

Large Customer Connection Manual

Effective from 5 January 2026



Part of Energy Queensland

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1 Overview

1.1 Purpose

The National Electricity Rules (NER) set out the relevant processes and requirements that a Connection Applicant must comply with to:

- a) establish a new connection; or
- b) alter an existing connection.

This manual is intended to guide a Connection Applicant whose connection is classified as a Large Customer Connection through the relevant process to obtain a Connection Offer and enter into the relevant connection agreements with the Distribution Network Service Provider (DNSP). Technical requirements are set out in the STNW3522 Standard for Large Customer Connections - 9148501. This manual summarises the processes and information required in respect of establishing a new connection, or to alter an existing connection but will not cover all circumstances. Please contact the DNSP to confirm the applicable requirements and obtain specific information in respect of establishing a new connection, or to alter an existing connection. The National Energy Retail Law (NERL), National Electricity Law (NEL) and the NER prevail over this manual to the extent of any inconsistency.

1.2 Scope

This manual is intended for use by parties whose connection is designated as a “Large Customer Connection”.

Large customer connections are defined in our Annual Pricing Proposal as those connections that generally fall within the tariff classes of Connection Asset Customer (CAC), Individually Calculated Customer (ICC), distribution connected unit operators and real estate developers. Large Customer Connections will typically include:

- a) large commercial premises where the total requested capacity is greater than 1,000 kVA (1 MVA),
- b) distribution connected units with an installed capacity of greater than 30 kVA, or
- c) Real Estate Developments.

In addition, this manual may also apply to:

- Registered Participants, including Generators and Integrated Resource Providers; and
- Embedded Networks that are not Registered Participants, where the parent Connection Point would involve a category described in a) - c) above. For Embedded Networks, requirements shall apply at the parent Connection Point of the Embedded Network.

Further information on the technical aspects of Large Customer Connections is provided in the connection manuals and technical standards available on our website.

1.3 Subdivisions

Notwithstanding that Real Estate Developments are Large Customer Connections to which this manual applies, they may also be subject to particular requirements where the Real Estate Development is a subdivision. In this regard, please refer to our “Residential & commercial subdivisions” landing pages available on our websites ([Ergon Energy](#) | [Energex](#)) for further information.

In the event of any inconsistency between:

- the DNSP subdivision policies and standards for Real Estate Developments referenced in this Section 1.3; and
- this manual,

the DNSP subdivision policies and standards for Real Estate Developments will prevail.

The design and construction of underground electrical reticulation and any associated street lighting by a Real Estate Developer for the following Real Estate Development categories shall be carried out in accordance with the DNSP requirements:

- a) urban residential subdivisions;
- b) rural residential subdivisions;
- c) commercial & industrial subdivisions;
- d) commercial developments within a residential subdivision; and
- e) street lighting.

1.4 Exclusions to this Manual

This manual does not apply to:

- a) the design, supply and installation of High Voltage (HV) reticulation that is owned and/or operated by a Connection Applicant, or is on the Connection Applicant's side of the Connection Point (subject to the installation meeting the necessary standards for interconnection with the Distribution Network);
- b) Low Voltage (LV) equipment that is owned or operated by the Connection Applicant (subject to the equipment meeting the necessary standards for interconnection with the Distribution Network); and
- c) the removal or relocation of existing DNSP assets.

Technical requirements, including connection arrangements, are detailed in the STNW3522 Standard for Large Customer Connections, which can be found on the DNSP's website.

1.5 Contact Information

Refer to [Table 1](#) for contacts for various Large Customer Connection types.

Table 1 DNSP Contact Details

Large Customer Type	Contact
LV load Connections	custserve@energex.com.au for Energex, networkenquiries@ergon.com.au for Ergon Energy
DER Systems capacity > 30kVA and less than or equal to 1500 kVA	ergongeneration@energyq.com.au for Energex, energexgeneration@energyq.com.au for Ergon Energy
DER Systems capacity > 1500 kVA	majorcustomers@energyq.com.au for Energex and Ergon Energy
HV Load Connections	majorcustomers@energyq.com.au for Energex and Ergon Energy
Subdivisions, major real estate developments	contestable@energyq.com.au for Energex, CCG.Contestable@ergon.com.au for Ergon Energy

2 References

2.1 Legislation, Regulations, Rules and Codes

There are a range of applicable standards, reference materials and industry codes which define connection types and requirements, and network standards as set out below. However, please note that the details listed below may not be exhaustive or complete and additional laws and requirements may apply.

Set out below is a list of the related legislation and regulations and other reference material.

In the event of any inconsistency between:

- legislation and regulation; and
- this manual,

the legislation and regulations shall prevail.

