

Draft Decision

SA Power Networks Electricity Distribution Determination 2025 to 2030 (1 July 2025 to 30 June 2030)

Attachment 18 Connection policy

September 2024

© Commonwealth of Australia 2024

This work is copyright. In addition to any use permitted under the *Copyright Act 1968* all material contained within this work is provided under a Creative Commons Attributions 4.0 Australia licence with the exception of:

- the Commonwealth Coat of Arms
- the ACCC and AER logos
- any illustration diagram, photograph or graphic over which the Australian Competition and Consumer Commission does not hold copyright but which may be part of or contained within this publication.

The details of the relevant licence conditions are available on the Creative Commons website as is the full legal code for the CC BY 4.0 AU licence.

Important notice

The information in this publication is for general guidance only. It does not constitute legal or other professional advice. You should seek legal advice or other professional advice in relation to your particular circumstances.

The AER has made every reasonable effort to provide current and accurate information, but it does not warrant or make any guarantees about the accuracy, currency or completeness of information in this publication.

Parties who wish to re-publish or otherwise use the information in this publication should check the information for currency and accuracy prior to publication.

Inquiries about this publication should be addressed to:

Australian Energy Regulator
GPO Box 3131
Canberra ACT 2601
Email: aer inquiry@aer.gov.au
Tel: 1300 585 165

AER reference: AER213704

Amendment record

Version	Date	Pages
1	27 September 2024	41

Contents

18 Connection policy	1
18.1 Draft decision.....	2
18.2 SA Power Networks' proposal.....	2
18.3 Assessment approach	2
18.4 Reasons for draft decision	2
18.5 AER approved connection policy	3
Appendix A - AER approved Connection Policy for SA Power Networks	4
Shortened forms.....	41

18 Connection policy

We are required to make a decision on the connection policy that is to apply to SA Power Networks for the 2025-30 regulatory control period (period). This may be the connection policy prepared by the distribution network service provider (DNSP), some variant of it, or a policy substituted by us under the National Electricity Rules (NER).¹

We must approve the policy if we are satisfied that it adequately complies with the requirements of Part DA of Chapter 6 of the NER.²

A connection policy sets out the nature of connection services offered by a DNSP when connection charges may be payable by retail customers. It also sets out how those charges are calculated.

Specifically, as per the requirements set out in Part DA of Chapter 6 of the NER, the connection policy must:³

- set out the circumstances in which SA Power Networks may:
 - require a retail customer or real estate developer to pay a connection charge, for the provision of a connection service under Chapter 5A
 - specify a static zero export limit in a connection offer for a retail customer
- be consistent with:
 - the connection charge principles set out in Chapter 5A of the NER⁴
 - our Connection charge guideline published under Chapter 5A of the NER⁵, and
- specify:
 - 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 guideline) below which a retail customer (not being a non-registered embedded generator, a real estate developer, a Registered Participant or an Intending Participant) will not be liable for a connection charge for an augmentation other than an extension.

Flexible export limits

¹ NER, cl 6.12.1(21).

² NER, cl 6.12.3(i).

³ NER, cl. 6.7A.1(b).

⁴ NER, cl. 5A.E.1.

⁵ AER, [Connection charge guideline](#), 6 April 2023.

Throughout 2022 to mid-2023, we led a review of the regulatory framework for flexible export limits as part of the Energy Security Board’s Consumer Energy Resources Implementation Plan.

As part of this plan, on 17 November 2023 we published the draft export limit interim guidance note⁶ for consultation. We are currently considering stakeholder feedback from this consultation.

The draft guidance note is a non-binding document aimed at providing guidance to DNSPs to support the efficient implementation of flexible export limits. Relevantly, it highlights information that DNSPs should set out in their connection policies.

18.1 Draft decision

We approve SA Power Networks’ connection policy as it complies with the NER and is consistent with the connection charge principles and our Connection charge guideline.

18.2 SA Power Networks' proposal

SA Power Networks’ connection policy gives a broad outline of its connection services and dispute resolution processes. The policy also provides detailed information on when connection charges may be payable by its retail customers and how those charges are calculated.

For the first time, SA Power Networks’ proposed connection policy offers its customers the option of flexible load and export capacity.

18.3 Assessment approach

We examined SA Power Networks’ proposed connection policy against the requirements of Part DA of Chapter 6 of the NER set out above. We assessed whether it:

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

We also engaged with SA Power Networks on our expectations, and potential enhancements, relating to flexible export limits information.

18.4 Reasons for draft decision

In determining our draft decision, we reviewed SA Power Networks’ proposal to offer customers the option of flexible load and export capacity. This is the first time SA Power Networks has included such an option in its connection policy.

We note that during the consultation period on SA Power Networks’ draft regulatory proposal, the Energy and Water Ombudsman of South Australia (EWOSA) raised concerns that the connection policy for flexible exports was complicated. SA Power Networks discussed these proposed changes in its policy with its customers and stakeholders, and the policy was then supported by its Connections Working Group. SA Power Networks also

⁶ AER, [Interim export limit guidance note – for consultation](#), November 2023.

provided further information and education for its customers on the firm and flexible export arrangements, on its website.⁷

In its original connection policy submitted as part of its proposal, SA Power Networks stated that, for basic connections, customers would have the option of:

*selecting either a permanent fixed export option of 1.5kW per phase or a flexible exports option, where their export limit will vary up to 10kW per phase.*⁸

We advised SA Power Networks that the use of flexible export limits is still an emerging area and we considered that approving specific export levels in the connection policy could potentially restrict a flexible approach to these solutions over the regulatory period. SA Power Networks subsequently amended its original policy to remove reference to specific firm and flexible limits.

In response to engagement with the AER, SA Power Networks also updated its policy with additional general information that could provide clarity and transparency on how flexible limits operate.

We expect more detailed information will be available in model standing offers to be updated when the 2025–30 connection policy comes into effect.

High quality consumer engagement is essential for ensuring that networks provide the services that meet the needs of their consumers. We acknowledge SA Power Networks for its engagement on flexible export limits and the alterations it made to its policy in an effort to uplift consumer awareness and understanding on this topic.

Overall, we approve SA Power Networks' amended connection policy because it:

- meets the connection policy requirements set out in Part DA of Chapter 6 of the NER,
- is consistent with the connection charge principles set out in Chapter 5A of the NER, and
- is consistent with our Connection charge guideline published under Chapter 5A of the NER.

18.5 AER approved connection policy

The approved connection policy is appended to this attachment.

⁷ SA Power Networks, [Flexible Exports](#), accessed 26 August 2024.

⁸ SA Power Networks, [Attachment 17: Connection Policy 2025-30, 2025-30 Regulatory Proposal](#), January 2024.

Appendix A - AER approved Connection Policy for SA Power Networks



Attachment 17: Connection Policy 2025–30

2025–30 Regulatory Proposal

August 2024

Company information

SA Power Networks is the registered Distribution Network Service Provider for South Australia. For information about SA Power Networks visit sapowernetworks.com.au

Contact

For enquiries about this Regulatory Proposal please contact:

Richard Sibly

Head of Regulation

SA Power Networks

GPO Box 77 Adelaide SA 5001 sapn2025proposal@sapowernetworks.com.au

Disclaimer

This document forms part of SA Power Networks' Regulatory Proposal to the Australian Energy Regulator for the 1 July 2025 to 30 June 2030 regulatory control period. The Proposal and its attachments were prepared solely for the current regulatory process and are current as at the time of lodgement.

This document contains certain predictions, estimates and statements that reflect various assumptions concerning, amongst other things, economic growth and load growth forecasts. The Proposal includes documents and data that are part of SA Power Networks' normal business processes and are therefore subject to ongoing change and development.

Whilst care was taken in the preparation of the information in this Regulatory Proposal, and it is provided in good faith, SA Power Networks, its officers and shareholders accept no responsibility or liability for any loss or damage that may be incurred by any person acting in reliance on this information or assumptions drawn from it for a different purpose or in a different context.

Copyright

This publication is copyright. SA Power Networks reserves to itself all rights in relation to the material contained within this publication. You must not reproduce any content of this publication by any process without first obtaining SA Power Networks' permission, except as permitted under the Copyright Act 1968 (Cth).

© All rights reserved.

Note

This attachment forms part of our Proposal for the 2025–30 Regulatory Control Period. It should be read in conjunction with the other parts of the Proposal.

