distribution revenue over 30 years (residential) or up to 15 years (non-residential).*
- **SF** *is the amount of any security fee*

Under the cost-revenue-test:

- the component of the connection that forms part of a basic connection (e.g. the premises connection asset) is charged in accordance with the basic connection charges and is not subject to the cost-revenue-test. If, however, there is no clear distinction between the premises connection and the customer specific works (typical for large customers) or the basic connection does not cover the type of premises connection works required for the connection, all works will be subject to the cost-revenue-test.
- a capital contribution is only payable where the connection cost exceeds the revenue expected to be derived from it.

- we calculate the charge for each component in a fair and reasonable way and based on the least cost technically acceptable standard necessary for the connection.[7]
- some customers may be required, or in some cases may request, to make a pre-payment to initiate design or purchasing of long lead time material. Full payment of connection charges is generally required before construction commences.

The calculation of element of the cost-revenue-test is described in more detail below.

3.2.1 Customer specific charges

The customer specific charges include:

- costs to augment connection assets at a customer's premise
- network extension costs
- administration costs (including any design and certification costs)
- cost of providing any other connection services which are used solely by the customer
- tender costs (where relevant).

Overheads will be applied to these costs.

3.2.2 Shared network charges

The shared network charge is the cost of augmenting the network backbone to provide capacity for a new or modified connection.

Only customers requiring a connection capacity greater than 100 amps single phase, or 100 amps per phase of a multi-phase supply, are required to pay the shared network charges. These limits are known as the augmentation charge threshold.

The shared network cost is calculated as follows:

$$Incremental\ cost\ of\ shared\ network = average\ cost\ of\ augmentation\ x\ demand\ estimate$$

The average cost of augmentation is the cost we incur to add a unit (i.e. a kVA) of capacity to the network. The applicable rate depends on which 'level' of the network the connection is made. For example if a connection is made at the HV level, you will not pay for augmenting LV assets. The rates are calculated from a review of recent actual augmentation project costs and are outlined in appendix A.

The shared network calculation takes account of the assumed period for which the customer will be using the network. If a customer is assumed to be connected for 30 years (which is the default period for residential customers) then the augmentation unit rate will be discounted if the economic life of the augmented assets is longer than 30 years.

Overheads will be applied in addition to the augmentation unit rates.

[7] This standard may differ depending on the connection's location, for example a higher standard may apply in high consequence bushfire areas. Where the customer is a real estate developer, we may also include the cost of providing for forecast load growth.

3.2.3 Incremental Revenue

The incremental revenue is the component of customers' electricity charges, over the life of their connection, that pays for the network backbone. It is calculated as the forecast revenue customers pay to the distributor through their electricity charges (distribution use of system charges (**DUoS**)) less the amount that pays for operating and maintenance costs. In calculating this value:

- the DUoS price path is set out in our distribution determination for the 2021–2026 regulatory period, and a flat path (real terms) is used thereafter
- DUoS is discounted by our regulated real pre-tax weighted average cost of capital.

This is calculated over 30 years for residential customers and 15 years for business customers—however an alternative period may be applied to business customers where 15 years is not a reasonable estimate of the connection services' life.

3.2.4 Estimating ~~maximum~~ peak coincident demand and energy consumption

As discussed, an estimate of peak coincident ~~maximum~~ demand and electricity consumption is needed to calculate the connection charge. For residential and small commercial premises, we will assess a customer's consumption and peak coincident~~maximum~~ demand based on:

- previous load history (if available)
- information supplied in the connection application (e.g. expected energy use, supply voltage, meter type)
- energy consumption / demand from similar customers.

For commercial and industrial premises, or real estate developments, we may also consider:

- the total load of all equipment in the building or project
- the method of estimating the maximum demand outlined in Australian Standard AS/NZS 3000 - Wiring Rules
- the proposed usage pattern
- typical load factors for similar customer installations or industry types.

3.2.5 Security fee

If we consider there is a risk we will not receive the incremental revenue used to estimate a customers' capital contribution, a security fee may be required. The security fee is refundable if the assumed incremental revenue eventuates. This ensures electricity users do not fund large customers' connections via their general electricity charges.

We will operate the security fee in accordance with the following principles:

- the security fee will be capped at the amount of incremental revenue we assess as being at risk
- the security fee will not exceed the present value of the connection cost
- we will not recover more than the total estimated incremental revenue through the security fee[8]

[8] If the actual incremental revenue realised over the period of the security fee scheme exceeds the estimated incremental revenue, we will refund the security fee in full.