Document	Type
Australian Energy Regulator (AER) Value of Customer Reliability Final report on VCR values (December 2019)	Reference
Construction and operation of solar farms – Code of Practice 2019	Code of Practice
Distribution Authority D07/98 Energex Limited	Legislation
Distribution Authority D01/99 Ergon Energy Corporation Limited	Legislation
<i>Electricity Act 1994</i> (Qld)	Legislation
Electricity Regulation 2006 (Qld)	Regulation

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Document	Type
<i>Electrical Safety Act 2002 (Qld)</i>	Legislation
Electrical Safety Code of Practice – Works, 2020 (Queensland Government)	Code
Electrical Safety Regulation 2013 (Qld)	Regulation
Electricity – National Scheme (<i>Queensland</i>) Act 1997 (Qld)	Legislation
<i>Environmental Protection Act, 1994 (Queensland Government)</i>	Legislation
National Electricity (<i>Queensland</i>) Law, as defined in the <i>Electricity – National Scheme (Queensland) Act 1997 (Qld)</i>	Legislation
Managing electrical risks in the workplace - Code of Practice 2021	Code of Practice
<i>National Energy Retail Law (Queensland) Act 2014 (Qld)</i>	Legislation
National Energy Retail Law (Queensland), as defined in the <i>National Energy Retail Law (Queensland) Act 2014 (Qld)</i>	Legislation
National Electricity Law	Legislation
National Electricity Rules	Regulation
National Metering Installation Requirements (MIR)	Code of Practice
<i>Professional Engineers Act 2002 (Qld)</i>	Legislation
<i>Queensland Heritage Act 1992 (Qld)</i>	Legislation
Queensland WH&S Regulation 2011	Legislation
<i>Sustainable Planning Act 2009 (Qld) Legislation</i>	Legislation
Energex Distribution Annual Planning Report (DAPR)	Reference
Ergon Energy Distribution Annual Planning Report (DAPR)	Reference

2.2 Australian and New Zealand Standards

Document Number	Document Name	Document Type
AS 2067	Substations and High Voltage Installations exceeding 1 kV a.c.	Australian Standard
AS/NZS 3000	Electrical Installations (known as the Australian/New Zealand Wiring Rules)	AU/NZ Joint Standard
AS 7000	Overhead Line Design Standard	Australian Standard
AS 60038	Standard Voltages	Australian Standard
AS/NZS 61000 Series	Electromagnetic Compatibility	AU/NZ Joint Standard

2.3 Controlled Documents

Please note that this manual reflects our policies and procedures and relevant regulatory arrangements at the time of publishing, and these may change from time to time. A copy of the latest version of this manual and associated fact sheets may be found on our Large Customer Connections “Standards, Manuals & Fact Sheet” landing page on our website ([Ergon Energy](#) | [Energex](#)).

For further details please refer to our Design and Construction Standards, which are available at [Contractors | Ergon Energy](#) or [Technical documents | Energex](#).

Controlled Documents relevant to this manual include:

Document	Alternative Doc ID
Developers Handbook Developers Design and Construct Work - 14340283	Ergon Energy Procedure
Dynamic Standard for Low Voltage EG Connections - 3427416	STNW3511
Queensland Electricity Connection Manual - 2912908	01811 / NA000403R328
Standard for Low Voltage EG Connections - 3055320	STNW1174
Standard for High Voltage EG Connections - 2946177	STNW1175
Standard for Plant Energisation - 3059318	STNW1179
Standard for Large Customer Connections - 9148501	STNW3522

2.4 Other Documents

Document	Document Type
Clean Energy Council – Embedded Generation Connection Guide	Reference
Distribution Determination Ergon Energy 2025-2030, 30 April 2025	Reference
Distribution Determination Energex 2025-2030, 30 April 2025	Reference
Energex Connection Policy	Reference
Energex Tariff Structure Statement	Reference
Ergon Energy Connection Policy	Reference
Ergon Energy Tariff Structure Statement	Reference
Management of Disputes	Fact Sheet
Metering Installation Design	Fact Sheet
Security Requirements	Fact Sheet
Subdivision standard – Developer Design and Construct Estates	Energex Reference
Tenure Requirements	Fact Sheet

3 Definitions and Abbreviations

For the purposes of this document, the following definitions and abbreviations apply.

Term	Definition
Alternative Control Services (ACS)	ACS refers to customer-specific services that are provided on a 'user-pays' basis, meaning the full cost is borne by the customer requesting the service. These services may be competitive and are typically related to connection and asset relocation services.
Australian Energy Market Operator (AEMO)	The entity responsible for the management of the NEM and who oversees the system security of the interconnected national electricity system in respect of which the NEM applies.
Australian Energy Regulator (AER)	Regulatory body established by section 44AE of the <i>Competition and Consumer Act 2010</i> (Cth) that regulates energy markets, and energy networks, under national energy legislation and regulations.
Build, Own and Operate (BOO)	Refers to either: <ul style="list-style-type: none"> • For Customer Assets, the Large Customer (including a contactor/consultant engaged by the Large Customer) designs and constructs the Customer Assets and retains ownership and operational control over those assets; or • For DNSP assets, the DNSP designs and constructs the Connection Assets and retains ownership and operational control over those assets.
Connection Applicant	A Large Customer that has, or intends to, submit a Connection Application. For the avoidance of doubt, where another party submits a Connection Application on behalf of the Large Customer (for example, as described in the relevant definition in rule 5A.A.1 of the NER or a contractor or consultant engaged by the Large Customer) the Connection Applicant is the Large Customer, not the party submitting the Application.
Connection Application	An application to establish or alter a Connection in accordance with the process and requirements set out in Chapter 5 or Chapter 5A of the NER (as applicable).
Connection Asset	Refers to DNSP owned and operated assets that are dedicated to facilitating the Connection to the Distribution Network and the supply of electricity across the relevant Connection Point. The Connection Assets are those that comprise the components of the Distribution System used to provide the Ongoing Service and are dedicated to the Large Customer. For the avoidance of doubt, the Connection Assets will not include any assets that are owned or operated by the Large Customer.
Connection Offer	Means an offer to establish a connection or alter an existing connection that is made in response to a Connection Application. For the avoidance of doubt, this encompasses a <i>connection offer</i> under Chapter 5A and offer to <i>connect</i> under Chapter 5 of the NER.

