DRAFT DECISION

Power and Water Corporation Distribution Determination 2019 to 2024

Attachment 17 Connection policy

September 2018

AUSTRALIAN ENERGY REGULATOR

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Note

This attachment forms part of the AER's draft decision on the distribution determination that will apply to Power and Water Corporation for the 2019-2024 regulatory control period. It should be read with all other parts of the draft decision.

The draft decision includes the following attachments:

Overview

Attachment 1 – Annual revenue requirement

Attachment 2 – Regulatory asset base

Attachment 3 – Rate of return

Attachment 4 – Regulatory depreciation

Attachment 5 – Capital expenditure

Attachment 6 – Operating expenditure

Attachment 7 – Corporate income tax

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Contents

Shortened forms

Shortened form	Extended form
AEMC	Australian Energy Market Commission
AEMO	Australian Energy Market Operator
AER	Australian Energy Regulator
augex	augmentation expenditure
capex	capital expenditure
CCP	Consumer Challenge Panel
CCP 13	Consumer Challenge Panel, sub-panel 13
CESS	capital expenditure sharing scheme
CPI	consumer price index
DRP	debt risk premium
DMIAM	demand management innovation allowance (mechanism)
DMIS	demand management incentive scheme
distributor	distribution network service provider
DUoS	distribution use of system
EBSS	efficiency benefit sharing scheme
ERP	equity risk premium
Expenditure Assessment Guideline	Expenditure Forecast Assessment Guideline for Electricity Distribution
F&A	framework and approach
MRP	market risk premium
NEL	national electricity law
NEM	national electricity market
NEO	national electricity objective
NT NER or the rules	National Electricity Rules As in force in the Northern Territory
NSP	network service provider

Shortened form	Extended form
opex	operating expenditure
PPI	partial performance indicators
PTRM	post-tax revenue model
RAB	regulatory asset base
RBA	Reserve Bank of Australia
repex	replacement expenditure
RFM	roll forward model
RIN	regulatory information notice
RPP	revenue and pricing principles
SAIDI	system average interruption duration index
SAIFI	system average interruption frequency index
SLCAPM	Sharpe-Lintner capital asset pricing model
STPIS	service target performance incentive scheme
WACC	weighted average cost of capital

17 Connection policy

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

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

- must be consistent with:
    - the connection charge principles set out in chapter 5A of the NER
    - the connection policy requirements set out in part DA of chapter 6 of the NER
    - our connection charge guidelines published under chapter 5A[3], and
- must detail:
    - the categories of persons that may be required to pay a connection charge and the circumstances in which such a requirement may be imposed
    - the aspects of a connection service for which a connection charge may be made
    - the basis on which connection charges are determined
    - the manner in which connection charges are to be paid (or equivalent consideration is to be given)
    - a threshold (based on capacity or any other measure identified in the connection charge guidelines) below which a retail customer (not being a non-registered embedded generator or a real estate developer) will not be liable for a connection charge for an augmentation other than an extension.

The AER's connection charge guidelines for electricity retail customers

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

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

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1 NER, Part DA of chapter 6.

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

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

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

17.1 Draft decision

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

17.2 Power and Water Corporation's proposal

Power and Water's connection policy provides an outline of its connection services, when connection charges may be payable by its retail customers and how those charges are calculated.[4]

17.3 Stakeholder submissions

CCP13 made a submission that it welcomes the change in Power and Water's connection policy that will now require full cost recovery of connection costs from new customers. The CCP states this will avoid unnecessary increases in the RAB and inefficient cross-subsidies from all customers to new connections.[5]

17.4 AER's assessment approach

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

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

In addition, we also examined whether:

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

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4 Power and Water Corporation *Distribution Connection Pricing Regulatory Policy, Control Period:1 July 2019 to 30 June 2024.*

5 CCP13, *Submission to the Australian Energy Regulator, Response to proposals from PWC for a revenue reset for the 2019-24 regulatory period*, 16 May 2018, p. 35.

17.5 Reasons for draft decision

We have not approved the proposed connection policy because:

- the descriptions for connection service are inadequate and it does not cover negotiated connections
- the policy has not identified the threshold level above which new customers need to pay for upstream augmentation cost. We inserted the default threshold of 100 Amperes, 3-phase supply as specified in our connection charge guideline
- the capital contribution calculation formula does not consider the incremental revenue from new customers
- the proposed Equalisation Scheme contains some conditions not consistent with the AER connection charges guideline. In particular, Power and Water proposed to charge subsequent developers the sunk cost (on a per capacity basis) of the shared network funded by previous developers. Once included in Power and Water's asset base after construction, it should only be charging new customers based on the upstream charge rates as explained in section 17.5.1 below.
- the charging method and charge rates for upstream augmentation do not contain specific information to inform new customers
- the policy does not cover negotiated connections.