- the security fee may be in the form of either a prepayment or a financial guarantee.

We will provide an annual rebate of the security fee. The first qualifying period is 12 months after the connection is tied-in to the network. In order to receive the maximum allowable refund for the year, we will verify that the customer's actual electricity use meets the estimate used in the connection offer.

We will pay interest on the refund amount based on the 90 day Bank Bill rate less a 0.25 per cent administration charge. Interest will not be payable on security held in the form of a bank guarantee

3.2.6 Pioneer scheme

A pioneer scheme applied for network extensions that cease being dedicated to the use of a customer within 7 years. The customer may be entitled to a partial refund of their connection charge. Similarly, if you connect to an extension within 7 years of its construction, you may be required to make a financial contribution towards its cost to the customers already connected). This scheme will apply to dedicated network extensions which have been fully funded by a customer or towards which a customer has paid a capital contribution, with the exclusion of service pits.

We will calculate the charge (from a subsequent customer) and refund (to each customer already connected) by:

- taking into account the length or amount of electricity used relative to customers already connected to the extension
- depreciating the extension's value on a straight line basis over a 20 years
- if the original extension was built to a higher standard than the least cost technically acceptable standard, then only the cost of constructing to the least cost technically acceptable standard will be used for the purposes of the pioneer scheme. Where the extension's cost is unknown, for example because it was contestably constructed, we will estimate it.

The pioneer scheme will apply in the following circumstances:

- the original premises must be occupied and using the extension
- the payment to any customers already connected is greater than $1,250 ($2021, real) adjusted for CPI
- a pioneer payment can be made to the current occupier of a premises or the original occupier (who paid for an extension) of the premises. If there is a dispute between the current and original occupier, the current occupier of the premises shall be taken to be entitled to any refund unless there is written evidence or an agreement to the contrary
- the pioneer scheme does not apply to business customers or real estate developments.

This pioneer scheme will apply to offers made from 1 July 2021. The pioneer scheme in place at the time of an offer made prior to this date will continue to apply to those connections.

If the customer is seeking to connect to a network extension that is subject to a pioneer scheme, then the connection will be considered a negotiated connection.

3.3 Other charges

Other (non-connection) charges may apply depending on the connection's characteristics. These charges are outlined in our General Service Charge Pricing Schedule and have been approved by the AER, and could include:

- upfront charge to cover our expenses incurred in assessing the application and making a connection offer
- where you request a higher standard connection, you must pay the additional cost of providing the service to the standard[9]
- specification and design enquiry services (which haven't been included in the connection offer)[10]
- specification and design enquiry services where a customer requests information to assist them undertake feasibility studies or budget estimates
- audit design and construction services where our review, approval or acceptance of third party works is requested or considered necessary.[11]

Once the physical connection is completed by CitiPower, there may be other charges to energise the supply of electricity via your retailer. For example, the metering co-ordinator (who may not be CitiPower) may levy charges for your meter via your retailer.

3.4 Application process

Connection requests should be made well in advance of the anticipated date of the connection requirement so that we can meet your timeframes.

Customers seeking a negotiated connection will first need to apply for supply on our mySupply portal. Upon receiving a customer request for connection, we will review the application to assess whether it meets the criteria for a negotiated connection.[12]

We will use best endeavours to provide an offer within 65 business days of receiving a completed application (not counting any time in which further information that we have sought from the customer is provided). The offer will remain valid for 20 business days. A negotiated connection service contract is entered into when a customer accepts our offer and makes payment.

After this, customers will need to apply for basic connection to have the supply turned on via our eConnect portal.

---

9 This may include an applicant requesting a supply point that requires additional extension work or a request for a reserve high voltage feeder.

10 If uncertainty exists with respect to matters including, but not limited to, the route of an extension, location of other utility assets, environmental considerations, obtaining necessary permits from state or local government bodies.

11 This may be required in situations including, but not limited to: customer provided buildings, conduits or ducts used to house our electrical assets; customer provided connection facilities including switchboards used for connections; electrical distribution work completed by one of our approved contractors that has been engaged by a customer; provision of system plans and system planning scopes e.g. to bidders for contestable works; reviewing and/or approving plans submitted by bidders for contestable works.

12 This will involve assessing the customer's maximum demand and/or estimated energy consumption based on information supplied in the connection application and actual energy consumption from similar customers.