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Connection Point (CP)	The physical point or link where the Connection Assets meet the Customer Assets so as to permit the flow of electricity between the premises and distribution system, being the agreed point of supply.
Contestable	A service is contestable if the Energy Laws applicable in Queensland permit the service to be provided by more than one supplier as a contestable service or on a competitive basis.
Current Transformer (CT)	Measurement transformer for current.
Customer Asset	Refers to the assets that are owned and/or operated by a Large Customer downstream of the Connection Point.
Defect	Refers to anything in relation to the Transferable Connection Assets that is, or is likely to: <ul style="list-style-type: none"> a) amount to a breach or non-compliance in respect of the NCEC; b) amount to a non-compliance with a relevant law; or c) cause the Distribution System or the broader <i>power system</i> to operate in a manner inconsistent with the requirements of the applicable Energy Laws and regulations.
Design, Construct and Transfer (DCT)	Refers to circumstances where a Large Customer constructs the Transferable Connection Assets and intends to gift those assets to the DNSP upon completion (from which time those assets will become Connection Assets and the DNSP will have ownership and operational control).
Detailed Response	The detailed response to enquiry means the response to a connection enquiry prepared under rule 5.3A.8 of the NER, which must contain the information set out in S5.4B of the NER.
Distribution Determination	The determination made by the AER at 5-yearly intervals concerning the economic regulation of a Distribution Network.
Distribution Network Service Provider (DNSP) (or referred to as “we”, “our” or “us” in this manual)	The entity who owns and operates the distribution system being Ergon Energy Corporation Limited or Energex Limited depending on the relevant location.
Distribution System	The relevant Distribution Network, together with the Connection Assets associated with that Distribution Network to which the Large Customer is, or will be, connected.
DER System	Means any distribution connected units (including ancillary equipment such as protection and control mechanisms) to be <i>interconnected</i> with, and <i>connected</i> (directly or indirectly) to the Distribution System at the Connection Point.
Distribution bidirectional unit	A bidirectional unit connected within a Distribution System and not having direct access to the transmission network.
Distribution connected generating unit	A Generating Unit connected within a Distribution System and not having direct access to the transmission network

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Distribution connected unit	Refers to distribution connected generating units and/or distribution connected bidirectional units
Distribution Connected Unit Operator	A person who owns, controls or operates a distribution connected unit.
Embedded Network	<p>A private electrical network, connected at a <i>parent</i> Connection Point to either:</p> <ul style="list-style-type: none"> • a Distribution System that forms part of the <i>national grid</i>; or • another private electrical network which is owned, controlled or operated by a person who is not a DNSP.
Energy Laws	<p>Has the meaning given to that term in the NERL, which, for the avoidance of doubt, includes the Electricity Distribution Network Code under the <i>Electricity Act 1994</i> (Qld).</p> <p>Relevant laws relating to the subject matter of this manual at the date of publication are set out in Section 2.1 (NB this list may not be exhaustive or complete).</p>
Energy Storage System (ESS)	A system comprising one or more components (e.g. batteries) that store electricity generated by distributed energy resources or directly from the grid, and that can discharge the electricity to <i>loads</i> .
Extension	An extension required to connect a power line or facility outside the present boundaries of the Distribution System to facilitate a new or altered connection where there is a reasonable likelihood that the Extension will be used to supply another customer or customers within the planning horizon.
Financially Responsible Market Participant (FRMP)	The entity that is financially responsible under the NER for a Connection Point.
Generating Unit	The plant used in the production of electricity and all related equipment essential to its functioning as a single entity.
Generator	<p>A person who engages in the activity of owning, controlling or operating a DER System that is connected to, or who otherwise supplies electricity to, a transmission system or distribution system and who is registered by AEMO under Chapter 2 of the NER as a Generator.</p> <p>For the purposes of Chapter 5, the term includes a person who is required or intends to register in that capacity or a non-registered DER provider who has made an election under clause 5A.A.2(c).</p>
High Voltage (HV)	A voltage greater than 1 kV.
Integrated Resource Provider	<p>A person who is registered by AEMO as an Integrated Resource Provider under Chapter 2 of the NER.</p> <p>For the purposes of Chapter 5, the term includes a person who is required or intends to register in that capacity or a non-registered DER provider who has made an election under clause 5A.A.2(c).</p>
Low Voltage (LV)	Voltage of 1 kV or less.

