

Draft Decision

TasNetworks

Electricity Distribution

Determination 2024 to 2029

(1 July 2024 to 30 June 2029)

Attachment 18
Connection Policy

September 2023

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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,
 - connection policy requirements set out in part DA of chapter 6 of the NER,
 - our connection charge guideline published under chapter 5A³, 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 way connection charges are to be paid (or equivalent consideration is to be given), and
 - a threshold (based on capacity or any other measure identified in the connection charge guideline) 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 guideline for electricity retail customers

Under the chapter 5A of the NER, we are required to develop and publish our connection charge guideline to set out how electricity distributors should charge new electricity customers for connecting to their networks.⁴

Following a rule change,⁵ we initiated a review of the connection charge guideline to specify the conditions under which a distributor may impose a static zero export limit on rooftop solar in limited situations. Static zero export limit means a customer may not export electricity at any time. These conditions are intended to strengthen customer safeguards.

Our final decision on the review of the connection charge guideline was published in April 2023, after the due date for the regulatory proposal. Hence, there is also a need to modify

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 Final Version 3.0*, April 2023.

⁴ NER, cl. 5A.E.3(a).

⁵ Available at <https://www.aemc.gov.au/rule-changes/access-pricing-and-incentive-arrangements-distributed-energy-resources>.

the proposed connection policy to line up with the final connection charge guideline. These changes (along with other minor amendments) have been agreed by TasNetworks.⁶

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

- are reasonable and consider 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
- 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 TasNetworks' connection policy as it:

- does not contain all the necessary information required under the NER, and
- contains conditions that are inconsistent with our connection charge guideline.

We have identified various deficiencies in the policy in that:

- It does not contain the new conditions set out in our amended connection charge guidelines on how it may impose a static zero export limit on new rooftop solar.
- It lacks clarity for the connection applicants that the policy applies to both the inter-connection network and regulated standalone power systems.

For this draft decision, in consultation and agreement with TasNetworks, we have amended TasNetworks' connection policy to the extent necessary to meet the NER requirements and our connection charge guideline.⁷

18.2 TasNetworks' proposal

TasNetworks' revenue proposal included a connection policy to provide an outline of its connection services, when connection charges may be payable by its retail customers and how those charges are calculated.⁸

18.3 Stakeholder consultation and Framework and Approach

Following stakeholders' consultation, we classified basic connections, standard connections, complex connections, negotiated connections, enhanced connection and connection

⁶ TasNetworks, *Response to AER information request IR#21 [Connection Policy]*, 25 May 2023.

⁷ NER, cl. 6.12.3(j)(2); TasNetworks, *Response to AER information request IR#21 [Connection Policy]*, 25 May 2023.

⁸ AER, *Framework and approach TasNetworks distribution and transmission (Tasmania) Regulatory control period commencing, 1 July 2024, July 2022*, pp. 69–71.

application and management services as direct control services and further as alternative control services.

No submission was received related to the connection policy.

18.4 Assessment approach

We examined the proposed connection policy against the requirements of Part DA of chapter 6 of the NER and whether it:

- is consistent with the connection charge principles set out in chapter 5A of the NER, and our connection charge guideline, and
- 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 draft decision, and
- the connection policy contains terms that are not fair and reasonable.

18.4.1 Interrelationships

TasNetworks submitted that extension services connections classified in the F&A as alternative control services did not consider its circumstances. Classifying this service as alternative control removed TasNetworks' ability to apply an incremental revenue rebate against the capital contributions customers make towards the cost of these services thus making it inconsistent with the connection charge guideline and its connection policy.⁹

As such, TasNetworks sought to change the service classification of extension services to standard control to allow it to apply an incremental revenue rebate.¹⁰ We agree with TasNetworks' proposal about the classification of extension services connections and have amended our draft decision on services classification to reflect its circumstances.

TasNetworks also proposed classifications for “basic”, “standard” and “complex” connection services as alternative control services.¹¹ Since all connection services include the following three components "premises connection", "extension asset" and "shared network augmentation charge on a \$/kVA demand basis", we consider a blanket statement of classifying “basic”, “standard” and “complex” connection services as alternative control services could be mis-interpreted that all the three above charge components are under the category of alternative control services. Hence, we consider it necessary to classify each component of connection services separately to avoid confusion. That is to classify:

- Premises connection as alternative control services.

⁹ TasNetworks, *Combined Proposal 2024-2029, Attachment 15 Classification of services*, pp. 2; 10-11.

¹⁰ TasNetworks, Email to AER re: *TasNetworks – information request TAS IR#021 – [Connection Policy] – 20230421– [PUBLIC] -AER comment - TasNetworks Distribution Connection Pricing Policy 2024-2029*, 25 May 2023; AER, *Connection charge guideline for electricity customers Under chapter 5A of the National Electricity Rules Final version 3.0*, chapter 5, April 2023.

¹¹ TasNetworks, *Combined Proposal 2024-2029, Attachment 15 Classification of services*, pp. 10-11.

- Extension asset as standard control services as per TasNetworks' proposal.
- Shared network augmentation charge as standard control services as per TasNetworks' proposal.

TasNetworks has accepted our classification of each component of connection services as discussed above. Please refer to the services classification draft decision attachment for further details.

18.5 Reasons for draft decision

We are not satisfied that TasNetworks' connection policy is compliant with the NER. Amongst other things, we have amended TasNetworks' connection policy to the extent necessary to enable it to comply with the NER and our connection charge guideline, which:

- allow the business to apply an incremental revenue rebate against the capital contributions customers make towards the cost of extension services as per clause 5A.E.2(c) of the NER,
- clarify how it may impose a static zero export limit on new rooftop solar as per the connection charge guideline,
- clarify how TasNetworks will charge for removing export constraint on request from a micro embedded generator as per the connection charge guideline, and
- clarify that the policy applies to both the inter-connection network and regulated standalone power systems.

We have discussed these changes with TasNetworks, which has agreed with our amended connection policy.¹²

We consider that the amended connection policy is consistent with our connection charge guideline. Specifically, the purpose of the connection charge guideline includes:¹³

- to provide, without undue administrative cost, a user-pays signal to reflect the efficient cost of providing the connection services; and
- to limit cross-subsidisation of connection costs between different classes (or subclasses) of retail customer.

18.6 Approval of upstream charge rates

We benchmarked TasNetworks' proposed upstream augmentation unit rates (in table 4 of Appendix A of the connection policy) against its historical cost. This analysis is set out in Table 18.1.