Following questions on the above issues, Power and Water proposed further improvements to the connection policy to (1) provide more clarity to the document; and (2) add clarity that the current contestability arrangement will continue and be formalised in the connection policy.[6] We consider the proposed improvements are reasonable.

17.5.1 Marginal cost for shared network augmentation

Power and Water proposed not to charge for upstream shared network augmentation on a dollar per kVA basis, except where the new customer's requested additional demand has not been allowed for in Power and Water's network planning cycle. In this situation, a charge will be applied that reflects the cost of bringing forward investment from future regulatory control periods.

While PWC may propose specific locational rates for upstream augmentation, we note that the proposed connection policy does not contain any specific charge rates.

We consider that the upstream shared network augmentation rates for "general across all area" purpose should be based on the long run marginal cost (LRMC). However, we acknowledge that Power and Water Corporation may propose location specific rates in its revised proposal in addition to the general rates.

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6 PWC email to AER 2 August 2018.

We calculated the capex component of Power and Water's LRMC based on the LRMC information contained in its regulatory proposal with opex components removed.

As the LRMC represents the average cost of each additional unit of capacity, for the purpose of upstream charge rates, 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, PWC should expect to receive the upstream charge every 15 years. The NPV of the multiple contributions should end up equal to the LRMC at present value.[7]

We applied the above adjustment factors for business and residential customers, based on the expected aggregate life of connections and the WACC for the forthcoming regulatory control period. These replacement upstream charge rates are inserted into Power and Water's proposed connection policy.

17.6 AER approved connection policy

We have modified Power and Water's proposed connection policy to reflect the above draft decision on this matter.[8] This revised connection policy is appended to this chapter.

[7] AER, *Explanatory Statement, Proposed Connection charge guidelines: 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.

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

A AER approved connection policy for Power and Water Corporation

Proposed Customer Connection Services Policy

2019 - 2024

Showing amendments by the AER

Version History and Date of Issue

Version	Issue Date	Commencement Date	Description of Changes

Contents

1. Introduction

1.1. Power and Water Corporation - Power Networks Role

Power and Water Corporation (Power and Water) is the Government Owned Corporation responsible for the provision of electricity networks and water and sewerage services across the Northern Territory (NT).

This document refers only to Power and Water in its capacity as a network provider, licensed by the Utilities Commission under the *Electricity Reform Act*.

1.2. Purpose and Scope of Document

This Connection Policy (the Policy) sets out the circumstances in which Power and Water requires a retail customer or real estate developer to pay a connection charge and how these charges are calculated for the provision of connection services.

The Policy applies to connections requested from 1 July 2019 for new or modified connections during 2019-2024 regulatory control period (1 July 2019 to 30 June 2024) inclusive.

The Policy was prepared in accordance with:

- the NT National Electricity Rules (NT NER) Chapter 6 Rule 6.7A.1 (a);
- the connection charge principles set out in Part E of Chapter 5A of the NT NER; and
- the connection charge guidelines for electricity retail customers published by the Australian Energy Regulator (AER).

The Policy applies only to connection applicants for electrical installations in the local electricity systems as defined in Schedule 2 of the *National Electricity (Northern Territory) (National Uniform Legislation) Act*.

1.3. Contact details for further information

For further information about this Policy, please contact:

Executive General Manager Power Networks
Power and Water Corporation
GPO Box 1921
Darwin NT 0801
Phone: (08) 8924 5400
Fax: (08) 8924 5406
Email: customerservice@powerwater.com.au

2. Who Is A Connection Applicant?

A connection applicant is typically one of the following:

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

3. What Are Connection Services?

Connection services involve the following types of work:

- extending the existing network to reach a connection applicant (extension);
- connecting a home, business or other premises to the electricity distribution network (premises connection);
- enhancing aspects of an existing connection.

There are two types of connection services offered by Power and Water:

- basic connection services (as described in Section 3.1); and
- non-standard connection services (as described in Section 3.2).
- Under Chapter 5A of the NT NER there is also the possibility of negotiated connections services (as described in Section 3.3) although this has not been offered to date by Power and Water.