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Metering Coordinator (MC)	A person who is registered by AEMO and engages in the coordination and provision of metering services for a Connection Point.
Micro Resource Operator	Customers who operate, or propose to operate, a distribution connected unit for which a micro DER connection is appropriate
Micro DER Connection	A connection between a distribution connected unit and a Distribution Network of the kind contemplated by Australian Standard AS 4777 (Grid connection of energy systems via inverters).
National Electricity Law (NEL)	The <i>NEL</i> as it applies in Queensland under the National Electricity (Queensland) Law, as defined in the <i>Electricity - National Scheme (Queensland) Act 1997</i> (Qld), and under which the NER are established.
National Electricity Market (NEM)	The name of the wholesale electricity market in Australia and the associated interconnected <i>national grid</i> .
National Electricity Rules (NER)	The NER are made under the NEL. The NER governs the operation of the NEM.
National Energy Retail Law (NERL)	The National Energy Retail Law (Queensland), as defined in the <i>National Energy Retail Law (Queensland) Act 2014</i> (Qld).
National Energy Retail Rules (NERR)	The National Energy Retail Rules established under the NERL.
National Metering Identifier (NMI)	This is a unique identifier for each <i>metering installation</i> for a Connection Point within the NEM.
Negotiated Connection Establishment Contract (NCEC)	An agreement between the DNSP and a Large Customer under which the parties agree to carry out certain works to either establish or alter a connection.
Negotiated Ongoing Connection Contract (NOCC)	An agreement between the DNSP and a Large Customer that describes the terms and conditions on which the DNSP agrees to provide Ongoing Services.
Non-registered DER provider	A distribution connected unit operator that is neither a micro resource operator nor a Registered Participant
Ongoing Services	Refers to the provision of ongoing connection services by the DNSP to the relevant Large Customer at the Connection Point. For the avoidance of doubt, this may refer to <i>customer connection services</i> , <i>connection services</i> or <i>network services</i> .
Powerlink	Queensland Electricity Transmission Corporation Limited ABN 82 078 849 233 trading as Powerlink Queensland, being the relevant Transmission Network Service Provider in Queensland.
Project Sponsor	DNSP representative that is responsible for liaising with the Large Customer and coordinating the Connection process on behalf of the DNSP.
Registered Participant	A person who is registered by AEMO in any one or more of the categories described in Chapter 2 of the NER.

Retailer	Person who holds a retail authorisation issued under the <i>National Energy Retail Law</i> in respect of the sale of electricity.
Standard Control Services (SCS)	SCS covers services central to the supply of electricity, essential for the operation of the network, and are funded through regulated network charges paid by all customers.
Transferable Connection Assets	Refers to the assets constructed by, or on behalf of, a Large Customer in respect of a Large Customer Connection where, under the terms of the NCEC, the ownership of these assets is to be transferred to the DNSP upon completion.
Transmission Network	In Queensland, the electricity network owned and operated by Powerlink.
Transmission Network Service Provider (TNSP)	A person who engages in the activity of owning, controlling or operating a Transmission System.
Transmission System	Includes a Transmission Network together with any associated <i>connection assets</i> .
Voltage Transformer (VT)	Measurement transformer for voltage.
Works	Refers to the design, construction, testing and commissioning works by either or both the DNSP and Large Customer under a NCEC.

4 The Connection Process

4.1 Overview

The process for establishing a new connection or modifying an existing connection depends on the specific nature and circumstances of that connection. The National Electricity Rules (NER) outline the applicable processes in:

- Chapter 5A – for retail customers, Micro Resource Operators and Non-registered DER providers, and real estate developers
- Chapter 5 – including Rules 5.3 and 5.3A, for Registered Participants and larger DER Systems (i.e. Generators and Integrated Resource Providers)

Our connection processes have been developed in accordance with the NER requirements and are designed to provide transparency and detailed guidance to help you connect a DER System to our Distribution Network.

4.2 Who is covered by each Chapter of the NER?

4.2.1 Chapter 5A

Broadly applies to:

- Retail customers, including micro resource operators and Non-Registered DER Providers eligible for the automatic deemed exemption from the obligation to register under Chapter 2 of the NER
- Real Estate Developers

- Embedded Networks (eligible for the automatic deemed exemption from the obligation to register under Chapter 2 of the NER)

4.2.2 Chapter 5

Typically applies to Registered Participants, Intending Participants and non-registered DER providers who elect to connect under rule 5.3A via clause 5A.A.2 of the NER.

For further information regarding connection types and applicable processes, refer to clause 5.1.2 of the NER.

4.3 Our Connection Process – Chapter 5A

To connect your premises to our electricity network—or to alter an existing connection—it is recommended that you consult with a suitably qualified electrical contractor. They can help assess the scope of work and assist with gathering the necessary information to support your application, including any pre-application advice or services.



ENQUIRY

Enquiry

You must first submit a **Connection Enquiry** using the appropriate form.

We will acknowledge your enquiry within **5 business days** and advise if any pre-application services are required, including associated costs.



PRELIMINARY
INFORMATION

Preliminary Enquiry Information

Our **Customer Connections Preliminary Enquiry Information** ([Ergon Energy Network](#) | [Energex](#)) fact sheet provides information to support your connection application to our distribution system, in line with the requirements of Chapter 5A.D2(b).



PRE-APPLICATION
SERVICES

Pre-Application Services

As part of your Connection Application, you will need to submit certain information which may need to be obtained from us as a pre-application service that we offer on a quoted basis. We will notify you which services may be relevant to your connection as part of our enquiry response.

Please refer to our **Chapter 5A – Connection Enquiry Essentials** ([Ergon Energy](#) | [Energex](#)) fact sheet about the information required to be provided by you as part of the delivery of these services.



APPLICATION

Connection Application

When you're ready to proceed, submit a **Connection Application** using the appropriate form.