Comparison with historical cost

We calculated that TasNetworks' historical average overall network cost at low voltage levels to be about \$4823 per kiloVolt amperes (kVA) based on its latest Economic Benchmarking

¹² TasNetworks, *Response to AER information request IR#21 [Connection Policy]*, 25 May 2023.

¹³ NER, cl.. 5A.E.3(b)(2) and (3).

Regulatory Information Notices report for 2021–22.¹⁴ This equates to a charging rate of \$1519 and \$905 per kVA for residential and non-residential customers connecting at the low voltage networks, respectively.

This rate should reflect the long run marginal cost of TasNetworks.

The long run marginal cost represents the average cost of each additional unit of capacity, for the purpose of upstream charge rates. Once an augmentation asset is added, the additional capacity stays with the distributor. However, each new connection has a finite timeframe for remaining connected. Hence, there is a need for an adjustment factor corresponding to each customer's assumed connection life. For example, business customers are assumed to stay connected for 15 years. Hence, distribution businesses should expect to receive the upstream charge every 15 years. The net present value of the multiple contributions should end up being equal to the long run marginal cost at present value. We applied the above adjustment factors for business and residential customers, based on the expected aggregate life of connections and the weighted average cost of capital for the 2024–29 period.¹⁵

The above historical average costs are significantly higher than TasNetworks' proposed charge rates for shared network augmentation for low voltage networks at \$914 and \$544 per kVA for residential and non-residential customers, respectively. Hence, we conclude that TasNetworks' proposed shared network augmentation charge rates are reasonable because the rates are less than the actual historical cost.

Table 18.1 Upstream charge rates comparison

	TasNetworks	AER
Full cost (MCR) per kVA	\$1697	\$2823
Charge rate for residential customers	\$914	\$1519
Charge rate for non-residential customers	\$544	\$905

Source: AER analysis.

18.7 AER approved connection policy

We have modified TasNetworks' proposed connection policy to reflect the above draft decision on this matter.¹⁶ This amended connection policy is appended to this chapter.

¹⁴ Available at [www.aer.gov.au](https://www.aer.gov.au/networks-pipelines/performance-reporting) at <https://www.aer.gov.au/networks-pipelines/performance-reporting>

¹⁵ AER, *Explanatory Statement, Proposed Connection charge guideline: under chapter 5A of National Electricity Rules For retail customers accessing the electricity distribution network*, 22 December 2011, p.33; AER, *Guidance Paper, The AER's Conclusion on the Benchmark Upstream Augmentation Charge Rates for CitiPower's Network*, 25 June 2010.

¹⁶ 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 NER.

AER approved connection policy for TasNetworks

~~Distribution Connection
Pricing Policy Tas Networks-
IR021-Tas Networks~~
Distribution Connection
Policy review-20230505-
Public

Regulatory Control Period: 1 July 2024 to
30 June 2029

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[Reflecting amendments by the AER](#)

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While TasNetworks will periodically review this policy to account for the impact of any future changes to legislation or regulation, TasNetworks does not make any representation or warranty, express or implied, as to the currency, accuracy, reliability or completeness of this policy, or the information contained in it. It is the customer's responsibility to ensure that the arrangements applicable to a specific investment are confirmed with TasNetworks at the time that an application to connect is made.

Responsibilities

This document is the responsibility of the Revenue Reset Team, Tasmanian Networks Pty Ltd, ABN 24 167 357 299 (hereafter referred to as "TasNetworks").

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Distribution Connection Pricing Policy

Customers requesting a new connection to the shared distribution network, or the alteration of an existing connection, may be required to make a contribution toward the cost of that new or altered connection. This is in addition to the ongoing network charges that the connection and the customer's use of electricity will attract once the connection is energised.

If the distribution network has-needs to be extended or upgraded (known as augmentation) to facilitate a new or altered connection, the customer receiving the new or altered connection may be required to contribute to the cost of extending or upgrading the distribution network. In certain circumstances, customers requiring a new connection may also be required to share in the cost of a network extension or augmentation works that have previously been funded by another customer.

TasNetworks' charges for connection services are levied on either a fixed fee basis, in the case of, standardised connection services or for more complex or tailor-made connections, connection charge are based on the material, contractor and labour costs involved in providing the connection on a quoted basis. In either case the fees and charges applied by TasNetworks are regulated by the Australian Energy Regulator (**AER**), with the AER approving the fixed fees applying to standardised connection services and the labour rates used to cost quoted connection services.

1 Purpose and scope

This Distribution Connection Pricing Policy (**policy**) sets out the types of connection services provided by TasNetworks, the circumstances in which a customer may be required to pay a connection charge in relation to a new or altered connection, and how those charges are calculated.

It applies to new and altered connections requested by or on behalf of a customer, real estate developer or embedded generator. It does not apply to connections for current or intending Registered Participants, as defined in the National Electricity Rules (**NER**), such as large generators that register with the Australian Energy Market Operator (**AEMO**) to participate in the National Electricity Market (**NEM**).

The policy applies from 1 July 2024 until 30 June 2029. To the extent applicable, this policy is consistent with the connection charge principles set out in:

- Part E (Connection Charges Principles) of Chapter 5A of the NER
- Part DA (Connection Policies) of Chapter 6 of the NER
- the AER's Connection Charge Guidelines published under chapter 5A of the NER
- any determination made by the AER in relation to the fees that TasNetworks can charge for the provision of connection services during a regulatory control period.

There are a number of terms appearing in this policy that have the meaning given to them in the Glossary.

2 Connecting to the distribution network

Under the various rules and regulations governing the provision of distribution network services, TasNetworks is obligated to provide access to the distribution network ([including regulated stand-alone power systems](#)) to any party that requests a new connection, and to alter existing connections to the network to accommodate requests to meet the altered requirements of a connecting party. The services involved with providing a new connection to the distribution network or altering an existing connection are referred to as "connection services".

Connection services can include a number of different elements:

- establishment of a new connection;
- alteration of an existing connection;
- extension or augmentation of the distribution network required to supply a customer's new or altered connection; and
- removal or relocation of distribution network assets to accommodate a new or altered connection.

The provision of a connection service may involve one or more of these activities. This policy does not apply to work undertaken beyond the customer's point of supply. Further, connection services do not include the provision of metering services, which connection applicants are required to obtain through their electricity retailer.