Our Proposal comprises the overview and attachments listed below, and the supporting documents that are listed in Attachment 20:

Document	Description
	Regulatory Proposal overview
Attachment 0	Customer and stakeholder engagement program
Attachment 1	Annual revenue requirement and control mechanism
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	Customer Service Incentive Scheme
Attachment 12	Demand management incentives and allowance
Attachment 13	Classification of services
Attachment 14	Pass through events
Attachment 15	Alternative Control Services
Attachment 16	Negotiated services framework and criteria
Attachment 17	Connection Policy
Attachment 17	Tariff Structure Statement Part A
Attachment 18	Tariff Structure Statement Part B - Explanatory Statement
Attachment 19	Legacy Metering
Attachment 20	List of Proposal documentation

Contents

1	Overview of connection services	5
1.1	Purpose	6
1.2	Alignment to National Electricity Objective	6
1.3	Connection Policy approval	7
2	Connection Services	8
2.1	Connection types	8
2.2	Contract terms	10
2.3	Firm and flexible connections	11
2.4	Static Zero Export Limits	12
2.5	Contestability	14
3	Methodology for determining connection charges	15
3.1	Overview of charges	15
3.2	Customer payment components	15
3.3	Connection charging summary	17
3.4	Customer payment	18
4	Shared network asset augmentation for firm loads	20
4.1	Overview of augmentation	20
4.2	Calculation of augmentation charge	20
4.3	Augmentation when a supply is disconnected / reconnected	21
5	Rebate towards a customer’s connection	22
5.1	Application of the incremental revenue rebate (IRR)	22
5.2	Rebates for real estate developments	23
6	Payment terms and security fees	24
6.1	Payment terms	24
6.2	Security fees	24
6.3	Pioneer scheme	26
7	Real estate developments	27
7.1	Overview	27
7.2	Allotment types	27
7.3	Equalisation payment	28
7.4	Upstream refunds for real estate developments	28
8	Dispute resolution	29
A.	Definitions	30
B.	Augmentation rates	32
C.	Pioneer calculation methodology	33
C.1	Downstream customer contribution	33
C.2	Payment to upstream customers	34
	Glossary	36

1 Overview of connection services




SA Power Networks operates the South Australian electricity distribution network. We build, maintain and upgrade the poles, wires and substations that deliver power to more than 900,000 homes and businesses. The network services we provide to customers include establishing new connections at a customer’s premises and altering existing connections.

This Connection Policy sets out the circumstances in which connection charges are payable for establishing new connections or making connection alterations and the basis for determining such charges¹. The connections to which this Connection Policy applies, range from basic connections (requiring minimal or no augmentation of the distribution network) for residential customers, through to negotiated large commercial connections, real estate developments and embedded generation connections.

The connection charges payable by a connection applicant and the contractual terms which govern SA Power Networks’ and a connection applicant’s rights and obligations in respect of a new connection or connection alteration, will depend on the type of connection and the connection assets and services involved.

There are three distinct types of connection services offered by SA Power Networks, basic, negotiated and enhanced as summarised in Table 1.

Table 1: Connection Services

Connection Services			
Connection type	Description	AER Service classification	Contract type
Basic connection service 	Connection services we provide on a routine basis and generally at a fixed fee to residential, small commercial and small embedded generator customers. There may be certain limited circumstances where a static zero limit may apply to export services. Refer to section 2.4.	Standard Control Service (SCS)	Model Standing Offer (MSO)
Negotiated connection service 	<p>More complex than a basic connection and more likely to require us to augment or extend our network. These services are generally for business, real estate developers and embedded generation customers.</p> <p>These can be load or export connections or a combination of both. Additionally, these connections are offered as firm load capacity and or flexible load, and or flexible export capacity arrangements.</p>	Alternative Control Services (ACS) – Premises connections Standard Control Services (SCS) + customer contribution Extension, network augmentation	Negotiated Offer
Enhanced connection service 	<p>Connection services above the least cost technically acceptable service (LCTAS), at the request of customers.</p> <p>Customers are required to make a capital contribution for work that is additional to the LCTAS.</p>	Alternative Control Service ACS – component in excess of LCTAS SCS – extension and augmentation up to LCTAS.	Negotiated Offer

¹ The policy has been prepared in accordance with the requirements in Chapters 5A and 6 of the National Electricity Rules (Rules) and the Australian Energy Regulator’s (**AER’s**) *Connection charge guidelines for electricity retail customers, under Chapter 5A of the National Electricity Rules, version 3 (AER connection charge guidelines for electricity retail customers)*.

Note:

Pioneer Scheme charges may apply where a connection service involves the use of extension assets, where another customer made a payment towards that extension (being the customer who originally paid SA Power Networks to build the assets).

Further information on connection contracts and the process by which they are entered into, is set out on SA Power Networks' website at www.sapowernetworks.com.au.

1.1 Purpose

SA Power Networks has prepared this Connection Policy² in accordance with the requirements in Chapters 5A and 6 of the Rules and the AER's Connection charge guidelines for electricity customers³. This Connection Policy details the method of determining if a connection charge is payable and the basis for determining the amount of such charge.

Subject to the paragraphs below, this Connection Policy applies from 1 July 2025, to all load and export (embedded generation) connection applicants who request:

- New connections to the SA Power Networks distribution network; or
- Alterations to existing connections to SA Power Networks distribution network.

A connection applicant means a SA Power Networks customer (or a retailer or other person acting on their behalf), or a real estate developer.

This Connection Policy does not apply to embedded generators in the following circumstances:

- registered or intending registered participants under the Rules, (that is registered by the Australian Energy Market Operator to participate in the National Electricity Market). These are usually but not limited to >5MVA in embedded generation nameplate capacity; or
- non-registered embedded generators (typically <5MVA in capacity) who elect, in accordance with clause 5A.A.2 of Chapter 5A of the Rules, to make a connection application under Chapter 5 of the Rules (specifically under rule 5.3A).

1.2 Alignment to National Electricity Objective

The National Electricity Objective (**NEO**) in the National Electricity Law (**NEL**) promotes SA Power Networks to efficiently invest in, operate and use electricity services for the long-term interests of consumers of electricity with respect to: price, quality, safety and reliability and security of supply of electricity. SA Power Networks will act to encourage investments in the power system that are consistent with these principles, complete evaluations in an efficient manner and to protect system integrity.

Importantly, this framework requires a balance between technical and commercial considerations when fulfilling these regulatory requirements. In some instances where the cost of augmenting the network to enable the connection is less than the benefits derived from that connection, offers to applicants will, in effect, provide for the applicant to contribute to these works in full (including because the application of augmentation free thresholds does not alter, or materially alter, the costs of works). Examples of this may include where a connection is in a remote location where it will solely service the applicant and provide no long- or short-term benefits to the network customer base.

² Connection policy is defined in chapter 5A of the Rules: "connection policy means a document approved as a connection policy by the AER under Chapter 6 (Part E), setting out, among other things, the circumstances in which connection charges are payable and the basis for determining the amount of such charges".

³ AER Connection charge guidelines for electricity customers, Under Chapter 5A of the National Electricity Rules, Final Version 3.0 published in April 2023.

1.3 Connection Policy approval

This Connection Policy has been approved by the AER in its distribution determination for the 2025–30 Regulatory Control Period being 1 July 2025 to 30 June 2030 inclusive. This Connection Policy consequently remains in force for the entirety of the 2025–30 Regulatory Control Period.



2 Connection Services

This section explains the types of connection services SA Power Networks offers and the associated terms.

2.1 Connection types


There are three distinct types of connection services offered by SA Power Networks, basic, negotiated and enhanced as detailed in Table 2:

Table 2: Connection Services

Connection Services			
Connection type	Description	AER Service classification	Contract type
<p>Basic connection service</p> 	<p>Connection services we provide on a routine basis and generally at a fixed fee. This type of connection service includes both new connections or alterations to existing connections, which generally involve minimal or no augmentation/extension of our network. These services are generally provided to the following customers:</p> <ul style="list-style-type: none"> residential customers (requiring minimal extension or no upgrade); small business customers up to a capacity of 100 amps per phase or less; and non-registered small embedded generators with a generating capacity of 10kW or less for a single-phase connection or 30kW or less for a three-phase connection 	<p>Standard Control Service (SCS)</p>	<p>Model Standing Offer (MSO)</p> <p>A MSO contains a default set of terms and conditions that are approved by the AER.⁴</p> <p>However, a customer may seek to negotiate their individual connection contract. This will be provided as a Negotiated Offer.</p>
<p>Negotiated connection service</p> 	<p>More complex connections, generally requiring us to augment or extend our network. Where the estimated costs of a new or altered connection exceeds the estimated revenue, the connection applicant may be required to contribute toward required network augmentation and extension. The applicant must pay the costs for ACS services and these are not part of the cost/revenue calculation referred to in the preceding sentence.</p> <p>Load services</p> <p>Firm Load - A shared network augmentation charge (ICSN) may also apply where the customer's firm estimated load exceeds thresholds.</p> <p>Flexible Load - An immediate network access charge (INAC) may apply where the customer's flexible estimated load exceeds thresholds.</p> <p>Load thresholds applying to both firm and flexible connections are:</p>	<p>Alternative Control Services (ACS) – Premises connections</p> <p>SCS + customer contribution</p> <p>Extension, network augmentation</p>	<p>Negotiated Offer</p> <p>A Negotiated Offer is where a connection applicant negotiates the terms and conditions on which the connection service is to be provided⁵. Typically, this is provided on a quoted (offer) basis.</p>