“Ready” means you have:

- Completed all necessary pre-application services
- Provided all required documentation and information
- Paid any associated costs

Please refer to our Chapter 5A Connection Application Essentials ([Ergon Energy](#) | [Energex](#)) fact sheet for more information about the information required by you as part of the application process.

We will review your application for completeness. If complete, we will assess it to prepare a Connection Offer.



CONNECTION
OFFER

Connection Offer

If all necessary information has been provided in your application, we will use our best endeavours to issue a **Connection Offer** within **65 business days**.

To proceed, you must accept the offer within **20 business days** and pay any applicable fees before connection services commence.

A Negotiated Connection Offer typically includes:

- A **Negotiated Connection Establishment Contract (NCEC)**; and
- A **Negotiated Ongoing Connection Contract (NOCC)** or amendment to an existing NOCC (if applicable)

Exception:

Real Estate Developments may not require an ongoing supply contract due to the nature of the development.



DETAILED DESIGN
CONSTRUCTION
AND COMMISSIONING

Detailed design, construction and commissioning

After the offer is accepted, we will coordinate the design, construction, and commissioning activities in line with the offer and applicable technical standards.

4.4 Our Connection Process – Chapter 5

To connect your premises to our electricity network—or to alter an existing connection—it is recommended that you consult with a suitably qualified electrical contractor. They can help assess the scope of work and assist with gathering the necessary information to support your application, including obtaining appropriate pre-application advice or services.



ENQUIRY

Enquiry

You must first submit a **Connection Enquiry** using the appropriate form.

We will acknowledge your enquiry within **5 business days** and advise if any pre-application services are required, including associated costs.

Please refer to our Chapter 5 Connection Enquiry & Application Essentials ([Ergon Energy](#) | [Energex](#)) fact sheet for more information about the information required by you as part of the enquiry process.



PRELIMINARY
RESPONSE

Preliminary Response to Enquiry

We will provide a **Preliminary Response to Enquiry (PRE)** within **15 business days** of receiving your enquiry, or as otherwise agreed. You may request that we only provide a Detailed Response to Enquiry and we will advise you if we agree to this request.



Detailed Response to Enquiry

The **Detailed Response to Enquiry (DRE)** is a mandatory requirement under the NER that must be undertaken before you can proceed with an application.

As your enquiry progresses, we will advise you of any additional pre-application services that may be required. These could include technical assessments, engineering studies, or other preparatory activities. We will also provide details of any associated costs to be paid before proceeding to the application stage.

We will provide a detailed response within **30 business days** of receipt of all necessary information and payment of associated costs. This response will include the information specified in the relevant paragraphs of Schedule 5.4B of the NER.



Application to Connect

Once you have received a detailed response to enquiry you may proceed with submitting an **Application to Connect** using the appropriate form.

“Ready” means you have:

- Completed all required pre-application services
- Provided all necessary documentation and information
- Paid any associated costs

We will review *your* application for completeness. Once your Application to Connect is considered to be complete, you will be charged an Application Fee. This charge is to cover the expenses directly incurred by us in assessing your Application to Connect and providing you with an Offer to Connect.

Please refer to our Chapter 5 Connection Enquiry & Application Essentials ([Ergon Energy](#) | [Energex](#)) fact sheet for more information about the information required by you as part of the application process.



Offer to Connect

Once your application is complete, we will prepare an **Offer to Connect** and issue this within **4 months** of receiving a complete application, or within the agreed timeframe (typically **10 business days** of finalising any negotiated access standards and/or system strength remediation scheme).

An Offer to Connect typically includes:

- A **Network Connection Establishment Contract (NCEC)**
- A **Network Ongoing Connection Contract (NOCC)** or amendment to an existing NOCC (if applicable)

Exception:

Exceptions to the above may arise for a Real Estate Development who, due to the nature of the development being for financial gain, will not require an Ongoing Supply.

To proceed, you must accept the offer within **20 business days** (unless an extension is agreed) and pay any applicable fees before connection services commence.

Detailed Design, Construction and Commissioning



After the offer is accepted, we will coordinate the design, construction, and commissioning activities in line with the offer and applicable technical standards.

4.5 For further information on our Connection Process and Fees

To help you understand the steps and costs involved in connecting to our network, please refer to the following resources:

- **DER Systems Information Pack** – provides details on connecting DER systems, including fees and charges;
- **Connection Fees and Charges Information Sheet** – provides an overview of applicable costs; or
- Visit our website pages for tailored information based on your connection type:
 - **Residential & Commercial Connections < 1 MVA** ([Ergon Energy](#) | [Energex](#))
 - **Solar & Other Low Voltage Technologies** ([Ergon Energy](#) | [Energex](#))
 - **Large Electricity Connections > 1 MVA** ([Ergon Energy](#) | [Energex](#))
 - **Large High Voltage DER Systems** ([Ergon Energy](#) | [Energex](#))

5 Economic Regulation and Charging Arrangements

5.1 General

The AER regulates the revenue that the DNSP can earn, and the prices that the DNSP can charge, for certain services provided by means of, or in connection with its Distribution System. The charges payable by a Connection Applicant to the DNSP will (where applicable) be comprised of the following components:

- a) charges for services classified as Alternative Control Services (ACS);
- b) capital contributions for services classified as Standard Control Services (SCS); and
- c) charges for Extension assets to which a pioneer scheme applies.