In most instances, TasNetworks will be the provider of connection services. In a limited number of circumstances, such as the construction of underground electrical reticulation as part of a property development, the provision of connection services may be contestable; meaning that the connection service is able to be provided either by TasNetworks or, if the customer prefers, an Accredited Electrical Constructor (**AEC**) of their choice.

Connection services are a *network-related* service that TasNetworks provides on request, either from a customer or a third party acting on their behalf such as an electricity retailer. The costs of providing a new or altered connection – and the associated benefits – can be directly attributed to that customer and are, therefore, recovered from the customer receiving the service.

There are three types of connection services: Basic, Standard and Complex. Table 1 below summarises the service elements that each type of connection service potentially involves.

Table 1 Types of service connection

Connection type	Basic connection service	Consumer energy resources connection	Large/Complex connection service	Network extension service	Network augmentation service
Basic connection	Yes	Yes	No	No	No
Standard connection	Yes	Yes	No	May include	No
Complex connection	No	Yes	Yes	May include	May include

2.1 Basic connections

The majority of residential and small business customers require what is referred to as a basic connection to distribution network. Basic connections are for customers that require a connection with a capacity of no more than 100 amps per phase (or 70 kVA). The vast majority of micro embedded generation installations (that conform to Australian Standard AS 4777.1) will require only a basic connection service.

A basic service connection can either comprise of an overhead service wire between the nearest TasNetworks power pole and the point of attachment on the customer's premises, or an underground cable from the nearest TasNetworks pole or fuse turret/cabinet to the point of supply on the customer's premises.

Sometimes, if the customer is located on the opposite side of the road from the overhead distribution network, a basic connection may also involve the installation of a crossover pole, along with an additional service wire from the crossover pole to the nearest TasNetworks pole. This is to maintain minimum ground clearance for the customer's service wire or ensure the length of the service wire does not exceed the maximum permissible length of a service conductor under TasNetworks *Service and Installation Rules*¹.

Basic connections involve minimal or no augmentation of the distribution network and for a new connection to be treated as a basic connection service; it must not involve an extension to the network. Basic connection service involves, therefore, either the provision of a new basic connection, or alterations to an existing basic connection (after which the connection will still be considered a basic connection).

¹ <https://www.tasnetworks.com.au/config/getattachment/de15ca22-059c-4a7c-bcd5-39a234d79d2f/service-and-installation-rules-v8-2-july-2022.pdf>

2.2 Standard connections

In some circumstances, while a customer may require a basic connection, additional connection services will be required to connect the customer to the distribution network. For example, TasNetworks may be required to extend the network up to the customer's connection point. If the distribution network in the area where the customer requires a new connection is high voltage, the installation of a dedicated transformer may also be required in order to supply the customer at the required lower voltage. Some micro embedded generator connections may also require a standard connection service.

Even if the customer's connection with the network is technically a basic connection, connection works that involve extension to, or modification of, the distribution network are referred to as a standard connections. The increased complexity and differences between standard connection projects means that the provision of a customer's connection, as well as any extension, require assessments of the existing network capacity. This assessment enables understanding of the implications of the additional customer demand and the preparation of detailed designs required by TasNetworks of any network extension or modifications required to meet those demands.

When a connection service is not a basic connection it means that it is not possible to set a generic fixed fee in advance for these services, and the costs that the customer is required to pay will depend on the nature of their connection, charged on a quoted services basis.

2.3 Complex connections

Large customers who take their supply of electricity from the distribution network generally require either connection to the network at high voltage or, if connected at low voltage, have maximum demand in excess of 100 amps per phase. This means that a basic or standard connection would be insufficient to cater for their needs and the demands that they place on the distribution network, and a tailor-made connection service is required. The connections for large customers are referred to as complex connections. This type of connection can also be ~~used~~ for 'small' customers that require complex solutions to meet their connection service requirements.

The design and specifications of complex connections vary~~ies~~ significantly from customer to customer, meaning the cost of providing these services cannot be estimated without first understanding the specific requirements, and therefore, it is not possible to set a fixed fee in advance for these services.

Connecting a large customer with a complex connection to the distribution network may also require extension or augmentation of the network. Customers that require larger, more complex connections may also require the relocation and/or removal of existing shared network assets.

The often-unique nature of complex connections will require a detailed design of the customer's connection with the network to be prepared by TasNetworks, along with designs for any extension of, or modifications to, the existing distribution network. By their nature, the provision of electrical reticulation for property developments, such as a new subdivision, is treated by TasNetworks as a complex connection service. Large embedded generation connections are also treated as a complex customer project.

2.4 Export Limits

When the connection to the distribution network includes the use of Consumer Energy Resources² (CER) technology TasNetworks will assess the network capacity to accept the injection of energy, in order to determine its current export capacity.

On the basis of that assessment, TasNetworks may reduce the connection applicant's requested export limit. In limited circumstances, TasNetworks may apply a static zero export limit, ~~in instances where;~~

- ~~• the injection of energy into the network by the customer has a high probability of causing voltage or power quality issues; and~~
- ~~• the cost of augmenting the distribution network to allow a reasonable export capacity exceeds the benefits arising from the additional export capacity.~~

~~In areas of the distribution network where the technology is available, TasNetworks will not apply static zero export limits to CER installations with the capacity to export energy where that CER has a dynamic response system that is able to respond to real time changes in export limits from TasNetworks. This technology enables the injection of energy to be curtailed at times when the network is congested, while allowing the customer(s) to export energy the rest of the time.~~

~~We will only impose a static zero export limit in circumstances permitted under the AER's [Connection Charge Guideline for Electricity Customers](#). Our policy on when we will impose a static zero export limit is available on our website.~~

2.5 Real estate developments

A real estate development is a property development where:

Two or more property titles are created from one or more allotments; or multi-tenanted sites are constructed that contain three or more retail customers.

A developer requesting electricity reticulation for a new subdivision or development may require:

- the provision of connection services;
- network extension services;
- network augmentation services, and
- street lighting services.

Real estate developments generally involves the subdivision of large land holdings into smaller commercial or residential lots. A development is treated as a single customer for the purposes of calculating the customer connection charge. For example, TasNetworks will take into account the aggregate load and future network revenues attributable to the development as a whole. Where a real estate development proceeds in stages, each stage will be considered as a separate connection project,

² Small scale energy resources, consumer assets such as rooftop solar, home batteries and electric vehicles connecting to the distribution network.

provided the connection of subsequent stages occur more than five years after the connection of the previous stage.