3.1. Basic connection services

In general, basic connection services include:

- connection of residential and small non-residential premises where:
  - supply is available (i.e. there is a line available at the required voltage and with sufficient capacity for the proposed connection);
  - high voltage network extension is not required;
  - low voltage network extension is limited to one span of overhead or 25 metres of underground cable;
  - there is no network augmentation required; and
  - the maximum demand of the electrical installation is less than or equal to 10 kVA single phase or 25 kVA three phase.
- connection of micro embedded generation (e.g. PV installations) with exporting capability and inverter capacity as per the definition in AS4777 and consistent with Power and Water's process regarding small inverter connected generators[1], where there is no network augmentation required;

[1] Power and Water's small inverter connected generators process can be found at powerwater.com.au/solar

- temporary low voltage connections for short term supply, which is defined as a connection for a period of 12 months or less; or
- connection of unmetered supply (other than public lighting).

Basic connection services do not apply to ~~:non-standard connections, such as:~~

- real estate developers; or
- embedded generators that are not micro-embedded generators.

3.2. NON-STANDARD CONNECTION SERVICES

Non-standard connection services are those connection services that do not meet the definition of a basic connection service:

- dedicated services that only supply the connection applicant requirements that is more than one span of overhead or 25 ~~-~~metres of underground cable, at the time of application; and,
- meet the least cost technically acceptable (LCTA) connection standard for the capacity requirements of the connection applicant.
- connections that are made to an existing part of the Power and Water network that is subject to a Pioneer Scheme.

Examples of these non-standard connection services include:

- Extension of the existing high voltage network.
- ~~Upgrading existing distribution substation capacity where it only supplies the applicant~~
- Establishment of a dedicated zone substation and/ or line(s) for a large applicant.
- Connections to a real estate development.
- An embedded generator that is not a micro-embedded generator.
- Augmentation of the shared network only if the requested increase in demand is greater than planned for within Power and Water's planning horizon~~.~~

3.3. NEGOTIATED CONNECTION SERVICES

- This type of service has not been offered to date by Power and Water and would typically only apply to large connection applicants and those wanting non-standard contract terms.
- If negotiated connection services are offered in the future the process will follow the Power and Water Negotiating Framework as approved by the AER.

4. Shared Network Augmentation

Shared network augmentation refers to works undertaken to increase the capacity of Power ~~-~~and Water's network to supply more than one customer.

The types of work under this category include:

- Creating new zone substations or increasing the capacity of existing zone substations.
- Creating new transmission lines or increasing the capacity of existing transmission lines.

- Increasing the capacity of distribution lines and distribution transformers that supply more than one customer.

All shared network augmentation to meet increases in demand is performed by Power and Water.

Power and Water produces an annual update to its network management plan that considers the forecast changes in electricity demand to all parts of the network and develops an efficient investment plan to meet the required reliability for that demand. Any increase in capacity by a connection applicant that causes a demand increase beyond the expected incremental demand forecast within the planning horizon ~~falls outside the planning horizon and causes investment to be brought forward~~ will be treated as a non-standard connection service. The basis of augmentation charges for this situation is outlined in section 6.2.

5. Who Can Provide Connection Services?

5.1. Basic connection services

All basic network connection services are provided by Power and Water.

5.2. Non-standard connection services

Power and Water can provide all non-standard connection services to a connection applicant or subject to agreement with Power and Water the connection applicant can choose to undertake some elements of connection works as contestable works as set out below.

The connection applicant may choose to use an accredited service provider as an alternative to Power and Water to undertake the design and / or construction work downstream of the connection to Power and Water's existing network, where it can be constructed safely in isolation of Power and Water's existing network. This may include extensions and all reticulation within property developments.

Under this circumstance, the following is required:

- The infrastructure must be designed and constructed to Power and Water standards and guidelines as published on Power and Water's website.
- The connection applicant must create registered electricity easements in favour of Power and Water, as required, for the accommodation of the necessary network assets, in accordance with Power and Water's Guidelines for Developers of Subdivisions and Electricity Infrastructure (NP020). The costs associated with establishing registered easements will be met by the connection applicant.
- The contestable distribution system assets that are undertaken and funded by the connection applicant are to be ~~vested~~ gifted to Power and Water upon acceptance by Power and Water. Acceptance will include inspecting, testing and making the final connection to works undertaken by third parties.
- The connection applicant is to provide a warranty on the installed infrastructure covering workmanship and defects for two years.