⁴ NER 5A part B

⁵ NER 5A part C

	<ul style="list-style-type: none"> • 25kVA where a connection applicant’s premises are supplied from a non-three-phase network such as the 19kV Single Wire Earth Return (SWER) network; or • 0 kVA if connection applicant is a real estate developer, or • 70kVA <p>Export services Firm export is not offered for export services.</p> <p>Flexible Export - INAC may apply where the customer’s flexible estimated export capacity exceeds the threshold of:</p> <ul style="list-style-type: none"> • 10kW per phase*; or • 0 kW if connection applicant is a real estate developer, or • otherwise 30kW <p>*Different export rules may apply to customers connected to the SWER network to take into account the technical characteristics of that SWER network</p> <p>The connection related works may include:</p> <ul style="list-style-type: none"> • premises connections – includes any additions or upgrades to the connection assets located on the customer’s premises such as transformer, communication, remote monitoring and control of most embedded generators (excludes metering services); • extensions – includes any new additions required to connect a powerline from our network to the Customer’s connection assets; • network augmentation– includes any enlargement/enhancement of our existing network for firm load, which is not an extension. • INAC includes any enlargement/enhancement of our existing network to accommodate flexible load and or export which is not an extension. <p>Load and export combinations The firm and flexible immediate or staged connection take into consideration the cost recovery mechanism in each direction (load and export) to avoid duplication for capacity augmentation that is common to both directions.</p>		
<p>Enhanced connection service</p> 	<p>These connection services are provided at a standard that is above (or below, where permissible) the LCTAS, at the request of customers and charged at the full cost of the works above the LCTAS connection. This category also includes connections for both load and export.</p> <p>Examples of enhanced connection services are:</p>	<p>ACS – component in excess of LCTAS</p> <p>SCS – extension and augmentation up to LCTAS.</p>	<p>Negotiated Offer A Negotiated Offer is where a connection applicant negotiates the terms and conditions on which the</p>

	<ul style="list-style-type: none"> increased (or decreased, where permissible) reliability, standards and/or regulatory requirements (eg duplicate supply, dedicated assets, upgrade from overhead to an underground service) excess levels of capacity or service (eg upgrade of single phase to three-phase, excess asset capacity, specialised/non-standard technical services etc.) 		connection service is to be provided ⁶
--	--	--	---

Notes:

- For enhanced connection services, customers are typically required to make a customer payment that is additional to any other requested services, including a request for a negotiated connection service.
- For the pioneer scheme, a customer payment may be applicable where a connection service involves the use of extension assets where a previous customer (being the customer who originally paid SA Power Networks to build the assets), has made a payment towards those extension assets. The subsequent (new) customer may be required to contribute towards the cost of the extension assets, (conditions apply refer section 6.3 Pioneer Scheme).
- For descriptions of firm and flexible capacity, refer to section 2.3.
- SA Power Networks no longer provides metering services for new connections or connection alteration requests. Connection applicants will be required to obtain metering services through their energy retailer.

2.2 Contract terms

The contractual terms which govern SA Power Networks' and a connection applicant's rights and obligations in respect of a new connection or connection alteration may be set out in:

- a model standing offer for basic connection services; or
- a negotiated connection contract for negotiated or enhanced connection services.

Model standing offer

[Model standing offers](#) are approved by the AER. SA Power Networks has two types of model standing offers, one for retail customers who do not have embedded generation and one for retail customers who have micro embedded generation (small scale generation such as solar PV panels).

Negotiated connection contract

This is a contract negotiated between SA Power Networks and a connection applicant in accordance with the procedures in Chapter 5A of the National Electricity Rules. A [negotiated contract](#) will be applicable where:

- the connection applicant seeks a service which does not fall within a model standing offer; or
- the connection applicant seeks a service which does fall within a model standing offer, however the applicant elects to negotiate the terms upon which the service is provided.

Under the Rules, SA Power Networks may charge a connection applicant for a negotiated connection contract a reasonable fee to cover expenses directly and reasonably incurred in assessing the applicant's application and making a connection offer.

⁶ NER 5A part C.

Note the above contracts govern the process of establishing or altering a connection. Separate provisions govern the maintenance of an ongoing customer (load and or export) connection (those terms of an ongoing customer connection can be negotiated as part of a negotiated connection contract).

An ongoing export connection contract specific to the size of the generation capacity must be executed prior to connecting the embedded generator to the distribution network, for embedded generation connections that do not fall within the terms of the basic connection service. In providing an export connection, the connection does not of itself guarantee the ability to export any given quantity of electricity at any given time into the distribution network. The ability to export electricity will be dependent on the network conditions at the time.

The connection applicant may need to pay for an upgrade of the distribution network to be able to accept electricity at the times and in the firm or flexible quantities requested by the connection applicant, at time of application.

2.3 Firm and flexible connections

To accommodate as many Customer Energy Resources (**CER**) and Distributed Energy Resources (**DER**) on the network as efficiently as possible, SA Power Networks offers the option of flexible load and export capacity. Flexible connections recognise there is under utilised network capacity available for large periods of time throughout the year, with constraints only arising under certain network conditions. The flexible component may reduce upfront connection charges and ongoing tariffs in exchange for ongoing flexibility.

Basic connections

For export, basic connections have the option of selecting either a permanent fixed export option typically set at a low value or a flexible exports option, where the export limit will vary up to a set maximum limit based on SA Power Networks' assessment of network capacity in the area in which the customer is located, and the specific network conditions that exist at a point in time.

The distribution network has a finite capacity to accommodate the connection of rooftop PV systems and batteries. This 'hosting capacity' is limited by two things:

1. Voltage constraints – SA Power Networks has a regulatory obligation to maintain supply at customers connection points as specified in s.46 of Electricity (General) Regulations and to minimise the quality of supply issues for other customers,
2. Thermal constraints – As rooftop PV penetration grows in a local area, reverse power flows in the middle of the day ('peak generation') can become greater than the traditional summer afternoon peak demand that the network was designed for. When the reverse power flows exceeds the thermal rating of an asset like a low voltage transformer, fuses will operate, causing a supply outage for customers in the area.

SA Power Networks has modelled the effects of export energy on our distribution system and that modelling is used to determine the permanent fixed export limit and the maximum flexible export limit.

The specific firm and flexible limits are specified in SA Power Networks' [model standing offer for small generators](#).

However as noted in Section 2.4 there may be some sections of the network where a zero static export limit must be applied. SA Power Networks' expectation is this will be required only for a limited number of connections.

Flexible connections for load on basic connections are not provided under this policy.

Negotiated connections

For negotiated connection services the following firm and flexible criteria will apply:

- Firm capacity is offered only on load connections.
- The agreed firm connection load capacity is reserved for the customer at the time of the connection and maintained on continual payment of demand charges in the customers' network tariff. Firm load capacity is not guaranteed during abnormal network conditions or periods of system security risk. Subject to electricity laws, firm load may also be interrupted for planned maintenance and for other reasons expressly set out in the negotiated connection contract.

Flexible capacity is offered for load and export connections where:

- Maximum flexible capacity will be defined in an engineering assessment.
- For distribution connected generation units, such as large-scale generation or large-scale storage connections, any export limits that may apply will be part of a negotiated offer.

General information

Basic and negotiated flexible connections are managed through Dynamic Operating Envelopes (**DOEs**). Unlike static limits, DOEs are adjusted at regular intervals based on the measured limits of the network capacity. DOE limits will vary due to conditions such as, but not limited to weather, active customer connections, generation limits, load limits, planned and unplanned outages, loss of system control and directions from electricity authorities. Operating envelopes can be reduced to zero under certain network operating conditions.

To be eligible for a flexible connection, the customer must have remote monitoring and controls that can receive and respond to DOE limits from SA Power Networks' energy management platforms. Any flexible import or export from the customer's site, including wholesale market and ancillary services operations, must remain within the DOE.