Where TasNetworks requires infrastructure (substations/transformers) to be installed to a greater capacity than that required for a specific development or stage of a development, the real estate developer will only be required to fund the infrastructure required for that development. This will typically occur where future development is likely beyond the boundaries of the current development or stage of the development, and it is prudent to provide additional capacity within the distribution network for these future connections.

TasNetworks may require the real estate developer to fund the extension of the high voltage network through their subdivision to cater for subsequent developers. These assets will be classified as Developer Mains and in the future, the property developer may be entitled to a refund of some of the costs of network extension, should another developer or customer connect to these assets.

Where a real estate developer has elected for an AEC to provide connection services, including any network extension, the cost of that work is recovered from the customer by the AEC. Any connection related costs payable to TasNetworks would be limited to the cost of the works required to connect the new extension works undertaken by the AEC to the existing distribution network.

2.6 Temporary Connections

The connection charge associated with a temporary installation should include costs associated with:

- installation of the connection assets required to connect the temporary installation;
- removal of the connection assets associated with the temporary installation; and
- the return (in good order) of any reusable equipment provided free of charge by TasNetworks (to a nominated TasNetworks depot or location).

Typical temporary connections, for example building sites, are provided on a fixed fee basis. Larger construction projects requiring temporary connection to the distribution network will be charged on a quoted basis.

3 Connection cost recovery

A connection applicant requesting a new or altered connection to the distribution network is required to make a contribution towards the cost of that connection. The costs that each customer is required to pay will depend on the nature of their connection to the network, as well as a range of regulatory requirements. In all cases, there are a number of principles which guide the calculation of connect charges. Table 2 sets out the principles which guide the derivation of connection charges for all customers.

Table 2 Charging principles

Principle	Description
Cost reflectivity	<p>Charges for connection services should be reasonable and provide a user pays price signal that takes into account the efficient costs of providing a new or altered connection, including the cost of extending and/or augmenting the distribution network.</p> <p>The cost to the customer of extension services is generally calculated on a full cost recovery basis.</p> <p>Charges for network augmentation are based on the average cost of augmentation in the distribution network for each unit of added capacity (in demand) multiplied by the demand estimate (kVA) of the connection applicant.</p> <p>The connection of a new customer, or modification of an existing connection to the distribution network to meet the changed requirement of a customer, should not impose undue costs upon other customers of the shared distribution network.</p>
Least cost connections	<p>The calculation of connection charges by TasNetworks will be based on the optimally sized assets (least cost and technically acceptable) required for the new or altered connection.</p>
Above standard services	<p>Customers may choose to have TasNetworks construct assets to a higher specification than the least cost technically acceptable solution proposed by TasNetworks. As this is an additional service to that being provided for connection, it is also an additional charge to the connection applicant.</p>
Augmentation rates	<p>The \$/kVA unit rates utilised to recover augmentation costs above the threshold. Rates are provided in appendix A.</p>
Augmentation threshold	<p>Customers with a basic connection project are exempt from augmentation charges.</p> <p>For all other customers, TasNetworks is required to set an augmentation threshold such that connecting customers with an estimated demand below this threshold will be exempt from any augmentation charges.</p> <p>The augmentation threshold allowance is:</p> <ol style="list-style-type: none"> 25 kVA where a connection applicant's premises are supplied from the Single Wire Earth Return (SWER) network; and 70 kVA for all other instances.
Incremental revenue	<p>Where applicable, connection charges will take account of any incremental network revenue that may be generated by that connection in the future.</p> <p>Each connecting customer that will provide additional revenue, in the form of ongoing network charges, will receive a rebate, or a reduction, in their</p>

	<p>connection charges to reflect this future revenue stream. This is known as an incremental revenue rebate (IRR).</p> <p>Future operations and maintenance costs will not be included in any calculation of charges, or considered in the assessment of incremental revenues associated with the provision of connection services.</p>
Developer mains	<p>A customer that has previously paid connection charges towards the cost of a network extension provided solely in respect of their connection to the network may be eligible for a refund of a portion of that connection charge should another customer subsequently connect to that part of the network. Similarly, a customer may be required to contribute to costs of works previously funded by another customer.</p>

In all instances where the provision of a connection service necessitates the relocation or removal of existing components of the distribution network, the relocation or removal of those assets is additional to the provision of the connection service, and the cost recovered from the customer through an additional charge to the customer. Parties other than connection applicants, such as a road authority, local council or collective of customers, may also request asset relocation services, for which they will be responsible for the cost. [The charge for this purpose will be based on the least cost technically acceptable standard construction method.](#)

The charge for the relocation or removal of existing distribution assets will include all costs associated with the removal and disposal of any assets, as well as the construction of the new installed assets. Where TasNetworks chooses to upgrade, or augment, the newly constructed assets, the additional costs of this upgrade will be borne by TasNetworks.

3.1 Basic connections

A customer requesting a basic connection is required to pay the direct costs associated with the provision of their connection.

Basic connections exhibit a high degree of similarity in terms of their specifications and the connection assets involved, which lends them to the use of a set fee to recover the cost of providing the connection. They can, however, differ in terms of things like the number of phases involved, whether the connection is overhead or underground, and the need, or otherwise, for a crossover pole. To cater for these fundamental differences between basic connections TasNetworks offers a number of different basic connection services, each of which attracts a fixed connection charge that has been approved by the AER and reflects the typical cost of providing each type of connection.

Customers provided with a basic connection are not required to contribute towards the cost of network extension or augmentation, or the cost of transformers required to facilitate their connection.

In cases where a customer seeking a basic connection to the overhead network requires a crossover pole, TasNetworks provides this service to the customer at no charge.

3.2 Standard connections

Customers requesting a standard connection are required to pay the direct costs associated with the provision of their connection, less any incremental revenue rebate.

Standard connection projects (including residential customers with standard connections) are exempt from augmentation charges, as they do not meet the augmentation threshold, as shown in Table 2. However, customers with standard connections may be required to contribute to the cost of a Developer Mains Scheme, if applicable.

Embedded generation connections are required to pay for any extension services. However, because there is no revenue associated with embedded generator connections (as TasNetworks does not currently apply use of network charges for export services), the incremental revenue rebate does not apply to these connections.

When the provision of extension services requires the installation of a transformer to service that connection, the charge is calculated in the following manner.