The market for the provision of works associated with non-standard connection services via an alternative accredited service provider is variable in the NT. ~~and~~ Power and Water will

undertake these works in the absence of an alternative provider or as requested by a connection applicant.

The non-contestable elements of connection services may include but are not limited to:

- preparation and issue of design specifications;
- review and approval of design undertaken by the connection applicant;
- audit of construction where the connection applicant undertakes the construction works;
- conduct of physical inter-connections to Power and Waters' distribution network;
- commissioning and testing of the constructed connection assets to Power and Waters' distribution network; and
- integrating the newly created connection assets including any extensions and augmentation into Power and Waters' asset management systems.

6. What Are The Charges For Connection Services?

This section sets out how Power and Water will calculate charges for basic and non-standard connection services for work its undertakes.

6.1. Basic Connection Services

Basic connection services are classified as standard control services (SCS) by the AER.

Power and Water charges a fixed fee using standard terms and conditions for its basic connection services.

In addition, where a customer is seeking the connection of micro embedded generation, a charge for reconfiguration of the electricity meter (where Power and Water is the meter provider) may be levied.

The relevant fees are the AER approved tariffs for the year, contained in Power and Water's published Pricing Schedule[2].

If the connection applicant elects to negotiate Power and Water's basic connection services terms and conditions, the service requested ceases to be a basic connection service and becomes a non-standard connection service.

6.2. Non-standard Connection Services

Non-standard connection services are classified as standard control services (SCS) by the AER.

Under the NT NER, Power and Water is permitted to seek a capital contribution for non-standard connection services where the future incremental revenue received from those services (through Power and Water's common distribution network charges) does not cover the costs incurred by Power and Water in providing the services.

The total charge (TC) for a non-standard connection service is:

[2] Power and Water's Pricing Schedule is available at powerwater.com.au/networkpricing

TC = AC + [ICCS + ICSN – IRR – ECR] + PS + ~~ES +~~ SF, and

[ICCS + ICSN – IRR – ECR]~~TC~~ ≥ $0.

Where:

AC = Ancillary Charges

These ~~are~~ are upfront fees for the preparation of a non-standard connection service offer in accordance with Power and Water's published Pricing Schedule.

ICCS = Incremental Cost Customer Specific

These costs are for works undertaken by or contracted by Power and Water which are dedicated to the connection applicant to meet the requested demand 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 contestable works as described under 5.2 are undertaken by an accredited third party contracted by the connection applicant, it will only include~~s~~ the costs incurred by Power and Water for the non-contestable connection works in connecting the contestable extension works to the existing distribution network and any other costs incurred by Power and Water associated with non-contestable works (section 5.2) that may apply where an applicant uses an accredited third party provider[3].

ICSN = Incremental Cost Shared Network

These are the costs incurred by Power and Water on its shared network which are not used solely by the connection applicant to meet the requested demand.

There will be generally no charge for shared network augmentation as these are normally contemplated in the network development plan and costs are recovered through Power and Water's shared network charges which apply to all customers. However, if the connection causes a demand increase beyond the expected incremental demand forecast within the planning horizon the following augmentation ($/kVA) charges will apply:

$ / kVA	Connection to low voltage < 750MWh annual consumption	Connection to low voltage > 750MWh annual consumption	Connection to high voltage
Residential and residential real estate developers	322	322	169
Business tariff customers	220	220	116

[3] Refer section 5.2 regarding non contestable works.

Table 1 – Augmentation rates where connection causes a demand increase greater than forecast

IRR = Incremental Revenue Rebate

The rebate in this clause applies only to the extent that the connection applicant does not request connection assets, extension and augmentation in excess of the least cost-technically-feasible solution to meet the connection applicant's electrical requirements and any expected increased load – generally in the next five year period.

The rebate resulting from incremental revenue (IR) from Power and Water to a connection applicant towards the cost of the connection assets, extension and augmentation is set out in the table 1 below according to the customer's tariff class:

Tariff Class	Connection establishment or upgrade [4]
Residential	IRR = the NPV of 30 years of annual IR
Non-residential	IRR = the NPV of 15 years of annual IR

Table 2 - NPV IR for customer tariff class

Where:

Annual IR = the forecast annual incremental revenue Power and Water expects to receive. The incremental revenue will exclude:

- the operations and maintenance (**O&M**) component of the SCS charges, as the connection applicant's cost for connection does not include any future **O&M** costs; and
- any revenue from the connection applicant's future SCS charges that is for any part of the shared distribution network that is not included in the customer's network augmentation cost (ICSN). (ie revenue that is attributable to the extension and customer end works only)