4 Embedded generators and real estate developers

4.1 Embedded generators and storage systems

There are unique connection arrangements for embedded generators, electric vehicles and real estate developers. These are outlined below.

4.1.1 Pre-approval for export capable connection process

The number of embedded generators (particularly solar PV solar systems) has increased at a high rate, with a trend toward larger capacity installations. Concentrations of embedded generators systems connected to the low voltage network can lead to power quality issues such as overvoltage and voltage unbalance.

When considering the installation of embedded generators it is important that it performs as expected. To achieve this we require all embedded generators undergo pre-approval before being installed or upgraded. Some parts of the network may not support additional embedded generators with the capability to export electricity onto the network.

You can apply for export pre-approval or submit a connection application for embedded generator up to 5 kW single phase or 30 kW three phase form via our eConnect portal. For the following, you can apply on our mySupply portal:

- embedded generator between 30 kW and 200 kW (once we receive your application, we will contact you to guide you through the approval and connection process)
- storage systems less than 200 kW
- non-Registered Generators with a capacity less than 5 MW (these will generally be offered as a negotiated connection service).
- As part of this connection process you will be required to provide information on your embedded generator or storage system as outlined in guidelines that are being developed by the Australian Energy Market Operator. Once the guidelines are completed, the required information will also be specified in this connection policy.

Further information on the pre-approval process is available from our website.[13]

4.1.2 Charges for non-registered embedded generation

For embedded generators requiring a negotiated connection, the cost-revenue-test as outlined in chapter 3 will apply, however, for those that are also load customers:

- the connection cost will be calculated on the cost (including shared network charge) to support both the load and generation components of the connection
- the relevant load for calculating the shared network costs will be the gross peak demand of the load, regardless of the embedded generator's expected electricity output
- the augmentation unit rate does not apply to the generation output
- no incremental revenue will be received from the generation component for the purposes of the cost-revenue-test.

[13] Refer <https://www.powercor.com.au/our-services/electricity-connections/solar-and-other-generation/>

4.1.3 Electric vehicles

We seek customers to make an enquiry when they intend to install an electric vehicle (EV) charging station or wall charger to their premises.

The increasing prevalence of EV connections may mean that quality of supply issues may arise for some customers. A connection enquiry will assist us in monitoring the impact of EV charging stations and wall chargers on our network and enabling us to respond where appropriate.

4.2 Real estate developers

4.2.1 Charges for real estate developers

When determining the requirement for a capital contribution:

- a real estate developer is treated as a single customer
- incremental costs may include the costs of providing efficiently for forecast load growth
- incremental revenue is the estimated revenue we will receive from all the sites/connection services within the real estate development.

4.2.2 Equalisation scheme

We operate an equalisation scheme for real estate developers under which we may contribute towards the cost of installing HV assets within residential subdivisions. We contribute to ensure the original estate developer in an area does not pay for the network assets used by all subsequent developers—similar to the pioneer scheme.

For a low density subdivision (subdivisions with two or more lots with an average density of <5 lots per hectare), we may contribute towards the cost of installing HV and LV assets.

Within a continuous medium density residential subdivision (>5 lots per hectare) we may contribute to HV assets, excluding bedding sand and all civil works.

Our contributions are based on the average cost for HV components across our network, which are published on our website in the HV Rebate Claim Sheet.[14] Our contribution will not exceed the value of the capital contribution a real estate developer must pay as calculated in accordance with section 3.2. We pay the contribution for HV assets within the subdivision to the developer.

[14] Refer https://www.powercor.com.au/working-with-us/suppliers/forms-reports-and-bulletins/forms/

5 Contestable services

5.1 Competitive tendering and contestable works

When we make an offer to modify our network in relation to a connection request, we must call for tenders (or you may run a tender process) unless you agree no tenders should be called for.[15] Our tendering policy, available on our website, outlines which works are contestable.[16] Where a competitive tender has been sought by the applicant, and we receive a request in writing for information pertaining to that offer, we will provide an:

- itemised breakdown of the materials, labour costs and overheads, and the final price, offered to us by any person who submitted a tender
- explanation of why a person was selected as preferred tenderer for the performance of works associated with the modification.

We may charge you the reasonable costs incurred in conducting or assisting in the tender process. An estimate of the costs will be provided before the tender process begins.