2.4 Static Zero Export Limits

Static zero export limits can apply to both basic and negotiated connections. The circumstances in which SA Power Networks may offer an application for a new micro embedded generator, or alteration to an existing micro embedded generator connection, with a static zero export limit condition are outlined below.

A static zero export limit means that a customer is prevented from accessing the network to export electricity at any time.

SA Power Networks is required to provide basic connection services on specified terms and conditions for micro embedded generators or negotiate a connection contract with a connection applicant. However, the connection of a micro embedded generator to the distribution network does not of itself guarantee the ability to export electricity.

The AER's connection charge guidelines specify the conditions under which SA Power Networks may apply a static zero export limit.

SA Power Networks will apply a static zero export limit condition for basic connection services or a negotiated connection contract (for new or significantly altered connections after 1 July 2025), when:

- (a) the export from the micro embedded generator will have a high probability of resulting in SA Power Networks either not meeting a regulatory obligation (such as a voltage level or power quality standard), or not being able to maintain the distribution network within its technical limits; and
- (b) the cost of augmenting the distribution network to allow a reasonable export capacity level by the connection applicant more than marginally outweighs the benefits arising from providing the

additional export capacity; (taking into consideration the expected future new micro embedded generation outputs that will be able to export to the distribution network arising from the augmentation, and unless the connection applicant elects to fund the necessary network augmentation);

or when:

(c) requested by the connection applicant.

SA Power Networks may establish a standard assessment policy to undertake the above assessment and, if so, must publish it on SA Power Networks' website.

SA Power Networks will not apply a static zero export limit if the micro embedded generator has a suitable dynamic response system as specified by SA Power Networks for a particular location, except where a connection applicant specifically seeks a static zero export limit connection condition. SA Power Networks must use its best endeavours to identify and specify suitable dynamic response systems for all locations in SA Power Networks' distribution area. A suitable dynamic response system is one which if employed at the location will avoid the impact referred to in (a) above.

When a static zero export limit condition is offered by SA Power Networks as necessary, in the connection offer, SA Power Networks will inform the connection applicant of:

- the technical and economic considerations that led to the static zero export limit condition being applied;
- their option to install a suitable dynamic response system if available, and as specified by SA Power Networks to avoid a static zero export limit condition being applied;
- how to access an independent technical review of SA Power Networks' reasons for applying the static zero limit condition;
- their option to raise a dispute with SA Power Networks (see section 8) and other dispute resolution channels available; and
- their option to seek a review of the static zero export limit condition five years after the initial connection is completed.

If the connection applicant seeks a review of the static zero export limit condition after five years of completing the initial connection and, following this review, SA Power Networks assesses applying a static zero export limit condition is no longer justified based on the above circumstances, SA Power Networks will inform the connection applicant that they can reapply to have their static zero export limit condition lifted.

SA Power Networks will review static zero export limit conditions applied on existing micro embedded generators following any network augmentation works designed to expand the export hosting capacity of the distribution network in a particular location. If additional export capacity becomes available as a result of that augmentation, SA Power Networks will inform the relevant connection applicant that they can reapply to have their static zero export limit condition lifted.

Where a micro-embedded generator connection applicant for a negotiated connection service wishes to fund shared network augmentation to remove a static zero export limit, the customer may be required to make a capital contribution towards the cost of augmenting the network. This capital contribution would be determined based on the difference between the actual cost of the network augmentation and the net present value over the connection life of the export charge revenue received from the customer and any projected future micro embedded generator connections.

2.5 Contestability

SA Power Networks will inform connection applicants where the design and construction of their connection contains a contestable component. An extension to the existing distribution network may be defined as contestable where:

- the assets can be constructed in isolation from the existing distribution network and this construction does not adversely impact the security, safety and reliability of the existing network and customers; and
- the assets will initially be used only to supply the connection applicant(s).

The non-contestable portion of the extension is the works required to connect the contestable works to the existing distribution network. This work may only be undertaken by SA Power Networks.

If the connection applicant chooses to arrange for the undertaking of the contestable design and construction for their extension, then accredited tenders for this work must comply with SA Power Networks' technical specification. SA Power Networks will prepare the technical specification for the contestable works at the connection applicant's request. The applicant will be required to pay SA Power Networks a reasonable fee (which may be a standard fee, or the actual cost if works are significant in nature) to prepare the technical specification. Fees increase annually on 1st July in-line with the annual consumer price index increase as published by the Australian Bureau of Statistics (**ABS**) for All Groups, CPI, Australia, Weighted Average of Eight Capital Cities for the preceding calendar year ending December.

The rationale for having SA Power Networks prepare the technical specification is so that the contestable works:

- are compatible with the distribution network; and
- (if completed in accordance with the technical specification) do not adversely affect the distribution network or others connected to the distribution network.

The process for the preparation of a technical specification by SA Power Networks and seeking accredited tenders for contestable works, is set out in section 39A of the Electricity (General) Regulations 2012. Disputes as to the content of the technical specification or as to the contractors proposed to be used by the connection applicant may be referred to the South Australian Technical Regulator for resolution.

3 Methodology for determining connection charges

3.1 Overview of charges

Connection charges are built up from:

- Fixed fees for high volume simple type connections where it is possible to calculate an average charge for the provision of the service; or
- Quoted services for low volume more complex connections where the cost of providing the service is estimated.

Fixed fees are generally calculated by reference to the amount by which the cost of works is likely to exceed the revenue to be derived from those works (as determined by averaging cost and revenue across similar services and expected usage characteristics). This is known as the incremental cost revenue test (**ICRT**). That is, the fixed fees are only seeking to recover costs which will not be recouped in the future by incremental revenue.

Where the connection being sought as part of a quoted service is the LCTAS, the connection applicant receives a rebate towards the cost of the extension and augmentation components of the service, based on the future incremental revenue. The connection applicant will pay the full cost of any works above the LCTAS and for premises connection assets.

3.2 Customer payment components

Table 3 shows the different components for negotiated and enhanced connection services and how the charges for that component are made up.

In section 3.4 we explain how the actual payment a customer must make for a specific connection is determined from these cost components

Table 3: Cost component of a connection service (where applicable)

Connection Services – Cost components		
Cost component	Basis for connection charges	Reference in section 3.3 or 3.4
Premises connection assets ie the assets specific to the premises being connected.	Charge calculated using the ICRT for a specific connection or a category of connections, except for where the premises connections assets are part of a negotiated connection service where the customer is charged the full cost	P
Extensions	As above.	E
Design and administration	As above.	DA
Shared network augmentation	Applies to a connection applicant with a firm load above: <ul style="list-style-type: none"> • 25kVA where a connection applicant’s premises are supplied from a non-three-phase network such as the 19kV SWER network; or • 0 kVA if connection applicant is a real estate developer, or • 70kVA 	ICSN

Connection Services – Cost components		
Cost component	Basis for connection charges	Reference in section 3.3 or 3.4
	<p>The applicant may contribute towards the cost of augmentation of shared network assets. More details on the calculation of the shared network augmentation charge are provided in section 4.</p> <p>Shared network augmentation charges will apply to embedded generators (Battery storage) that have a load demand from the network.</p>	
Immediate network access charge	<p>Applies to a connection applicant with flexible load or export above:</p> <ul style="list-style-type: none"> • 70kVA (flexible load) • 10kW per phase* (flexible export); or • 0 kW if connection applicant is a real estate developer (flexible export), or • otherwise 30kW (flexible export) <p>*Different export rules may apply to customers connected to the SWER network to take into account the technical characteristics of that SWER network</p> <p>Subject to the above thresholds, full cost recovery charging methodology will be applied for any increased network capacity required to provide the flexible load and or flexible export.</p>	INAC
Enhanced connection service (ECS)	<p>Full cost recovery charging methodology will be applied to the above standard and/or special connection requirement components of the connection (ie, no incremental revenue rebate is applied to this component of the costs). The charges will generally be on a quoted basis using rates approved by the AER.</p>	ECS
Ancillary service: Asset relocation / removal	<p>The charges for these ancillary services are on either a fixed fee or a quoted service using AER approved labour rates, as specified in the AER’s distribution determination for SA Power Networks. Fixed fees will generally apply for services typical to the category of connection, where costs can be averaged across similar service characteristics. Where the quoted service varies from the standard type, the service will be charged in accordance with labour rates approved by the AER.</p>	OC
Other services: Other ancillary services relating to connections	<p>The charges are levied either on a fixed fee or a quoted service using AER approved labour rates as specified in the AER’s distribution determination for SA Power Networks.</p>	OC
Pioneer scheme– Contribution	<p>This is the amount payable by the customer where it utilise assets partially or fully paid for by a previous customer. This amount is determined in accordance with appendix C of this Connection Policy.</p>	PS

3.3 Connection charging summary

Table 4 defines the cost components and rebates (where applicable), for the specified connection types. Note other scenarios may arise in atypical circumstances (for example some new residential connections in isolated areas might not fall within the basic connection service type).