1. For low consumption installations (excludes residential connections) – total extension costs are calculated, and the customer's incremental revenue rebate is applied against the total extension costs, including the installed transformer costs.
2. For all other customers – the customer's incremental revenue rebate is firstly checked against the installed transformer costs. Any installed transformer costs that are in excess of the incremental revenue rebate are to be subtracted from the total extension services charges.

One exception to the approach outlined above is the costing of extension services for connections supplying the pumping of water for the purposes of irrigation. In line with guidance from the State Government, TasNetworks provides concessional arrangements for irrigation customers. Under those arrangements, where the provision of network extension services to supply an irrigation connection includes the installation of a dedicated transformer(s), the connection charge for extension services will not include the installed costs of the largest transformer.

An irrigator requesting a connection that requires a network extension service, but which doesn't involve the installation of a transformer, is required to pay the direct costs associated with the provision of those assets, less any incremental revenue rebate.

As for any other customers, the other connection charges which apply to irrigation projects will depend on the size of the connection and whether the connection is a basic, standard, or complex connection. An irrigator requiring the equivalent of a basic connection is required to pay the applicable regulated connection charge. Irrigation projects below the augmentation threshold are exempt from any augmentation charges. However, irrigation projects above the augmentation threshold are required to contribute towards any augmentation services based on their expected maximum demand.

3.3 Complex connections

A customer requesting a complex customer project is required to pay the direct costs associated with the provision of their connection, including any dedicated transformer assets and any extension and augmentation services, less any incremental revenue rebate.

Large customer connections are required to contribute to the augmentation charge based on their expected maximum demand. Customers requiring complex connections may be required to contribute to the cost of a Developer Mains Scheme, if applicable.

Large embedded generation connections are required to pay for any augmentation services. This is consistent with charging arrangements under the NER for other generation and, specifically, non-registered embedded generation. However, because there is no revenue associated with embedded generator connections (as TasNetworks does not currently apply use of network charges for export services), the incremental revenue rebate does not apply to these connections.

If the connection applicant is seeking a new load connection as well as the connection of a generator, the connection charge will be calculated based on the total cost of the works required to support both the generation (electricity output) and load components of the connection service, and there is no revenue rebate associated with the generation component.

A large embedded generator requesting an alteration to an existing connection is also required to pay for the direct costs associated with any alteration of connection assets required to accommodate that request and the direct costs associated with any augmentation services and extension services required to accommodate that request.

Embedded generators that are classified as registered participants, as defined in the NER, and embedded generation connections above five MW, will have their applications assessed in accordance with Chapter 5 of the NER.

3.4 Charges for removing export constraint on request from a micro embedded generator

Where a micro embedded generator wishes to fund network augmentation to avoid or remove a static zero export limit, or any other export limit imposed by TasNetworks, and the connection service has been classified as a standard control service, the charge payable by the customer will be calculated as follows:

- Residential connections: the charge payable by the customer will be the net cost to TasNetworks of the augmentation, calculated as the difference between (1) the actual cost to remove the export constraint netted off by (2) the NPV of the export charge revenue expected to be received from the connection applicant, and from any projected future additional micro embedded generation connections, over a 30-year period.
- Non-residential connections: the charge payable by the customer will be the net cost to TasNetworks of the augmentation, calculated as the difference between (1) the actual cost to remove the export constraint netted off by (2) the NPV of the export charge revenue expected to be received from the connection applicant, and from any projected future additional micro embedded generation connections, over a 15-year period.

The price path for calculating the export charge revenue will be based on the export service charge rates specified in the distribution determination (where relevant) until the end of the relevant regulatory control period.

For the remaining life of the connection, TasNetworks will use a flat real revenue path after the end of the relevant distribution determination. The flat price path used will be the expected real export charge rate in the final year of the regulatory control period.

The discount rate for the calculation of the NPV of the export charge revenue will be based on the real pre-tax weighted average cost of capital applying to TasNetworks during the current regulatory control period, as set out by the AER in the relevant distribution determination.

Despite the time periods specified above for the purpose of calculating the NPV of the projected export service revenue, where the applicable connection period does not reflect a reasonable estimate of the time that the connection service will remain connected, TasNetworks, acting in good faith, may apply an alternative assumed connection period, based on that reasonable estimate, for that connection service.

4 Connection charge calculations

4.1 Steps in calculating customer charges

The approach to charging for customer project works depends on the nature of the service provided and a range of regulatory requirements.

Under the Connection Charge Guidelines, there are a number of requirements that may affect the cost of customer connection works. The charge that a connection applicant will pay to TasNetworks is also dependent on the classification of the required works and any rebates that may apply. Important parameters underlying the Regulator's methodology for calculating charges for connection and related services are briefly listed below.

- Charges relating to the services where the assets are for a particular customer and regulated outside the revenue allowance set by the regulator are to be calculated separately. These are known as alternative control services (ACS).
- Charges relating to services that provide assets that are shared by all customers and are recovered through the revenue allowance, and ultimately network tariffs, are to be calculated separately. These are known as standard control services (SCS).
- Each connecting customer that will provide additional revenue, in the form of network tariff charges, will receive a rebate, or a reduction, in their standard control services connection charges, to reflect this new revenue stream. This is known as an incremental revenue rebate (IRR).
- There are also charges for the assets that have been previously funded by another customer as their dedicated connection assets. Because of a newly connecting customer, these assets will now form part of the shared distribution network. These are known as Developer Mains charges (DM).

The amount of each such charge is to be determined in accordance with the formula included in section 4.2 below.

4.2 Connection charge formula

In accordance with the Connection Charge Guidelines, the amount of any connection charge is to be determined in accordance with the following formula:

$$\text{Connection Charge} = \text{ACS} + \text{SCSCC} + \text{DM}$$

Where:

ACS — is the total charge payable to TasNetworks for all relevant alternative control connection services

SCSCC — is the total capital contribution (CC) payable to TasNetworks for all relevant standard control connection services.

DM — is the total charge payable to TasNetworks to account for any Developer Main Schemes applying to the assets to which the connection applicant connects.

And;

$$\text{CC} = \text{ICCS} + \text{ICSN} - \text{IRR}(n=X)$$

Where:

$$\text{CC} = \text{Capital Contribution for standard control services and } \text{CC} \geq 0$$

ICCS = Incremental Cost Customer Specific—the incremental costs incurred by TasNetworks for standard control connection services, which are used solely by the connection applicant. This typically includes any standard connection services, extension services or alterations to those connection services.