5.2 Classification of distribution services as SCS and ACS

To regulate the prices that the DNSP can charge for its services, the AER has classified the DNSP's regulated *distribution services* into SCS and ACS. It is important to note that the AER's classification of services decision should not be taken to be a determination that entitles a Connection Applicant to construct their own dedicated Connection Assets. Rather, it is a pricing decision that sets out how the price for the service is to be determined and how costs and revenue are to be treated for regulatory purposes.

In the case of Large Customer Connections, the AER determined that a number of particular services should be classified as an ACS. This is detailed in the DNSP's Distribution Determination, and further described in STNW3522 Standard for Large Customer Connections.

Where there is sufficient competition for *connection services*, the AER may determine that it is appropriate to not classify the service as SCS or ACS as a DNSP does not have sufficient market

power to set prices above the efficient cost. In this case, the *connection service* would be classified as unregulated.

Further information on applicable economic regulation and the classification of Distribution Services can be found in the DNSP's fact sheets and STNW3522 Standard for Large Customer Connections.

5.2.1 Location of Connection Assets

For the purpose of determining the appropriate service classification under the AER's Distribution Determination, the DNSP identifies the following relevant points:

- a) **Connection Point:** delineates the physical location where the Customer Assets meet the Connection Assets. The Connection Assets for a Large Customer's Connection may include:
 - i. HV overhead or underground mains;
 - ii. LV overhead or underground mains and services;
 - iii. distribution transformers; or
 - iv. protection systems, communications systems, and any other secondary systems.

All assets upstream of the Connection Point will ultimately be owned and operated by the DNSP, and conversely, assets downstream of the Connection Point will generally be owned and operated by the Large Customer. The DNSP and the Large Customer shall have an isolation device that can isolate the Connection Point.

Note: Customers may be required to fund any components of the distribution system necessary to provide a connection service in accordance with applicable technical requirements and connection standards (available on our website).

5.3 Method of Cost Recovery

5.3.1 ACS

ACS are distribution services that are customer-specific, or customer requested services. Some of these services have the potential to be provided on a competitive basis rather than by a regulated DNSP. ACS are based on a 'user-pays' approach where the service is paid for by the customer who is seeking the service, rather than recovered from all customers through network charges.

To manage the risk of non-payment, which could increase the DNSP's financial liability, payment of ACS charges is taken upfront by the DNSP before the relevant DNSP activity is undertaken. These services are commonly provided by the DNSP, but some services may be contestable (i.e., may be carried out by the Large Customer - refer to Section 7.1 for further information). Where an ACS is provided by the DNSP, the amount recoverable from the Large Customer will be the maximum allowable revenue as determined by the AER for those services at the date they are performed.

5.3.1.1 Examples of ACS:

- Complex access permits
- Network safety services (e.g., high load escorts)
- Customer requested provision of network data
- Connection application and management services, including pre-offer connection services, asset relocations, and audits

- Enhanced connection services, including higher reliability standards or removal of a constraint for a distribution connected unit
- Premises connection services and dedicated network extensions for Large Customer Connections
- Network augmentation works to connect generation assets or bidirectional units
- Network augmentation works to provide N-1 supply to load connection.

5.3.2 SCS and Capital Contributions

SCS are generally those services that are core distribution services associated with the access and supply of electricity to customers (i.e. usually a “shared service” across more than one customer). The DNSP typically recovers these costs through network tariffs (or network charges) that are typically billed to Retailers and then passed on to customers through their retail account. If the Large Customer does not have a Retailer, the DNSP will issue an invoice directly to the Large Customer. However, under certain circumstances, Connection Applicants may be required to contribute towards the costs associated with a SCS (referred to as a “capital contribution”).

The DNSP’s network charges for SCS are based on assumptions about the typical nature of Connections and the number of new Connections to be made over the planning horizon, which in turn determines the required capacity of the Distribution Network. Where a new or altered connection is non-standard and/or made outside the planning horizon, the DNSP incurs costs that are not recovered through the network charges for SCS.

Under the DNSP’s Connection Policy the DNSP may require a capital contribution from certain Connection Applicants towards the cost of the Extension, other Augmentation or Connection Assets. However, there are restrictions on when capital contributions can be applied, which are described in the DNSP’s Connection Policy, as well as how the capital contribution is to be calculated.

5.3.2.1 Examples of SCS:

- Planning, design, repair, maintenance, construction, and operation of the Distribution Network
- Inspection and repair of the shared network
- Extensions to and augmentation of the Distribution Network for Residential Connections
- Extension of the Distribution Network for Large Customer Connections where there is a reasonable likelihood that the network extension will be used to supply another customer or customers within the planning horizon; and
- Augmentation of the Distribution Network for Large Customer Connections.

Note: Developers are not excluded from SCS; however, only works that form part of the shared network or serve broader network needs are included. Customer-specific or development-specific works are generally treated as ACS or negotiated services and are funded directly by the requesting party.

5.3.3 Unregulated Services

Unregulated services by the DNSP (that is, not ACS or SCS) are not subject to economic regulation by the AER. An example of an unregulated service is: AEMO power systems data – The facilitation of Primary and Secondary AEMO services. The costs of doing so will be borne by the Large Customer.