Table 4: Components that will be considered when a Customer Payment is developed

Component	Residential or small business	Large commercial load	Real estate Development	Generator	Large commercial with both load and export	
Capacity thresholds	Load <70kVA and / or Export <30kVA	Load >70kVA	Load >0kVA	Export >30kVA	Load >70kVA and Export >30kVA	
Connection service type	Basic	Negotiated or enhanced	Negotiated or enhanced	Negotiated or enhanced	Negotiated or enhanced	
Firm (load only) or flexible	Firm and / or flexible	Firm and / or flexible	Firm	Flexible	Load - firm and / or flexible Export – flexible	
COST COMPONENT	Basic connection charge	✓	✗	✗	✗	✗
	Negotiated or enhanced connection charge	✗	✓	✓	✓	✓
	Plus Premise Assets (P) (shared or dedicated transformer)	✗	✓	✓	✓	✓
	Plus Extension Assets (E)	✗	✓	✓	✓	✓
	Plus Firm Augmentation (ICSN) load (where excess of augmentation threshold)	✗	✓	✓	✗	✓
	Plus Immediate Network Access Charge (INAC) (where > 70kVA flexible load or > 30kVA flexible export connection)	✗	✓	✗	✓	✓
	Plus Enhanced Connection Service (>LCTAS)	✗	✓	✓	✓	✓
	Plus Pioneer Scheme (PS) (contribution to previous extension customer(s))	✓	✓	✓	✓	✓
	Less Incremental Revenue Rebate (IRR)	✓	✓	✓	✗	✓ ✗
REBATE	Less Equalisation Rebate (greater capacity installed in development for SA Power Networks benefit)	✗	✗	✓	✗	✗

 Firm capacity – load only
  Flexible capacity -load or export
  Generation >30kVA will have a Incremental Revenue Rebate of zero

3.4 Customer payment

The total amount (excluding payments on account of an enhanced connection service, as referred to in section 3.2) that a connection applicant may be required to pay SA Power Networks for a firm or flexible capacity new connection or connection alteration (including the cost of non-contestable connection works, connection assets, connection applicant's contribution towards pioneer scheme(s), augmentation and an extension), is the greater of zero and the amount calculated using the following formula:

$$CP = ICCS + ICSN + INAC - IRR$$

Where:

CP = Customer Payment

The connection applicant's payment to SA Power Networks

ICCS = Incremental Cost Customer Specific, where ICSS = (E + OC + PS)

The incremental costs incurred by SA Power Networks for connection services, which are solely used by the connection applicant.

E = Extension Assets

The costs of the works required for the connection of a connection applicant's premises outside the boundaries of the distribution network that existed when the connection applicant's application was lodged.

Where the works are undertaken by a third party, it includes the costs incurred by SA Power Networks for the non-contestable connection works in connecting the contestable extension works to the existing distribution network.

OC = Other Costs

Including but not limited to administration (including preparation of an offer for a negotiated connection service), project management, design, easements, certification and inspection, conducting a tender process or assisting a connection applicant to conduct a tender process. **OC** includes Design and administration (ie DA in Table 3).

PS = Pioneer Scheme Connection Applicant's Contribution

The total amount payable to SA Power Networks to contribute towards any pioneer scheme(s) asset utilised in supplying electricity to a connection applicant's premises, as calculated in accordance with Appendix C.

ICSN = Incremental Cost Shared Network

The connection applicant's augmentation charge for firm demand capacity, as calculated under section 5 and, where applicable, the equalisation cost for establishment of the high voltage distribution network for real estate developments.

INAC= Immediate Network Access Charge

The connection applicant's charge to increase flexible demand capacity (load and export), where network capacity is not immediately available at the time of connection and is further to the firm load capacity. This is where a customer requests the network capacity to be increased to accommodate a preferred level of flexible capacity above thresholds stated in Table 3 for the INAC components. The charge is full cost recoverable for works required for the capacity increase.

IRR = Incremental revenue rebate

As calculated under clause 5.1.1.

Notes:

1. The charges included in OC which represent the costs of SA Power Networks preparing a connection offer will be payable upfront and prior to a SA Power Networks offer being provided. These charges are non-refundable but will be deducted from the total charges that form part of the offer.
2. Where the connection applicant elects to utilise an accredited third-party provider to build the contestable extension and connection assets, and the above formula results in a net amount being payable to the connection applicant (because IRR is greater than the SA Power Networks costs), that net amount will be paid to the connection applicant after the title to the assets constructed through the contestable works is vested in SA Power Networks.
3. The above payment equation only applies to the LCTAS works required to meet a connection applicant's/customer's demand requirements. For works above this standard and for works involving special connection requirements, there are additional payments (defined as ECS in Table 3).
4. The determined IRR will not exceed the sum of the value of ICCS, ICSN and INAC (ie customer will not receive a payment if the IRR exceeds the total cost of connection) for a non contestable connection.
5. Where both ICSN and INAC cost components are included due to connection applicants requesting a firm and flexible connections service, the cost of load and the cost of export connections will exclude duplication of common assets.

4 Shared network asset augmentation for firm loads

4.1 Overview of augmentation

The connection applicant is required to pay an ICSN for firm load capacity, also known as an augmentation charge, for the cost of increasing the distribution network's capacity so as to meet their electricity demand. The charge is only payable to the extent the amount of the augmentation is in excess of the applicable shared network augmentation charge threshold.

The augmentation charge is not intended to recover the full cost of shared network augmentation. The charge provides an incentive for customers to request only capacity sufficient to meet their requirements. The charge is levied in \$/kVA where kVA refers to the estimated customer maximum demand. The charge partially covers the costs of future augmentation of the distribution and sub transmission networks.

Augmentation charges are calculated by first establishing an average (or benchmark) cost per kVA for augmenting low voltage networks, distribution transformers, high voltage feeders, distribution substations and sub transmission networks. The cost applicable to each asset is adjusted by the relevant diversity factor, because consumers' peak demand draws on the capacity of the network at different times.

Connection applicants will be charged for augmentation only on the portions of the shared network they are utilising. If the customer pays for a dedicated asset such as a transformer supplying only their connection, the associated component of the charge is not applied to ensure there is no double charging.

4.2 Calculation of augmentation charge

A connection applicant's augmentation charge will be calculated by multiplying that part of a customer's demand subject to an augmentation charge (as calculated in section 4.1) and the sum of the applicable augmentation rates. More than one augmentation rate may be applicable to a new or altered connection. The augmentation rates are published annually by SA Power Networks and will increase in-line with the annual consumer price index increase as published by the ABS for All Groups, CPI, Australia, Weighted Average of Eight Capital Cities for the year ending December.

The schedule of rates displays amounts for both country and metro, which can be found at the Location SA Map Viewer website: <http://location.sa.gov.au/viewer/> and is listed as the Metropolitan Adelaide boundary (Development Act 1993)

The augmentation rates applicable at the commencement of this Connection Policy, are set out in Appendix B of this Connection Policy.

For example, where a customer's applicable demand subject to an augmentation charge exceeds 10% of the zone substation capacity but not the sub-transmission line capacity, then the applicable augmentation rate will include both the zone substation and the applicable standard rates. Where a customer's applicable demand exceeds 10% of both the zone substation and sub-transmission line capacities, the augmentation rate will include the sub-transmission line, zone Substation and standard rates.

As another example, where a customer gains approval from SA Power Networks to connect directly to a zone substation and does not utilise any other part of the shared distribution network, the applicable augmentation rates will be only the sub-transmission line or zone substation charge and not incorporate the standard rate.

4.3 Augmentation when a supply is disconnected / reconnected

If an active retailer account has not been in place for a period of 24 months or more at a connection applicant's premises, the application will be treated as a new supply and augmentation charges will apply accordingly.

If the retailer account has been inactive for a period less than 24 month, and the following applies:

- a) there is no major change in the electricity demand profile at the premises;
- b) the existing connection assets are suitable to reconnect without modification; and
- c) no significant upstream changes have occurred that would cause a network constraint,

then the premises may be reconnected without considering the upstream augmentation.