ICSN = Incremental Cost Shared Network—the costs incurred by TasNetworks for standard control connection services, which are not used solely by the connection applicant. This may include any augmentation (insofar as it involves more than an extension service) attributable to the new connection.

IRR(n=X) = Incremental revenue expected to be received from the new connection—the present value of a X year revenue stream directly attributable to the new connection (Incremental Revenue Rebate).

4.3 Connection charging summary

Table 3 summarises the charging approach to connections services.

Table 3 Connection charging summary

Charge	Component	Basic customer projects (residential, small business)	Standard customer projects (residential, small business, micro embedded generation)	Complex customer projects (large business, large embedded generation)	Complex customer projects (real estate developments)	Irrigation customer projects (irrigation)
+ ACS	Alternative control service charge	✓	✓	✗	✓	✓ If applicable
+ SCS	Extension services	✗	✓	✓	✓	✓
	Dedicated Transformation/Substation	✗	* To level of revenue assessment	✓	✓	✗ ++
	Augmentation services <i>(where in excess of augmentation threshold)</i>	✗	✗	✓	✓	✓ +++
	Transformer/substation upgrade	✗	✗	✓	✓	✗ ++
- IRR	IRR	✗	✓ ⊗	✓ ⊗	✓	✓
+ DM	Developer Mains Contribution towards any previous network development paid for by another customer	✗	✓	✓	✓	✓

- * Low Consumption Installations pay for transformation because they do not contribute required revenues
- ++ Reflects State Government policy – treatment of irrigation connections
- +++ Irrigation projects with demand below the augmentation threshold (equivalent of a basic or standard customer project) are not required to contribute to augmentation services
- ⊗ Embedded generation will have an incremental revenue rebate of zero

4.4 Application of overheads

Connection costs and charges include an allocation of overheads, determined by the application of TasNetworks' cost allocation method (**CAM**). Amongst other things, the CAM assigns overhead costs to a range of different services. TasNetworks' CAM is approved by the AER.

5 Connection related services

5.1 Pre-connection services

Pre-connection services are the tasks associated with the administration of the connection application process and the preparation and finalisation of any asset construction design. While these costs are a precursor in establishing the final connection, they will form a component of the costs that should be borne by a connecting customer.

5.2 Application and design fees

Where a customer's application requires a formal design to determine specific requirements for extension and augmentation services, the customer will be charged fees to cover the reasonably incurred expenses in assessing the application, preparing a design, and making the connection offer.

The fee applicable will depend on the size and complexity of the proposed connection and subsequent design work and engineering studies required.

The connection applicant will be liable to pay all reasonable invoiced costs whether or not the final connection offer is agreed or accepted.

5.3 Street lighting

5.3.1 Public lighting

The provision of public lighting in subdivisions, at the request of a developer (and in accordance with any council requirements) is additional to the provision of the connection service. These services are provided on a quoted basis and the cost will be separately itemised as part of the connection offer.

5.3.2 Private contract lighting

Customers may request the installation of private contract lighting near their premises, for example at the entrance of a driveway (and in accordance with any council requirements). TasNetworks will recover the cost of installing that lighting from the customer requesting the lighting.

5.4 Cost recovery for other connection related services

The provision of other connection related services ~~are~~ to be calculated in accordance with rates established in the AER's final distribution determination. Where no specific rates are specified, all other charges will be determined on a cost recovery basis.

5.5 Asset replacement

The cost of replacing assets at the end of their useful life will be borne by TasNetworks. The replacement or removal of a customer's connection assets that are in serviceable condition at the request of that customer is treated as a request to alter that customer's existing connection and will be charged at full cost recovery.

5.6 Group applications for connection

Nothing in this policy prevents customers equitably sharing the costs of connection works common to each prospective customer's development.

6 Payment terms and Security fees

6.1 Payment terms

TasNetworks will require reasonable pre-payment of ancillary network service fees associated with connection offers. Pre-payment may be required to initiate the application and design, or purchasing of long lead-time material.

Depending on the timeframe for construction of the project, a connection offer may require full or partial upfront payment and may include additional payments.

Generally, the timing of payments depends on whether the total amount of the connection charge is less than a threshold amount, which is \$6,302 (\$2022-23³), then TasNetworks may, at its discretion, require the connection applicant to pay the connection charges on the connection applicant's acceptance of TasNetworks' offer to provide connection services.

Where the connection charge payable by a connection applicant exceeds the threshold amount. TasNetworks will include a payment schedule including due dates for payment.

The payment schedule will be based on:

³ The threshold will be indexed annually on 1 July for the movement in the CPI. The CPI used is the ABS' Consumer Price Index All Groups, Weighted Average of Eight Capital Cities, March to March Quarter, (ABS Catalogue 6401.0).

- Full payment of the connection charge upon acceptance of the offer, if construction will commence within three months of acceptance and cannot be logically segmented into distinct stages of construction; or
- For connection services requiring multiple distinct stages of construction, prior to each construction stage TasNetworks will require partial prepayment of the connection charge, one month prior to construction. Each prepayment will be reasonably reflective of the costs that will be incurred in each construction phase.
- TasNetworks may negotiate alternative flexible payment arrangements with the connection applicant where appropriate.

In general, full payment must be received prior to final connection and energisation of the customer's premises, unless otherwise agreed by TasNetworks.

6.2 Security fees

TasNetworks may require a security fee if it is considered that there is a high likelihood that the estimated incremental revenue calculated as part of a connection offer for the purposes of the incremental revenue rebate will not be collected. In practice this is generally limited to large customer or developer connections where an incremental revenue rebate may fund substantial elements of the customer's extension, connection and/or augmentation services.

A security fee may take the form of either a prepayment, a financial guarantee (such as a bank guarantee), or a capital contribution.

If applicable, a security fee will be included as a condition of acceptance of the connection offer.

TasNetworks' requirements for a security fee will accord with the principles under part 10 of the Connection Charge Guideline. At a minimum:

- The amount of the security fee will not be greater than the amount of the incremental revenue rebate which TasNetworks assesses as having a high risk of not being recovered.
- The security fee will not exceed the present value of the incremental costs TasNetworks will incur in undertaking any extension or augmentation services.
- Where the security fee is provided as an upfront payment, TasNetworks will rebate the security fee via annual instalments, with the annual rebate being the:
 - interest earned on the security, calculated at the cost of debt approved by the AER; plus
 - the lower of:
 - actual incremental revenue received from the customer for the year; and
 - the security fee that was paid for that year.
- Where the security fee has been provided as an upfront payment, TasNetworks will pay interest on the security fee, commensurate with the cost of debt approved by the AER. Interest is not payable on security held in the form of a bank guarantee.