NPV = Net Present Value for the number of years specified in Table 2 ~~1~~ using the price path set out in the AER distribution determination that is applicable at the time of the connection offer, until the end of the relevant distribution determination period, and a flat real price path after the end of the relevant distribution determination period, for the remaining life of the connection. This flat price path is the expected real DUoS charges in the final year of the regulatory control period. ~~at the~~

[4] Incremental revenue for non-residential connections with a defined life (eg supply to a quarry or for a temporary building supply etc) can be considered for a shorter period than the nominal 15 year period as shown in Table 1 above.

~~pre- tax real Weight Average Cost of Capital (WACC) applying to the first year as specified in the Power and Water Distribution Determination for the 2019-24 revenue control period.~~

Real Estate Developers

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

Rebates for real estate developments will be determined by Power and Water and include the total amount of incremental revenue expected to be received from all of the sites/connection services within a real estate development provided they are serviced allotments.

In calculating the incremental revenue for a development, consideration will be given to the specified design ADMD (After Diversification Maximum Demand) to be applied to the individual residential sites 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.

ECR = Extension Capacity Rebate

An ECR will only be considered where:

A. additional capacity over and above the foreseeable forecast growth in the connection applicant's demand is installed; and

B. there is a high degree of certainty of that capacity being utilised by other subsequent connection applicants within Power and Water's planning horizon.

If a rebate is available, it will be applied at the time of connection of the applicant. If a rebate is not available, connection applicants~~, other than real estate developers,~~ have access to the Pioneer Reimbursement Scheme.

Rebates will only apply to the installed cost of distribution transformers and the rebate will be calculated as:

$$\$\boldsymbol{Rebate} = \$\,\boldsymbol{Installed\ distribution\ transformer} \times \left(\frac{\boldsymbol{unused\ capacity\ (kVA)}}{\boldsymbol{distribution\ transformer\ nameplate\ rating\ (kVA)}}\right)$$

Rebates may also be applied to a connection applicant who has used an accredited service provider and Power and Water have required the applicant to install capacity, or the scope of works is greater than the capacity required for the foreseeable requirements of the development, and Power and Water forecast to utilise the additional capacity within its planning horizon. Examples of this include – larger cables, large distribution substations, additional cables or conduits, etc. In this circumstance Power and Water will rebate the incremental amount that would have applied if Power and Water installed the additional incremental capacity.

PS = Pioneer Reimbursement Scheme

A connection applicant who has ~~fully funded~~contributed to the cost[5] of a network extension is entitled to have some of their costs reimbursed by Power and Water if a new customer(s) connects to that network extension within 7 years of the asset being energised[6] under Power and Water's pioneer scheme. The scheme is capped by the funding outlaid by the original connection applicant.

The scheme only applies to distribution network assets that have been provided by Power and Water and where an extension capacity rebate has not been applied.

When an independent service provider performs an extension and the cost of the extension is unknown to Power and Water, the Pioneer Scheme will use an estimate of the amount it would have charged the original connection applicant to perform the extension.

~~If the total refund to all customers under the pioneer scheme, in respect of a new connection, would be less than $1,000, then the new customer will not be charged.~~

Power and Water may recover the refund amount from the new connection applicant(s) as part of the connection charges paid by the subsequent connection applicants. Power and Water will pay the refund as soon as practicable after the new customer pays Power and Water the refunded amount.

Power and Water will pay the refund to either:

- the current owner of the original premises, if the original premises is owned by a single entity; or
- where two or more connection applicants have jointly procured and/or funded the original works, the rebates will be divided between the current owners in accordance with the proportions in which they procured and/or funded the works.

The reimbursement payable under the pioneer scheme by a new connection applicant(s) to an existing customer is calculated as:

$$(\$\boldsymbol{PS}) = (\boldsymbol{Asset\ Value}) \times (\boldsymbol{Asset\ Fraction}) \times (\boldsymbol{Capacity\ \ Fraction})$$

- Asset Value - the current original connection applicant(s) funded value of the network extension assets, depreciated on a straight-line basis over a 20 year period;

$$(\boldsymbol{Asset\ Value}) = (\boldsymbol{Original\ Applicant(s)\ \sout{Infrastructure}Funded\ Value}) \times \left[\mathbf{1} - \frac{(\boldsymbol{Asset\ Age})}{\mathbf{20}}\right]$$

- Asset and Capacity Fractions - the share of the common part of the extension used by the new connection applicant(s) relative to other connection applicant(s) already supplied by the extension in terms of maximum capacity, and/or other physical attributes (e.g. length) as applicable.