5 Rebate towards a customer’s connection

5.1 Application of the incremental revenue rebate (IRR)

The rebate in this section 5 applies only to the costs associated with the connection assets (only applicable for basic connections and not negotiated connections), extension and augmentation that are the least cost technically acceptable standard to meet the connection applicant’s electrical requirements and any expected increased load – generally in the next five-year period. The IRR represents the net present value of the calculated revenue share for the tariff that SA Power Networks is likely to receive over a period of time defined by the tariff class.

Incremental revenue rebate

The formula for calculation of the rebate resulting from incremental revenue (**IR**) is set out in Table 5:

Table 5: Basis of IR

Tariff class	Net present value applied
Residential customer	IRR = the NPV of 30 years of annual IR
Non-residential customer	IRR = the NPV of 15 years of annual IR

Where:

IRR = Incremental revenue rebate

Annual IR = Annual incremental revenue

- The forecast annual incremental revenue SA Power Networks expects to receive from the new or altered connection, based on customer provided information and existing connections with similar characteristics.

NPV = Net present value

- Net present value for the number of years specified (ie either 30 or 15 years) as calculated using the pre-tax real weighted average cost of capital (as specified in the SA Power Networks Distribution Determination for the 2025–30 RCP).

Incremental revenue means the distribution use of system charges to be recoverable as a result of establishing the new connection or undertaking the connection alteration.

Incremental revenue will be estimated using the price path set out in the AER’s distribution determination for SA Power Networks applicable at the time of the connection offer (including a determination made but not yet commenced when the offer is made); after that determination has ended, using a flat real price path for the remaining life of the connection. This flat price path is the expected real distribution use of system charges in the final year of the regulatory control period.

The incremental revenue excludes:

- the operations and maintenance component of the distribution use of system charges payable in respect of the premises to which the connection relates, (as the amounts payable by the connection applicant for connection do not include any future operations and maintenance costs); and
- any revenue from the connection applicant’s future distribution use of system charges that is for any part of the shared distribution network that is not included in determining the augmentation charge or immediate network access charge (ie ICSN), payable by the connection applicant.

Note:

1. For non-residential connections, SA Power Networks may use a period of less than 15 years if the 15 year period does not reflect a reasonable estimate of the time the connection service will be connected. In such case SA Power Networks may, in good faith, apply an alternative period. Examples include non-residential connections with a defined life (eg, supply to a quarry or for a temporary building supply).
2. For export connections >30kW, no incremental revenue will be received by SA Power Networks from the export component (eg, no charges will be applied for export of reactive power), therefore no rebate will apply.
3. SA Power Networks may also consider actual consumption and load information from existing connection services with similar characteristics.
4. If SA Power Networks and the connection applicant cannot reach an agreement on consumption and load for the premise connection, a provisional estimate may be determined and a refund or additional charge will be applied after three years based on the difference between estimated and actual consumption or demand. Alternatively, SA Power Networks can apply a security fee as outlined in section 6.

5.2 Rebates for real estate developments

A real estate developer is treated as a single customer for the purposes of calculating the incremental revenue for a development.

Rebates for real estate developments will be determined by SA Power Networks and include the total amount of incremental revenue expected to be received from all the sites/connection services within a real estate development.

In calculating the incremental revenue for a development, consideration will be given to the designed demand of the residential premises in the development, the use of alternative energy sources, the expected revenue from non-residential sites and the expected take-up rate for connection services within a development.

6 Payment terms and security fees

6.1 Payment terms

- a) Customer contribution – \$5,000 or less

Where the connection charges payable by a connection applicant are \$5,000 or less, including for basic connection services provided under a model standing offer, then SA Power Networks may, at its discretion, require the connection applicant to pay the connection charges on the connection applicant's acceptance of SA Power Network's offer to provide connection services.

- b) Customer contribution – greater than \$5,000

Where the connection charges payable by a connection applicant are greater than \$5,000, SA Power Networks will include a payment schedule in the offer letter indicating the amount and the due date for payments.

The payment schedule will be based on:

1. 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
2. Initial payment of 20% of the total connection charges on acceptance of offer to cover costs typically incurred to commence a connection plus pre-payment for any specialised or non-standard assets that need to be ordered, followed by the remainder one month prior to construction.

Where the construction can be logically segmented into distinct stages of construction, then the costs of each stage must be paid one month prior to construction of that stage.

Note:

1. Energisation will not take place until all monies are paid.
2. All costs quoted in this policy are exclusive of Goods and Services Tax (GST).

6.2 Security fees

In accordance with Chapter 5A of the Rules and the AER Connection Charge Guidelines for electricity retail customers, SA Power Networks may require a customer to provide a guarantee of revenue (**GoR**) in the form of a financial guarantee. The GoR will be secured by a bank guarantee or other financial instrument acceptable to SA Power Networks.

A GoR will only be requested for connections arising from a connection offer where SA Power Networks fairly and reasonably assesses that there is a high risk of it not receiving the estimated incremental revenue calculated as part of the offer. If applicable, a GoR will be included as a condition of acceptance of the offer and must be provided prior to the works commencing.

The amount of the bank guarantee or other financial instrument required to be provided may not be greater than the amount of incremental revenue SA Power Networks assesses as having a high risk of not being recovered and also may not exceed the present value of the incremental costs SA Power Networks will incur in undertaking any relevant new works and augmentation. The present value will be calculated using the pre-tax real weighted average cost of capital (as specified in and annually varied in accordance with the SA Power Networks Distribution Determination for the 2025–30 RCP).

The length of time for which the bank guarantee or other financial instrument must be provided will be set out in the connection offer made by SA Power Networks. This will normally be five years unless SA Power

Networks assesses that a different period is required such as a development with staged connection works over an extended period of time. The connection offer will also set out the circumstances in which SA Power Networks may call upon the bank guarantee or other financial instrument which will be where, for a year, SA Power Networks has not received the incremental revenue forecast to be received during that year. If SA Power Networks, due to calling upon the bank guarantee or other financial instrument, recovers more than the amount of total estimated incremental revenue it will refund the excess amount (where that excess amount is obtained by calling on the bank guarantee or other financial instrument) to the connection applicant.

A bank guarantee or financial instrument must be an on-demand guarantee provided by a recognised financial institution with a Standard & Poor's credit rating of not less than AA- (or equivalent from Fitch or Moodys) and must be on terms acceptable to SA Power Networks acting reasonably.

6.3 Pioneer scheme

Under Chapter 5A of the Rules, SA Power Networks is required to operate a pioneer scheme. Such a scheme requires SA Power Networks to refund a portion of a retail customer's connection charge which represented a contribution towards extension assets, which are subsequently used (or shared) by a new connection applicant(s).

Under the pioneer scheme operated by SA Power Networks, refunds will only be provided where another connection is supplied using those assets within seven (7) years of the construction and energisation of the assets. The cost of those pioneer scheme assets and, consequently, the applicable refund will be depreciated using a straight-line method over 20 years.

In addition, a retail customer's refund will take into account the portion of the shared pioneer scheme assets (or extension) and the respective electricity demand used by the initial and subsequent customer(s).

Note - As a customer's existing augmentation charge is based on an individual customer's demand, there will be no refund applicable to this component of the charge.

A refund will be provided by SA Power Networks to the current property owner(s) at the premises and this is incorporated into the total cost of connection for the new connection applicant. A refund is only provided to a retail customer(s) if it is \$1,500 (GST exclusive) in total or more.

If an original customer requests a connection to be constructed to a higher standard or capacity than the LCTAS (or if SA Power Networks at its own cost established a connection above the least cost technically acceptable service), then only the cost of constructing the connection to the least cost technically acceptable standard or capacity will be subject to the pioneer scheme.

The refundable amount will be limited to the value of the least cost technically acceptable solution option, in the event SA Power Networks determines that connecting the additional customer to the original extension is the best technical solution.

If an extension is constructed for a connection applicant by a third-party service provider, that extension is subject to the pioneer scheme using an estimate of the cost for SA Power Networks to construct the assets.

A real estate developers' total cost for connection will include pioneer scheme upstream refunds. However, neither retail customers connected to the real estate developer's network nor real estate developers will be eligible to receive a refund towards future connections to the pioneer scheme, as real estate developers participate in an equalisation payment scheme (if applicable). The total electricity maximum demand expected for the real estate development will be used in calculating the rebate to upstream customers.

Details of the calculations that will be applied are set out in Appendix C of this Connection Policy.

7 Real estate developments

7.1 Overview

A real estate development can be defined as a development where:

- a) three or more property titles are created from one or more allotments. They may be classified in various forms but, typically, will be Torrens title, community title or strata title; or
- b) multi-tenanted sites with three or more metered retail customers.