- TasNetworks will not recover more from the security fee scheme than the total estimated incremental revenue. If the actual incremental revenue realised over the period of the security fee scheme exceeds the estimated incremental revenue, TasNetworks will refund the security fee in full.
- The connection applicant will not be rebated an amount greater than the security fee deposit plus interest, over the security fee period.

7 Dispute resolution

The following process will be adopted for resolution of any customer dispute relating to the provision of connection services.

1. An attempt will be made to resolve the dispute in accordance with TasNetworks' internal dispute resolution policy.
2. If the matter is not resolved to the satisfaction of the customer, the matter will be referred to the Energy Ombudsman Tasmania for resolution.
3. If the matter remains unresolved, the matter will be referred to the AER for final resolution.

The customer is entitled to seek to have the AER determine a dispute with TasNetworks. Details of how the AER will determine the dispute or terminate proceedings are set out in Part G of Chapter 5A of the NER.

8 Compliance

This policy has been approved by the AER as part of its regulatory determination for TasNetworks during the 2024-2029 regulatory control period.

To the extent applicable, this policy is consistent with the connection charge principles set out in:

- Part E (Connection Charges) of Chapter 5A of the NER;
- Part DA (Connection Policies) of Chapter 6 of the NER;
- the AER's Connection Charge Guidelines for electricity retail customers, published in accordance with clause 5A.E.3 of the NER; and
- any determination made by the AER in relation to the fees that TasNetworks can charge for the provision of connection services during a regulatory control period.

This policy should be read in conjunction with TasNetworks':

- Service and Installation Rules;
- Credit Risk Management Policy; and
- Connection guidelines for specific connection types (e.g. micro generation).

9 Glossary

Unless a contrary interpretation appears, the following definitions will apply throughout this policy.

Accredited Electrical Constructor

An external service provider accredited by TasNetworks to undertake the construction of Contestable Works.

Accredited Electrical Designer

An external service provider accredited by TasNetworks to undertake the design of Contestable Works.

AER

Australian Energy Regulator

Asset relocation service

The removal and relocation of existing distribution network assets either requested by a customer or required to meet obligations.

Asset removal service

The removal of existing distribution network assets where requested by a customer or where required to meet obligations.

Augmentation service

Works to enlarge or increase the capacity of the existing distribution network (overhead and/or underground). This could include:

- A new or higher capacity transformer where the network is overhead.
- A new or higher capacity substation where the network is underground.
- Higher capacity poles and wires, which may include higher capacity conductor or an upgrade from single wire earth return line to a three phase line.

Basic connection services

The provision of new or altered connection assets for a home, business, or other premises:

- that operate at low voltage;
- that are rated at no greater than 100 amps per phase;
- that do not require the completion of a formal design; and
- for which recovery of the cost of connection with a fixed connection fee is appropriate.

Complex connection service

The provision of a new or altered connection for a home, business or other premises to the existing distribution network, where that connection:

- is at either higher voltage or greater than 100 amps per phase or low voltage; and
- requires the completion of a formal design; and

- a standard fee cannot be charged.

Connect, Connection, Connected

To form a physical link to or through the distribution network so as to allow the supply of electricity between electrical systems.

Connection alteration

An alteration to an existing connection including an addition, upgrade, extension, expansion, augmentation, or any other kind of alteration. For the avoidance of doubt a connection alteration is not the same as a network augmentation for the purposes of calculating connection charges.

Connection assets

Those components of the distribution system that are used to provide connection services solely for a single customer. That is, those assets forming the connection between the connection point and the point of supply.

Connection applicant

Means an applicant for a connection service for one of the following customer types:

- retail customer;
- retailer or other person acting on behalf of a retail customer; or
- real estate developer.

Connection Charge Guidelines

The guidelines published by the AER in accordance with section 5A.E.3 of the NER.

Connection charges

Financial contributions by a customer or developer towards the costs associated with the creation of a new or altered connection to TasNetworks' distribution network or augmentation of the distribution network to support a new or altered connection.

Connection contract

Means a contract formed by the making and acceptance of a connection offer.

Connection offer

Means an offer by TasNetworks to enter into a connection contract with a:

- retail customer;
- retailer or other person acting on behalf of a retail customer; or
- real estate developer.

Connection point

The point where the connection assets connect to either the existing distribution network or assets forming an extension service.

Connection services

Means either or both of the following:

- a service relating to a new connection between the existing distribution network and a premises; and
- a service relating to a connection alteration for a premises.

Connection works

The total works to connect a customer, including connection assets, network extensions and any network augmentation.

Consumer energy resources

Small scale energy resources, consumer assets such as rooftop solar, home batteries and electric vehicles connecting to the distribution network.

Customer

A person, including a developer, who requires customer project services.

Customer premises

Includes any building or part of a building, any structure or part of a structure, any land (whether built on or not) and any river, lake or other waters.

Developer, real estate developer

A person or entity who constructs subdivisions to allow the future provision of connection services to prospective customers.

Developer Mains Scheme

The electricity laws require TasNetworks to operate a pioneer scheme. TasNetworks uses the term Developer Mains Scheme in preference to pioneer scheme. Includes any part of the distribution network:

- that necessitated an extension to the distribution network; and
- which was installed and has existed for less than seven years; and
- for which TasNetworks has required payment of a connection charge; and
- which was previously part of the connection assets of a single customer; and
- that requires payment of a connection charge greater than a threshold amount, which is \$1,261 for 2022-23.⁴

Developer Mains Scheme register

The register held by TasNetworks listing the full details of all existing Developer Main Schemes.

⁴ The threshold will be indexed annually on 1 July for the movement in the CPI. The CPI used is the ABS' Consumer Price Index All Groups, Weighted Average of Eight Capital Cities, March to March Quarter, (ABS Catalogue 6401.0).

Direct costs

Those costs attributable to the customer project services associated with the creation of a new connection or modification of an existing connection to TasNetworks' distribution network, but only to the extent that those costs refer to optimally-sized infrastructure to effect the connection.

Distribution network

The distribution network as defined in section 3A of the Electricity Supply Industry Act 1995 (Tas) (**ESI Act**) and owned and operated by TasNetworks under the terms of its licence issued by the Regulator under section 17 of the ESI Act.