[5] Being the original connection applicant or current owner of the property where no extension capacity rebate has been applied.

[6] ~~However, no amount is payable if the total reimbursement payable to all customers already connected is less than $1000 (2019$) adjusted for CPI (Consumer Price Index).~~

$$(\textbf{Asset Fraction}) = \frac{\sum_{k=1}^{n}(\textbf{Length of Common Segment})_k}{(\textbf{Total Length})}$$

$$(\textbf{Capacity Fraction}) = \frac{(\textbf{Est Max Demand})}{(\textbf{Est Max Demand}) + (\textbf{Existing Max Demand})}$$

The pioneer scheme commences on the date the extension asset was energised. The reimbursement amount is determined at the date the subsequent customer accepts the connection offer.

If Power and Water's pioneer scheme calculates a total refund to all customers already connected to an extension that is less than $1,000 ($, real 2019 adjusted subsequently for CPI), then Power and Water is not required to refund those customers.

If the extension assets were constructed to a higher standard or capacity than the least cost technically acceptable standard required by Power and Water, then only the cost of constructing the extension to the standard required will be subject to the pioneer scheme.

~~A pioneer scheme is not available to a real estate developer.~~

~~ES = Equalisation Scheme~~

~~The equalisation scheme only applies where an ECR has been paid within seven years of the original connection applicant's premises being energised. The scheme is designed to minimise subsidies between existing users and new customers. The equalisation scheme applies to all connection applicants where surplus capacity, through previously funded extension assets, is accessed by a subsequent connection applicant. The amount payable to Power and Water by the connection applicant under the equalisation scheme is:~~

$$\$\textbf{ES} = \$\,\textbf{Installed distribution transformer} \times \left(\frac{\textbf{applicant requested capacity (kVA)}}{\textbf{distribution transformer nameplate rating (kVA)}}\right)$$

SF = Security Fee

If Power and Water determine there is a reasonable risk that it may not earn the incremental revenue on which the investment in the extension and premise connection; and, where relevant, the upstream shared network augmentation cost (ie ICSN component only), Power and Water may require an applicant to provide an unconditional, irrevocable bank guarantee (or equivalent financial instrument), under terms acceptable to Power and Water. The bank guarantee must guarantee the portion of new revenue that Power and Water considers to be at risk of not being recovered (excluding the operating and maintenance component) while providing services to the connection applicant.

Circumstances where Power and Water may require a security fee, include but are not limited to, the following:

- The connection applicant is a large connection applicant or concurrent multiple applicants.
- The forecast capital costs associated with augmenting the shared network exceed $100,000 for any connection applicant.

If Power and Water determine there is reasonable risk that an extension or upgrade will not proceed, Power and Water may require a connection applicant to enter into an Early Works Agreement and provide an unconditional, irrevocable bank guarantee (or equivalent financial instrument), under terms acceptable to Power and Water, to cover the costs incurred during the design phase of the project.

Where a connection applicant is required to provide security under this clause, they will be required to provide such security before the commencement of works to connect to Power and Water's network.

The value of the security fee will be ~~the~~ estimated and limited to the forecast shortfall in the present value of the costs that Power and Water will incur in undertaking any extension and premise connection; and, where relevant, the upstream shared network augmentation (ICSN cost only) less the present value of the incremental revenue relating to the capital expenditure, including Power and Water's assessment as having a high risk of not being recovered.

The present value of revenue is calculated over the following periods, noting that Power and Water, at its reasonable discretion, may apply a shorter time period reflecting connection tenure risk:

Residential	30 years
Non-residential	15 years

The Security Fee will be progressively released annually to the applicant as the incremental revenue used in the cost – revenue test is realised.

6.2.1. Special Conditions for Non-registered Embedded Generators

Connection services for non-registered embedded generators (other than micro embedded generators) will be fully funded by the connection applicant and will be calculated based on the total cost of the works required to support both the generation (expected electricity output) and load components of the connection service.

Non-registered embedded generators who seek to remove a specific network constraint will generally be required to pay for the cost of removing the constraint.

Rebates and the Pioneer Scheme will not apply.

6.2.2. Non-standard Connection Offer

Power and Water will use its best endeavours to provide a non-standard connection offer within 65 business days of a connection application being lodged.