5.3.4 Third Party Works Impacting the Transmission Network

Certain connections may potentially impact on Powerlink's transmission network. Where Powerlink needs to assess the impact on its network and/or perform relevant works to enable the connection, the costs of Powerlink doing so will be borne by the Large Customer.

5.3.5 Shared Network

Works in relation to assets such as feeders, transformers or substations that are part of the Distribution Network are the DNSP's responsibility, and these works will be classified as SCS. Costs for these services are recovered through network charges for all relevant customers (excluding DER systems). However, under certain circumstances, customers may be required to contribute towards the costs associated with a SCS (referred to as a "capital contribution").

5.3.6 Temporary Supplies

Temporary Supplies and their removal at project closure may be subject to an ACS fee if undertaken by the DNSP.

5.3.7 DNSP Scope of Works (Unregulated)

The provision of an unregulated service (that is, not ACS or SCS) and not subject to economic regulation by the AER.

5.4 Large Customer Works

In addition to the costs for ACS and SCS (including capital contributions), a Large Customer will also be responsible for the costs of any Works that it carries out for itself on the Large Customer's side of the Connection Point.

5.5 Contestability of Works

The AER has recognised that the services of design and construction of assets that are dedicated to one or more Large Customer Connection Applicants (that is, Works in respect of Connection Assets that are classified as ACS) may potentially be contestable (subject to other relevant considerations, including a risk assessment of the proposed activities by the DNSP). The classification of a service as ACS does not of itself mean that a service is in fact contestable. The DNSP is subject to a range of statutory and regulatory obligations that are intended to ensure the safe, efficient, and stable operation of the Distribution System so that it is capable of delivering Connection services to all network users, and as such, the DNSP will not accept a level of risk higher than would exist if the DNSP had undertaken the relevant services. Asset categories and their construction options are detailed in STNW3522 Standard for Large Customer Connections.

5.5.1 Works Activities in the Application and Offer

Where relevant activities are determined to be contestable, and the Connection Applicant wishes to undertake those activities, this must be expressly identified in the Connection Application. The NCEC must clearly identify and detail the Works to be performed by each party (including the responsibility and coordination of the party's respective activities).

5.5.2 Large Customer's request to gift or transfer assets

If it is determined that the Works are contestable, the Large Customer (or subcontractor on their behalf) must ensure that the Connection Assets are designed and constructed to meet the relevant standards and technical requirements, as well as any other applicable requirements.

The Connection Applicant may also seek to transfer those assets to the DNSP, and for the DNSP to have ongoing responsibility (including the operation and maintenance) of those assets. For the DNSP to accept such a transfer, certain preconditions would need to be satisfied (including that the assets are compatible with the Distribution Network, constructed using suitable contractors, and appropriate manufacturers and suppliers, and warranties provided).

A request by the Large Customer to transfer Connection Assets to the DNSP must be made as part of the Connection Application and agreed to upfront. The DNSP will not accept ownership and responsibility for assets designed and constructed by the Large Customer unless it is part of the Connection Offer terms and conditions.

5.6 Transmission Network and Market Operator Activities

A Large Customer Connection may also impact on the Transmission Network and the NEM which AEMO manages. Where Powerlink or AEMO need to assess the impact of the Connection (for example, with respect to the Transmission Network, *system strength* or applicable *access standards*) or carry out relevant Works or activities to enable the Connection, the Large Customer will be responsible for reimbursing the DNSP for any costs charged by Powerlink and AEMO.

5.7 Subsequent sharing of Connection Assets – Pioneer Scheme

If a dedicated network Extension asset ceases within seven years after its installation and energisation to be dedicated to the exclusive use of the customer occupying the premises, the Large Customer may be entitled to a partial refund under the DNSP pioneer scheme. More details, including the relevant calculations for a refund, can be found in the DNSP's Connection Policy.

6 Security Requirements

6.1 Background

As subsidiaries of a Queensland Government-owned corporation, the DNSP has a responsibility to employ sound financial practices with regard to the financial risks that can arise in relation to the carrying out of Works to enable Large Customers to connect to the Distribution Network, and the provision of Ongoing Services.

To minimise such risk, the DNSP may request financial security (referred to as collateral) from Large Customers to manage this financial risk.

Please refer to the Security Requirements fact sheet for further information.

7 Establishing Connection Assets

7.1 Construction Options for Connection Assets

Broadly, there are two options for the construction and ownership of Connection Assets for a Large Customer Connection, namely:

- a) Design, Construct, Transfer (DCT):

- i. the Large Customer designs and constructs the Transferable Connection Assets at its expense, and then transfers those assets to the DNSP to own and operate;
 - ii. from the time of transfer, the DNSP will be responsible for the ongoing maintenance and operation of the Transferable Connection Assets, which are then Connection Assets (any non-transferred assets remain the responsibility of the Large Customer);
 - iii. before the DNSP will accept the Transferable Connection Assets, certain pre-conditions must be satisfied as described in the NCEC; and
 - iv. there may still be services carried out by the DNSP under this arrangement to facilitate the Connection, some of which may be classified as ACS and the costs of which are recoverable upfront from the Large Customer.
 - v. DCT will only be permissible to Connection Assets.
- b) DNSP Build, Own, Operate (DNSP BOO):
- i. the DNSP designs, constructs, owns and operates the Connection Assets, with the Large Customer paying upfront charges for any services classified as ACS;
 - ii. the Connection Assets are part of the Distribution System and will be used by the DNSP to provide Ongoing Services to the Large Customer (NB the Large Customer does not have any proprietary interest in the Connection Assets and they could be used to provide Ongoing Services to other Distribution Network Users in the future); and
 - iii. indicative construction timeframes are shown in Appendix 1 (please note that these are estimates only and may not reflect the actual timeframes).