Electricity laws

Includes the following, but not limited to:

- Electricity Supply Industry Act 1995 (Tas)
- National Electricity Law
- National Electricity Rules
- National Energy Retail Law
- National Energy Retail Regulations
- National Energy Retail Rules
- Tasmanian Electricity Code

Embedded generator

A person who engages in the activity of owning, controlling, or operating a generating system that supplies electricity to, or who otherwise supplies electricity to, a distribution network and who holds or is deemed to hold a licence or has been exempted from the requirement to obtain a licence under a regulation of the ESI Act.

Extension service

The provision of network assets beyond the existing boundaries of the distribution network, and up to the connection point that are required to connect a customer.

This could include:

- New poles and wires between the existing distribution network and the connecting property (up to the connection point).
- A new transformer where the network is overhead.
- A new substation where the network is underground.

High voltage

As defined in the ESI Act – Voltage greater than 1,000 Volts or above but less than 88,000 Volts.

Irrigation customer

A customer in respect of an installation for which all or a significant part (> 90%) of the anticipated load is required for the purposes of pumping water:

- to irrigate crops or pasture; or
- that is subsequently used as part of an irrigation scheme to irrigate crops or pasture.

Large customer

A customer is a large customer in respect of an installation if that installation is not a residential installation and takes supply at:

- high voltage; or
- low voltage at greater than 100 amps per phase.

Large embedded generator

A generator that is not a micro embedded generator.

Load connection

A connection other than for a generator.

Low consumption installation

An installation for which the anticipated normal consumption is equal to or below 3,000 kWh per annum, but excluding a principal residential installation.

Low voltage

As defined in the ESI Act, Voltage less than 1,000 Volts.

Micro embedded generator

~~A generator of the type contemplated by Australian Standard AS 4777 "Grid Connection of Energy Systems via Inverters". Often a PV (solar) system classifies as a Micro generator.~~

A generator where there is a connection between an embedded generating unit and a distribution network of the kind contemplated by Australian Standards AS4777, where export limits are determined in TasNetworks' Basic Micro EG Connection Technical Requirements document ([Basic Micro EG Connection Technical Requirements \(tasnetworks.com.au\)](#)).

National Electricity Law

The National Electricity Law contained in the Schedule (as amended from time to time) to the National Electricity (South Australia) Act 1996 (South Australia).

National Electricity Rules

Has the same meaning as in the National Electricity Law.

National Energy Retail Law

The National Energy Retail Law contained in the Schedule (as amended from time to time) to the National Energy Retail Law (South Australia) Act 2011 (South Australia).

National Energy Retail Regulations

The Regulations published by the parliament of South Australia in accordance under section 12 of the National Energy Retail Law and the National Energy Retail Law (South Australia) Act 2011 (South Australia).

National Energy Retail Rules

Has the same meaning as in the National Energy Retail Law.

NER

National Electricity Rules

Point of Supply

Has the same meaning as in the Tasmanian Electricity Code.

Prospective customer

A customer that is reasonably expected to connect an installation to the distribution network.

Prudential requirement

An arrangement to minimise the financial risks associated with a request for connection works.

Regulated Stand-Alone Power System

Stand-alone power systems (SAPS) are electricity supply arrangements that are not physically connected to the shared distribution network. The term encompasses both microgrids, which supply electricity to multiple customers, and power systems that supply only a single customer. Under the NER, distribution network service providers, like TasNetworks, are permitted to supply SAPS to existing customers of the shared network where it is more economically efficient to do so than continuing to supply the customer(s) through a connection to the shared distribution network.

These SAPS are referred to as regulated SAPS and customers supplied by regulated SAPS retain access to the same consumer protections and reliability standards that apply to customers of the shared distribution network. TasNetworks may not supply SAPS to new customer connections, but may connect new customers to existing regulated SAPS where doing so is more economically efficient than connection to the shared distribution network.

Residential

An installation that is primarily used for residential purposes.

Retail Customer

Includes a non-registered embedded generator and a micro embedded generator.

Shared distribution network

The distribution network owned by TasNetworks that can provide services to a number of customers.

Standard Connection Contract

Has the same meaning as in the National Energy Retail Law.

Static zero export limit

Has the same meaning as in the NER.

Street lighting service

Provision of street lighting at the request of a customer, which may be to meet the requirements of a road authority (such as local council or State Growth).

Tasmanian Electricity Code

Has the same meaning as “Code” in the ESI Act, and as issued by the Tasmanian Economic Regulator.

Temporary installation

An installation that is intended to exist for a period of less than 12 months.

Appendix A - Augmentation Charges

The unit rates used to determine augmentation charges are set out in the following tables. Where a connecting customer's estimated maximum demand exceeds the augmentation threshold, the customer's augmentation charge is calculated by multiplying the difference between the customer's estimated maximum demand and the augmentation threshold by the aggregate of the applicable individual augmentation rates from the tables below.

For example a connection at the distribution transformer level will incur augmentation rates for all upstream components that require augmentation, i.e. subtransmission, high voltage feeder and distribution transformer. Augmentation rates for upstream components will not be applied if no augmentation is completed on associated assets.

Table 4 Augmentation rates for residential and real estate developers (constructing residential subdivisions)

	2024-25	2025-26	2026-27	2027-28	2028-29
Network element	Unit rate (\$kVA)	Unit rate (\$kVA)	Unit rate (\$kVA)	Unit rate (\$kVA)	Unit rate (\$kVA)
Subtransmission	63	65	67	69	71
High voltage feeder	214	221	229	236	244
Distribution transformer	242	250	258	267	276
Low voltage mains	327	338	350	361	374
Zone substation	68	70	73	75	77

Table 5 Augmentation rates for non-residential (business) and real estate developers (constructing commercial subdivisions)

	2024-25	2025-26	2026-27	2027-28	2028-29
Network element	Unit rate (\$kVA)	Unit rate (\$kVA)	Unit rate (\$kVA)	Unit rate (\$kVA)	Unit rate (\$kVA)
Subtransmission	37	39	40	41	43
High voltage feeder	127	132	136	141	145
Distribution transformer	144	149	154	159	164

Low voltage mains	195	202	208	215	222
Zone substation	40	42	43	45	46

Shortened forms

Term	Definition
AEMC	Australian Energy Market Commission
AER	Australian Energy Regulator
NER	National Electricity Rules