Power and Water will advise the connection applicant within 20 business days of receiving the application if there is any additional information that must be supplied prior to making an offer. The time taken by the applicant to provide the additional information is excluded from the 65 business day period.

Power and Water's non-standard connection offer will, where applicable, include the following details for the total connection charge:

A. Ancillary costs associated with providing the offer (including any variable components and the basis of calculation).

B. Cost of network extension assets:

   i. contestable component (i.e. built-in isolation from Power and Water's existing distribution network or as determined by Power and Water); and

   ii. non-contestable component (i.e. work required to connect the contestable component to Power and Water's existing distribution network)

C. Applicable rebate.

D. Details of the applicant's cost allocation towards upstream pioneer scheme(s).

E. Details of the applicant's cost allocation towards upstream equalisation scheme(s).

F. Any other incidental costs and the basis of their calculation including, if relevant, costs of minor deviations from the standard specification for a basic connection service.

G. A security fee.

7. Prepayment

For works undertaken by Power and Water with a value greater than $5,000, the payment of the connection service charges will be recovered through a single up-front payment from the connection applicant to Power and Water. The payment must be made to Power and Water before the related works commence, unless otherwise negotiated with the connection applicant. For staged construction work, partial prepayments for works with a value greater than $5,000 may be applied by Power and Water.

In the case of works that are gifted to Power and Water, and are installed with excess capacity at Power and Water's request, payment for the cost of the excess capacity to the connection applicant will take place at a time agreed to by Power and Water and the party undertaking the works and/or the connection applicant.

8. Dispute Resolution

Any dispute with Power and Water in relation to connection offers will be managed via the following process.

8.1. All disputes arising during the course of negotiating a negotiated distribution service must be dealt with in accordance with:

A. Part 10 of the National Electricity Law (NEL) and Part L of Chapter 6 of the NT NER in the event that those provisions have commenced and are in force in the Northern Territory at the time the dispute arises; or

B. such alternative measures as are approved for that purpose under a Northern Territory Regulatory Instrument; or

C. in the event that neither 8.1 (a) nor 8.1(b) applies, the following process:

   (i) Representatives of Power and Water and a connection applicant must meet within 5 business days after a written request by a disputing party, and must attempt to resolve the dispute by negotiations in good faith.

(ii) If the dispute is not resolved within 10 business days after their first meeting, the dispute must be referred to the senior executive officer of each disputing party who must attempt to resolve the dispute by negotiations in good faith.

(iii) If the dispute is resolved under sub-clause (i) or (ii), the disputing parties must prepare a written record of the resolution and sign the record, and must adhere to the resolution.

8.2. IN THE EVENT THAT THE DISPUTE RESOLUTION PROCESS PROVES TO BE UNSUCCESSFUL, DISPUTES ARISING DURING THE COURSE OF THE NEGOTIATION MUST BE DEALT WITH IN ACCORDANCE WITH:

a) the NT National Electricity Law and Chapter 8 of the NT NER in the event that those provisions have commenced and are in force in the Northern Territory at the time the dispute arises; or

b) such alternative measures as are approved for that purpose under a Northern Territory Regulatory Instrument; or

c) in the event that neither 8.2 (a) nor 8.2(b) applies, then the parties must endeavour to settle any dispute by mediation as follows:

(i) Such mediation is to be conducted by a mediator who is independent of the parties and appointed by agreement of the parties or, failing agreement within 7 days of receiving any party's notice of dispute, by a person appointed by the Chair of Resolution Institute, (ACN 008 651 232, Level 2, 13-15 Bridge Street, Sydney NSW 2000; telephone: 02 9251 3366, email: infoaus@resolution.institute) or the Chair's designated representative.

(ii) The Resolution Institute Mediation Rules will apply to the mediation.

(iii) It is a condition precedent to the right of either party to commence arbitration or litigation other than for interlocutory relief that it has first offered to submit the dispute to mediation.

9. Types of Customer Contracts

There are two types of connection contracts:

- **a (physical) connection contract** associated with establishing or altering the physical connection to the distribution network (described in Section 9.1 of this Policy); and
- **a customer (supply) connection contract** associated with the ongoing supply of electricity to a retail customer's premises. This contract is normally[7] deemed to apply and the customer does not need to sign or agree to the contract. It commences upon energisation or when a customer starts consuming energy.