For the purposes of this Connection Policy:

- SA Power Networks will work with a party ('the real estate developer') that is seeking to develop a site for future use by retail customers or real estate developers and that has made a connection enquiry in relation to that site, as if that party were a single customer for the purpose of calculating a capital contribution; and
- where a development is to proceed in stages, each stage will be considered as a separate project for augmentation purposes.

A real estate developer will make application for real estate developments as a negotiated connection service.

A real estate developer will only receive an incremental revenue rebate and be required to make a customer contribution to augmentation, where such real estate developer provides connections to individual customer connection points (ie serviced allotments – see section 7.2 below). The calculation of charges and rebates will be based on the estimated combined maximum demand of the staged development and resulting incremental revenue for all of the relevant end-use customers.

Real estate developers will generally fall into three main categories, being serviced allotments (see section 7.2.1), serviceable allotments (see section 7.2.2) and multi-tenanted allotments (see section 7.2.3).

7.2 Allotment types

7.2.1 Serviced

Serviced allotments include residential, commercial and land re-development sites. These will generally be supplied via underground electricity infrastructure but could be supplied from overhead electricity infrastructure, subject to specific stakeholder requirements. Land re-development sites will be treated in the same manner as if for a new development.

In some developments, provision is made by a real estate developer for commercial tenancies such as shops, medical centres, schools, hotels and the like as well as some high medium/high density residential living. In most of these instances, the real estate developer will only provide a basic supply point, if any, and it will be the responsibility of individual customers to arrange for their own connection in accordance with this Connection Policy.

Electricity maximum demands for real estate developments will be in accordance with the SA Power Networks ADMD schedule (TS100) for each allotment (as published at www.sapowernetworks.com.au) plus any known spot-loads or embedded generation attributable to the development.

Rebates for serviced real estate developments will be the forecast incremental revenue based on the following factors:

- specified After Diversity Maximum Demand (**ADMD**);
- known spot-loads;
- possibility of alternative energy sources (eg embedded generation or gas); and
- likely take-up rate of the development for the period used to determine the incremental revenue.

7.2.2 Serviceable

In some instances, a real estate developer may choose to not provide connection services to each property title/customer and will only provide a backbone electrical infrastructure. The backbone will typically comprise of high voltage cables or overhead lines, associated infrastructure, and public lighting in accordance with local council requirements and any SA Power Networks specific requirements. In these instances, the developer will not pay any augmentation charges or receive any associated rebates. Each retail customer within the development will need to make an individual application to SA Power Networks for a connection service to satisfy the specific electrical demand required for the customer's connection as per the requirements under this Connection Policy.

7.2.3 Multi-tenanted

These developments include apartment blocks, mixed use multi-levelled property, retirement villages and the like where a strata title corporation, community corporation or similar is created and will generally be responsible for the low voltage service mains from the service point(s) to the individual residences. In these instances, augmentation and incremental revenue rebates will be calculated in accordance with the total maximum demand for the site in the same manner as for an individual retail customer's connection offer.

7.3 Equalisation payment

Where SA Power Networks requests the infrastructure to be installed to a greater capacity than that required for an entire development or stage of a development, the real estate developer will only be required to fund the infrastructure required for their development. This will typically occur where future development is likely beyond the boundaries of the current development by another entity and SA Power Networks believes it to be prudent to install larger cables, switching cubicles or additional conduits in anticipation.

In such cases (ie where SA Power Networks requires works above the LCTAS) if SA Power Networks is to perform both contestable and non-contestable works, the real estate developer will be charged for least cost technically acceptable service and the additional costs accommodated by SA Power Networks. Charges will be detailed in the connection offer.

To the extent the installation of infrastructure is completed as a contestable project, the developer will be requested to arrange for the design and installation of the specified infrastructure to the agreed standard. SA Power Networks will provide an equalisation payment to the real estate developer for the components of the infrastructure requested that exceeds the least cost technically acceptable standard. The equalisation payment amount will be detailed in the rebate section of the connection offer.

7.4 Upstream refunds for real estate developments

Real estate developments will not be eligible to participate in a pioneer scheme, as this has been replaced by the equalisation payment (if applicable) as outlined in 7.3. However, for any real estate development that is to connect to an existing pioneer scheme, the real estate developer must contribute towards the upstream refund(s) to the original pioneer scheme customer. Upstream contributions to a Pioneer scheme will be calculated in accordance with Appendix C of this Connection Policy.

8 Dispute resolution

As set out in Chapter 5A, Part G of the Rules a customer or real estate developer is entitled to seek to have a dispute relating to a connection determined by the AER.

SA Power Networks asks that a customer first attempt to resolve the dispute in accordance with its complaints resolution policy – details of which can be found on the SA Power Networks website at:

www.sapowernetworks.com.au

If a customer is not satisfied with the SA Power Networks response to their complaint then, prior to taking the matter to the AER, the customer has the option of contacting the Energy and Water Ombudsman SA:

Energy and Water Ombudsman SA
Level 11, 50 Pirie Street
ADELAIDE SA 5000

GPO Box 2947
ADELAIDE SA 5001

Telephone: 1800 665 565 (free call)
Facsimile: 1800 665 165 (free fax)

Email: contact@ewosa.com.au

A. Definitions

Term	Definition
After Diversity Maximum Demand	The hypothetical electricity demand in kVA of a single customer in a large group.
Augmentation	Works to enlarge the capability of a distribution network to distribute electricity
Connection(s)	A physical link between a distribution network and a retail customer’s premises to allow the flow of energy.
Connection alteration	Any kind of alteration to an existing connection including, but not limited to, an addition, upgrade, extension, expansion or augmentation.
Connection applicant	Any one of the following persons who applies for a connection service: <ol style="list-style-type: none"> 1) a retail customer; 2) a retailer or other person acting on behalf of the retail customer; or 3) a real estate developer.
Connection assets	Those assets that are used to provide connection services to a connection applicant at a connection point.
Connection contract	The contract formed if a connection applicant accepts a connection offer.
Connection offer	An offer by SA Power Networks to enter into a contract to provide a connection service to a retail customer or real estate developer.
Connection point	The point of connection between the distribution network and a premises.
Connection service(s)	The service of establishing a new connection or undertaking a connection alteration.
Distribution network	The South Australian distribution network operated by SA Power Networks pursuant to the distribution licence granted to it under the Electricity Act 1996.
Dynamic operating envelope (DOE)	Import and/or export limits allowable for a site based on the network capacity available at the customer’s connection point which will vary according to network conditions.
Embedded generator	The owner or operator of an embedded generating unit.
Embedded generating unit	A generating unit connected to, or proposed to be connected to, the distribution network (and not connected to the transmission network).
Export	Supply to a distribution network of electricity generated by an embedded generating unit at a connection point or aggregated set of connection points. In this policy, export services will only be offered as flexible by SA Power Networks (other than for some basic connection services).
Extension or extended	Works to extend the distribution network required to connect a customer’s premises because those premises are outside the current boundaries of the distribution network.
Firm Capacity	Option for load customers, where capacity is reserved for the customer (including in demand/ constraint forecasting) but not guaranteed under certain abnormal network operational scenarios.
Flexible Capacity	Option for load and or export (generation) customers, where capacity is available at the time of connection but not reserved for the customer (including in demand/ constraint forecasting) and not guaranteed under normal (future) and abnormal network operational scenarios.
GST	Any goods and services tax or similar value added tax levied or imposed by the Commonwealth of Australia, including GST as defined in the A New Tax System (Goods and Services Tax) Act 1999 (Cth).
Immediate Network Access Charge (INAC)	A charge to increase network capacity for flexible load or flexible generation where the available distribution network capacity is less than the requested capacity at time of connection.
Load	The amount of electrical power delivered in an instance at a connection point or aggregated set of connection points and may be firm and / or flexible.

Micro embedded generator	A retail customer who operates, or proposes to operate, an embedded generating unit for which a connection of the kind contemplated by Australian Standard AS 4777 (Grid connection of energy systems via inverters) is appropriate.
Premises	The premises owned or occupied by a retail customer which receive, or are proposed to receive, a supply of electricity from the distribution network.
Real estate Developer	A person who carries out or proposes to carry out a real estate development.
Real estate development	A development where: <ol style="list-style-type: none"> 1) three or more property titles are created from one or more allotments. They may be classified in various forms but, typically, will be Torrens title, community title or strata title; or 2) multi- tenanted sites with three or more metered retail customers.
Retail customer – means:	Means: <ol style="list-style-type: none"> a) an end-user of electricity; b) an embedded generator (including a micro embedded generator) but excluding an embedded generator to whom this connection policy does not apply (see section 1.1).
Rules	Means the National Electricity Rules made under the National Electricity Law.
Sub-transmission line	Means a power line connecting a sub-transmission asset to either the transmission system or another sub-transmission asset which SA Power Networks operates at 66kV or 33kV.
Static zero export limit	A maximum export of zero at all times of day and in all network operating conditions.
Zone Substation	Means a substation for the purpose of connecting the distribution network to a network.