5.2 Gifted asset rebate

Assets constructed on a contestable basis must be gifted to us, after which we will own and maintain them.

Where works are undertaken by a third party, we ensure competitive neutrality by providing the customer with a rebate for the gifted connection assets. The rebate is calculated as follows:

$$customer\ contribution = gifted\ asset\ value - rebate$$

$$rebate = gifted\ asset\ value - (incremental\ cost - incremental\ revenue)$$

[15] Essential Services Commission, Electricity Industry Guideline No. 14.

[16] <https://www.powercor.com.au/our-services/electricity-connections/upgrade-or-extend-the-network-with-mysupply/tender-policy-for-extension-works/#CitiPowertender>

6 Modifying assets

6.1 Modifying assets

Asset modification includes the undergrounding, relocation, replacement or removal of assets.

Where we receive written request, we will develop an offer to modify our assets. Our offer will include:

- the price, calculated on the basis we make a contribution to the cost for our avoided costs
- the cost that we will incur for the modification works (not subject to the cost-revenue-test), including the costs of materials and labour
- other terms and conditions.

Following receipt of the offer, the applicant may make a written request for an itemised breakdown of our material, labour and overhead costs contained within the offer, in addition to our calculation of the avoided costs set out below. Our response will be provided within 10 business days.

6.2 Avoided costs

Customers will be eligible for a rebate of the amount of our avoided costs that may result from the modification of our assets. The avoided costs will be calculated as follows:

$$AC = AM + DAR$$

where:

- *AC is the amount of our avoided costs*
- *AM is the present value of the maintenance and vegetation management we will avoid in relation to existing assets as a result of their modification*
- *DAR is the amount of our deferred asset replacement (DAR) costs*

The DAR costs are calculated as follows:

$$DAR = RC_E - RC_N$$

where:

- $\mathrm{RC_E}$ *is the present value of the future capital costs that we will avoid in connection with the replacement of existing assets as a result of their modification*
- $\mathrm{RC_N}$ *is the present value of the future capital costs that we will avoid in connection with the replacement of new modified assets*

The future capital costs in the calculation of DAR include the cost of materials, labour and a margin of up to 10 per cent for overheads.

In determining the present value, we will use a discount rate equal to our regulated pre-tax weighted average cost of capital. The asset life used in the calculation will be consistent with that set out in our distribution determination for the prevailing regulatory control period.

7 Further information

7.1 Contact

For more information about connecting to our network you may

- visit our website https://www.powercor.com.au/our-services/electricity-connections/
- email us via info@powercor.com.au
- call us on 1300 301 101.

For public lighting matters, please refer to: CitiPower: https://www.citipower.com.au/what-we-do/the-network/streetlights/ or https://customer.portal.citipower.com.au/mysupply/

7.2 Complaints

We aim to provide our customers with a positive connection experience. However, if you ever find the service we provide is less than satisfactory, we encourage you to contact us via one of the ways outlined above so that we may address your concerns. All complaints are recorded and forwarded to us for investigation and resolution. If the complaint is not resolved to your satisfaction, a dispute resolution process will start and a senior customer relations consultant will investigate the matter further.

If we cannot resolve your concerns you may contact the Victorian Energy and Water Ombudsman, the Australian Energy Regulator or raise the complaint on the Essential Services Commission (Victoria) complaints register.[17]

[17] This register is being developed

A Augmentation unit rates

Table 2 Discounted augmentation unit rates ($ per MVA peak coincidental demand, $2019)

	Discounted unit rate per level	Discounted cumulative unit rate
Residential customers		
LV feeder	418,798	824,258
Distribution substation	120,956	405,460
HV feeder	85,972	284,504
Zone substation	145,875	198,532
Sub-transmission line	52,657	52,657
Non-residential customers		
LV feeder	272,857	537,024
Distribution substation	78,805	264,167
HV feeder	56,014	185,362
Zone substation	95,041	129,348
Sub-transmission line	34,307	34,307

Source: CitiPower
Note: The average augmentation unit rates are escalated each subsequent year by the Consumer Price Index (CPI). Overheads will be applied in addition to the augmentation rates

Shortened forms

Shortened form	Extended form
A	amperes or amps
AER	Australian Energy Regulator
CCP 17	Consumer Challenge Panel, sub-panel 17
distributor	distribution network service provider
LRMC	long run marginal cost
MVA	megavolt amperes or amps
NER	National Electricity Rules
RIN	regulatory information notice