9.1. (PHYSICAL) CONNECTION CONTRACT – ESTABLISHING OR ALTERING A PHYSICAL CONNECTION

There are two types of physical connection contracts for establishing or altering connections:

[7] These contracts are always deemed to apply unless they have been negotiated between Power and Water and the retail customer. If negotiated, they commence when signed by both parties.

A. Model standing offer (MSO) – that must be approved by the AER and can be accepted by a retail customer, either by:

   i. accepting the terms and conditions of the MSO when they make an application for a new or altered connection (i.e. an expedited process); or

   ii. formally receiving and accepting a connection offer. It should be noted that both the offer and the acceptance must be in writing and can delay connection by up to 55 business days.

B. Non-standard connection contract – where a connection applicant wants to negotiate for contract conditions different to that contained in the MSO, Power and Water will negotiate the terms and conditions with a connection applicant, including the price of the connection offer. A formal offer by Power and Water and acceptance of the connection contract by the connection applicant occurs via this process.

~~B.~~C. Negotiated connection contract – for new connections under the negotiated connection framework.

9.2. Customer (Supply) Connection Contract

There are three types of customer connection contracts for the ongoing supply of electricity:

A. Deemed Standard Supply Contract[8] – applies to all small customers (i.e. electricity consumption less than 750MWh per annum) unless they have a non-standard customer connection contract (Non-standard customer supply contract – see below). The Deemed Standard Supply Contract commences when a customer's premises is energised or when a customer commences consumption of electricity.

B. Deemed Large Supply Contract – terms and conditions must be approved by the AER. Where a Deemed Large Supply Contract has not been approved, the Deemed Standard Supply Contract applies to a large customer (i.e. electricity consumption is more than 750MWh per annum) unless they have a Non-standard customer supply contract. A Deemed Large Supply Contract commences when a customer's premises is energised or when a customer commences consumption of electricity.

C. Non-standard customer supply contract – terms and conditions are negotiated between Power and Water and the customer and a fee covering the costs of the negotiation will be charged in advance.

Note – copies of both deemed contracts are available on Power and Water's website [add link once approved].

8 Power and Water's DSSC is based on the Model terms and conditions detailed in the National Energy Retail Rules (NERR) Schedule 2

10. Accounting Treatment of Connection Services

10.1. Basic and Non-standard Connection Services

The cost of Power and Water's assets funded by customers will be entered into Power and Water's regulatory asset base at zero value. The value of any rebate paid at the time of connection will be funded from the standard control capital expenditure allowance approved by the AER and, over time, offset by subsequent equalisation payments by future connection applicants.

10.2. Shared network augmentation

The cost of this shared network augmentation will be funded from the standard control capital expenditure allowance approved by the AER net of any contribution for advancing investment as described under section 6.2 "ICSN = Incremental Cost Shared Network".

10.3. Assets Gifted to Power and Water

The value of assets gifted to Power and Water by a connection applicant will be entered into Power and Water's SCS regulatory asset base at zero value.

11. Definitions

The following definitions are provided to assist a connection applicant in understanding some of the terminology that may be encountered during interactions with Power and Water in relation to connections.

Term	Definition
Accredited Service Provider	A service provider who has been accredited by Power and Water in accordance with its relevant policies to design, construct, install and commission electricity distribution system assets.
AER	Australian Energy Regulator
Connection	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	An applicant for a connection service from one of the following categories: 1) a retail customer; or 2) retailer or other person acting on behalf of the customer; or 3) real estate developer.
Distribution network	The 22kV and 11kV electricity system owned and operated by Power and Water.
Distribution substation	A modular 22kV or 11kV to low voltage ground mounted transformer and switching assembly to provide capacity and facilitate connection of multiple supplies and customers.
Low voltage network	The 400V / 230V electricity system connecting low voltage supplied customers.
NT NER	Northern Territory National Electricity Rules
Planning Horizon	Routine forward network development plan for future works: • distribution networks (up to 11/22kV) – 5 years; and • zone substations and transmission networks (66kV and 132kV) – 10 years.
Real Estate Developer	1) Two or more property titles are created from one or more allotments; or 2) multi tenanted sites with two or more metered retail customers; or 3) amalgamation of multiple allotments to a single title.
Retail customer	A person to whom electricity is sold by a retailer.
Standard Control Service	Services that are central to electricity supply and therefore relied on by most (if not all) customers such as building and maintaining the shared distribution network. These services are regulated by the AER.
Zone substation	A substation for the purpose of connecting a distribution network to a sub-transmission network.