Potential Connection topologies and arrangements can be found in the STNW3522 Standard for Large Customer Connections, which may be found on our Large Customer Connections “Standards, Manuals & Fact Sheet” landing page on our website ([Ergon Energy](#) | [Energex](#)).

7.2 Due Diligence for Transferable Connection Assets

Before the DNSP accepts the Transferable Connection Assets in accordance with the terms set out in the NCEC, the DNSP will carry out a due diligence process to confirm that the various aspects of the Transferable Connection Assets meet the relevant requirements, including:

- a) the Large Customer has provided all things necessary for the DNSP to operate and maintain the Transferable Connection Assets as part of the Distribution System;
- b) underlying tenure for such assets and sufficient access rights to the Transferable Connection Assets;
- c) environmental, cultural heritage or social issues;
- d) correct labelling of equipment;
- e) all required documentation, including drawings, as defined in the STNW3522 Standard for Large Customer Connections or referred to in the NCEC; and
- f) compliance with relevant legislative and contractual requirements.

All associated design manuals and test certificates for the Transferable Connection Assets must be provided to the DNSP prior to commissioning of the Connection Point.

7.3 Warranties and Defects

Under the NCEC, the DNSP may require security from the Large Customer to cover the estimated costs of rectifying any Defect. The amount of the required security and length of time it must be maintained will be determined based on the circumstances and the nature of the Transferable Connection Assets.

The Large Customer will also be liable for any Defects identified during the Defects rectification period, the details of which will be set out in the NCEC.

8 Metering

Large Customers are required to ensure that their facility complies with metering requirements under Chapter 7 of the NER and should discuss these requirements with their Retailer/financial responsible Market Participant (FRMP).

Note that a Connection Point will not be energised until a FRMP has been nominated and all necessary documentation has been provided to enable the Ongoing Services to commence.

Metering infrastructure broadly comprises two sets of components, being:

- a) the instrument transformers (i.e. CTs and VTs); and
- b) the metering installations themselves which are housed alongside those instrument transformers (which must be allocated a NMI by the DNSP).

A summary of the relevant metering requirements is set out below. Note that Embedded Networks shall also comply with metering as per the QECM (Queensland Electricity Connection Manual). Further information on metering requirements is available in the QECM (a copy of it can be found on the DNSP's website) and the National Metering Installation Requirements (a copy of it can be found on the Master Electricians website).

- a) Typically, Large Customer Connections require Type 1-4 metering installations. The provision of such metering installations is contestable and, accordingly, is a commercial arrangement with the Metering Coordinator selected by the Large Customer or their Retailer.
- b) The FRMP is ultimately responsible: Under Chapter 7 of the NER, the FRMP (usually the Retailer, or may be a *Market Customer* or *Market Generator*) has to be responsible for the Connection Point before the transfers of electricity at that Connection Point can be included in the NEM (that is, be a market Connection Point). The FRMP has the ultimate responsibility for ensuring that the Connection Point has:
 - i. a NMI
 - ii. a Metering Coordinator
 - iii. a metering installation which is registered with AEMO.
- a) The Metering Coordinator is responsible for the provision, installation and maintenance of a metering installation (and may appoint one or more Metering Providers and Metering Data Providers for these purposes). A Metering Provider is responsible for providing, installing and maintaining relevant metering installations and a Metering Data Provider is responsible for data services including collection (reading) and processing of metering data.
- b) In some instances where long project lead times are involved, a Large Customer may not have selected a Retailer to act as the FRMP at the time of making the Connection

Large Customer Connection Manual



Application. Where a Retailer is yet to be selected, the Large Customer should appoint the Metering Coordinator.

- c) Note that a Connection Point cannot be energised until a FRMP has been nominated and has provided all necessary documentation to enable supply to commence.

Please refer to the Metering Installation Design fact sheet ([Ergon Energy](#) | [Energex](#)) for further information.

9 Tenure Requirements

9.1 General

Various forms of tenure can apply to the acquisition of rights in land for constructing, operating and maintaining electrical infrastructure, such as:

- a) easements (which can be used in conjunction with a variety of existing tenure rights);
- b) licence agreements or wayleave agreements;
- c) agreements relating to non-freehold land under various legislation (such as the Land Act 1994 (Qld) and *Nature Conservation Act* 1992 (Qld)), which land can include, among other things, State Forests, National Parks, Unallocated State Land, Road Reserves and railway land; and
- d) freehold land.

Please refer to our Tenure Requirements fact sheet for further information.

10 Dispute Resolution

Where a Large Customer has a disagreement or dispute with the DNSP that is unable to be efficiently resolved at the Project Sponsor level, please refer to our Management of Disputes fact sheet ([Ergon Energy](#) | [Energex](#)) for further information.



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energex.com.au

PO Box 1090, Townsville QLD 4810
GPO Box 1461, Brisbane QLD 4001

Ergon Energy Network
ABN 50 087 646 062

Energex is the trading name of
Energex Limited
ABN 40 078 849 055