B. Augmentation rates

The augmentation rates applicable to this Connection Policy are shown in the Table 6.

Table 6: Augmentation rates of network elements (\$2023/24 Exclusive of GST)

Augmentation rates (\$2023/24)					
Network Element	Residential		Non-Residential		Comments
	Country (\$/kVA)	Metro (\$/kVA)	Country (\$/kVA)	Metro (\$/kVA)	
Standard Rates					
Low Voltage	431	431	298	298	Applies if connection is via shared low voltage mains, e.g. connected to the terminals of a low voltage service pillar.
Distribution Transformer	425	425	293	293	Applies if connection is supplied via the low voltage transformer terminals of a shared transformer.
Feeder High Voltage	281	281	193	193	Applies if supplied via a connection to a shared high voltage feeder or via a dedicated transformer.
Additional applicable rates					
Zone substation	439	326	301	226	Additional to the above amounts and applies if the demand exceeds the Zone Substation capacity by >10%.
Sub-transmission line	686	226	473	156	Additional to the above amounts and applies if the demand exceeds the Sub-transmission line capacity by >10%.
Standalone rates when connecting directly to a substation or sub transmission line					
Zone Substation	N/A	N/A	301	226	Applies to the total incremental requested demand when connecting to a Zone substation as a high voltage connection.
Sub-transmission line 66kV	N/A	N/A	473	156	Applies to the total incremental requested demand when connecting to a 66kV Network as a high voltage connection
Sub-Transmission line 33kV	448	N/A	309	N/A	Applies to the total incremental requested demand when connecting to a 33kV feeder on the applicable Tariff assigned to this type of high voltage connection or dedicated asset low voltage connection.

Notes:

- The augmentation rates in Table 6 will increase annually on 1st July in-line with the annual consumer price index increase as published by the Australian Bureau of Statistics (ABS) for All Groups, CPI, Australia, Weighted Average of Eight Capital Cities for the year ending December.
- Residential Real -Estate Developers will incur Residential Augmentation rates.
- GST will be applied to listed rates as part of any Negotiated Connection offer.

C. Pioneer calculation methodology

The purpose of this appendix is to establish the procedures for calculating the customer contribution by a connection applicant towards amounts paid by upstream customers for their pioneer scheme extension. An upstream customer is a person who has previously paid SA Power Networks to undertake an extension, which extension will be used by the connection applicant.

Application of clauses

Clause C1 and clause C.2 apply only if each of the following is satisfied:

- 1) a connection applicant's premises is or will be supplied by that part of the distribution network that was extended for an upstream customer and is part of a pioneer scheme;
- 2) the connection of the connection applicant's premises occurs within seven (7) years after the pioneer scheme's extension was constructed; and
- 3) the upstream customer's extension component (as determined below) is greater than zero.

C.1 Downstream customer contribution

C.1.1 Customer's demand

Customer's demand for the purpose of determining the connection applicant's contribution is the greater of:

- 1) The following demand, which is:
 - a. 25 KVA for connection to a SWER network; and
 - b. 70kVA for all other connections; or
- 2) The customer's agreed maximum demand.

C.1.2 Connection applicant's contribution – extension 'i'

The connection applicant's contribution to extension 'i' is the amount calculated as follows:

$$CACE_i = EA_i \times \frac{20 - Y_i}{20} \times \frac{L_a}{LE_i} \times \frac{D_a}{\sum_{j=1}^n D_j}$$

Where:

- D_a = the demand as determined in accordance with clause C1.1 above;
- D_j = the demand as determined in accordance with clause C1.1 above for all customers 'j' supplied via extension 'i' including the connection applicant;
- EA_i = the **extension asset** cost for **extension 'i'**;
- L_a = the length (metres) of **extension 'i'** used to supply the **connection applicant**;
- LE_i = the length (metres) of **extension 'i'**; and
- Y_i = number of completed years that have elapsed since extension 'i' was constructed (eg if 11 months have elapsed since **extension 'i'** was constructed, Y_i is zero)

Connection applicant's customer contribution

A connection applicant's contribution (refer clause 3.4 of the Connection Policy) comprises the connection applicant's contribution for each pioneer scheme 'i' extension asset and is calculated as follows:

$$CAC_c = \sum_{i=1}^n (CACE_i)$$

Where:

- CAC_c = Connection applicant's contribution (\$) used in clause 3.4.
 $CACE_i$ = Connection applicant's contribution towards pioneer scheme 'i' extension assets, as determined from clause C.1.2.

Connection applicant's customer contribution

The upstream refund included in the total cost for a new or upgraded customer connection for use of a pioneer scheme(s) will be the sum of the total rebates applicable to eligible upstream customers.

SA Power Networks will include the upstream customer refund(s) as part of the connection applicant's negotiated offer and, subsequently, will refund the upstream customer(s) after payment and connection and energisation of the connection applicant's premises.

C.2 Payment to upstream customers

Payments made to upstream customer 'j', once the connection applicant is taking supply, will be determined in accordance with the following formula, provided that the total upstream customer payments due from the connection applicant to all upstream customers already connected to the extension exceeds \$1,500 (incl GST) in total:

$$P_j = \sum_{i=1}^n CACE_i * \frac{E_i P_j}{\sum_{j=1}^n E_i P_j}$$

Where:

- P_j = payment to upstream customer 'j'
 $CACE_i$ = connection applicant's contribution calculated in accordance with clause C.1.2 for extension 'i'
 $E_i P_j$ = the **extension component** for an **upstream customer 'j' for extension 'i'**

Note – If the total upstream customer payments due from the connection applicant to all upstream customers does not exceed \$1,500 (incl GST) in total, then no payments will be made to the upstream customers and no charge will be due from the connection applicant on account of payments to those upstream customers.

Limits on payment

A customer is not entitled to receive payment from SA Power Networks, whether by way of revenue rebate or by allocation of contribution from downstream customers, if that payment will result in the customer receiving more than, in total, the depreciated amount the customer was required to pay under clause 3.4

The sum of all payments received by customer 'j' as required by clause C.2 and adjusted in accordance with the equation below cannot exceed that customer's payment CP for connection to the network as determined in accordance with clause 3.2.

$$C_j R = \sum_{i=1}^n P_i \times \frac{20}{20 - Y_{ki}} \leq CP_j$$

Where:

- $C_j R$ = total refunds for customer 'j' connection to the network

- CP_j = customer payment that customer 'j' made for connection to the network
- P_i = payments made to upstream customer 'j' from connection of customer 'i' to an extension subject to a pioneer scheme extension
- Y_{ki} = the number of completed years since the pioneer scheme 'k' extension assets were constructed, which result in payment 'i' to upstream customer 'j'

Note – No refunds are made by SA Power Networks to customers who take supply from electricity infrastructure funded by a Real Estate Developer.

Glossary

Acronym / term	Definition
ABS	Australian Bureau of Statistics
AEMO	Australian Energy Market Operator
ADMD	After Diversity Maximum Demand (ie the hypothetical electricity demand in kVA of a single customer in a large group)
ACS	Alternative Control Services
AER	Australian Energy Regulator
CER	Customer Energy Resources
CP	Customer payment
DA	Design and administration
DER	Distributed Energy Resources
DOE	Dynamic Operating Envelope
E	Extension assets
ECS	Enhanced connection service
GoR	Guarantee of revenue
GST	Good and Services Tax
ICCS	Incremental cost customer specific (= E + OC + PS)
ICRT	Incremental cost revenue test
ICSN	Incremental cost shared network
INAC	Immediate Network Access Charge
IR	Incremental revenue
IRR	Incremental revenue rebate
kV	kilovolt
kVA	kilovolt-amp
LCTAS	Least cost technically acceptable service
MSO	Model standing offer
NEL	National Electricity Law
NEM	National Electricity Market
NEO	National Electricity Objective
NER	National Electricity Rules
NPV	Net Present Value
OC	Other costs
P	Premises
PS	Pioneer scheme
PV	Photovoltaic (solar)
RCP	Regulatory Control Period
SCS	Standard Control Services
SWER	Single Wire Earth Return

Shortened forms

Term	Definition
AER	Australian Energy Regulator
DNSP	Distribution Network Service Provider
NER or the rules	National Electricity Rules
SAPN	SA Power Networks
