



Part of Energy Queensland

# Developers Handbook

## Developer Design and Construct Work

# Developers Handbook – Developer Design and Construct Work



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# Developers Handbook – Developer Design and Construct Work

## 1. PURPOSE AND SCOPE

The purpose of this document is to provide information for Developers about the Developer Design & Construct (DD&C) process for eligible Underground Distribution Construction (UDC) Projects.

The document outlines the types of Projects that can be undertaken by Developers using this process, the processes required to successfully complete such a Project, the respective accountabilities of the Developer and Ergon Energy, and the applicable fees and charges.

Developers may currently undertake the design and construction of underground Electrical Reticulation and any associated Street Lighting for the following Development categories using Approved Suppliers (there is no requirement to use Approved Suppliers for the civil component of the works):

- Urban Residential subdivisions.
- Rural Residential subdivisions.
- Commercial & Industrial subdivisions.
- Commercial developments within a residential subdivision; and
- Street Lighting.

Developments that are **not currently eligible** to be completed via the DD&C process include:

- multiple occupancy unit developments, including high rise.
- single customer connections.
- gated communities, private subdivisions or similar; and
- retirement villages and similar arrangements.

## 2. DEFINITIONS, ABBREVIATIONS AND ACRONYMS

See Appendix A.

## 3. REFERENCES

All reference documents are available in the Developers' Toolkit page on Ergon Energy's website ([www.ergon.com.au](http://www.ergon.com.au)).

A summary of the core reference documents is in Appendix B.

## 4. DESCRIPTION OF ELIGIBLE DD&C DEVELOPMENTS

### 4.1. RESIDENTIAL SUBDIVISIONS

#### 4.1.1 General information

Residential subdivision categories are based on the density in lots per hectare (that is, the gross area of each allotment) and the frontage. When assessing the density:

- areas for parklands and roads are included in the total area; and
- areas that are specifically allocated to other uses (such as school sites or commercial development, etc.), are excluded from the total area.

There are two categories of residential subdivisions, being Urban Residential and Rural Residential.

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Urban Residential subdivisions have an average lot size smaller than 2,000 m<sup>2</sup>. Specifically, under Ergon Energy's Policy for Electrical Reticulation, Urban Residential subdivisions are generally characterized as having a minimum of two lots, with lot sizes of more than five lots per hectare (i.e., average lot size less than 2,000 m<sup>2</sup>).

Rural Residential subdivisions have an average lot size greater than 2,000 m<sup>2</sup> each.

Ergon Energy recognises that Developers of subdivisions with average lot sizes larger than 2,000 m<sup>2</sup> may wish, or may be directed by the relevant local government, to install underground Electrical Reticulation.

## 4.1.2 Electricity supply requirements

As a minimum, Ergon Energy requires a single-phase 240 Volt supply to be provided to each residential lot.

The minimum designed ADMD allowance per lot of an Urban Residential subdivision, stage, or part thereof, is:

- 5 kVA per lot in all areas approximately to the north and to the west of the Mackay area, including the Mackay, Sarina, and Moranbah areas; and
- 4 kVA per lot in all areas approximately to the south and to the west of the Mackay area,

except where otherwise detailed in the design parameters advice given to the Designer by Ergon Energy.

Where the Developer can provide evidence supporting a reduction in the designed ADMD allowance, this will be referred to Ergon Energy's Asset Manager for consideration and approval. The determination of an ADMD allowance higher than the standard allowance per lot for an area is at the discretion of Ergon Energy's Asset Manager.

## 4.2. COMMERCIAL AND INDUSTRIAL SUBDIVISIONS

### 4.2.1 General information

Commercial & Industrial subdivisions are characterised as having a minimum of two lots and are generally required by the local government to be provided with underground Electrical Reticulation.

### 4.2.2 Electricity supply requirements

As a minimum, Ergon Energy requires provision for a 3 phase 30 kVA supply to each Commercial & Industrial lot, unless otherwise notified and agreed.

## 4.3. COMMERCIAL INSTALLATIONS WITHIN A SUBDIVISION

### 4.3.1 General information

Where shopping centres, multi-unit developments, child-minding centres, schools, parks etc. are included within a Development, the Developer will need to provide sufficient information about the electricity requirements for the proposed commercial installation to ensure that the design for current and future stages of Electrical Work (both within the Electrical Reticulation and on the Distribution Network) will be able to supply these loads.

Note that a separate Connection Application will also be required for each separate commercial installation within the subdivision, as individual Negotiated Connection Establishment Contracts will be required for these installations.

### 4.3.2 Electricity Supply to Commercial Developments within Urban Residential Developments

Shopping centres, multi-unit developments, child minding centres, schools, parks etc. within the Development will require:

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- separate negotiations to determine connection conditions on an individual basis to allow for the proposed electrical loading; and
- the Developer to provide sufficient information on electricity requirements for the proposed commercial development to allow design works in current and future stages to ensure that the Distribution Network will have the capacity to supply these loads.

## 4.4. STREET LIGHTING

These are lighting Projects generally required by the local government or the Department of Transport and Main Roads (DTMR).

The Electrical Reticulation design must include Street Lighting that is compliant with AS/NZS 1158. The local government or DTMR (as relevant) must agree to the number and

types of Street Lights to be installed and accept accountability for the on-going maintenance and energy costs for the Street Lights.

In addition, the following conditions will apply:

- the Developer will be responsible for obtaining the approval of the local government/DTMR (as relevant) for the lighting arrangement.
- where the local government/DTMR decides to reduce the number of Street Lights beyond that provided for in AS/NZS 1158, a specific indemnity will be required from that authority.
- where nostalgia lighting is required in lieu of standard Street Lights, additional charges will apply; and
- where the local government/DTMR approves the installation of non-standard light fittings, the Street Light electricity supply will need be metered in accordance with the Queensland Electricity Connection and Metering Manual (**QECMM**). Ergon Energy will accept ownership of non-standard Street Light installations on the basis that any later replacement will be done using standard materials.

Where the local government/DTMR requires Street Lighting that does not meet the AS/NZS 1158 standard, such as a reduced number of lights, that local government/DTMR will need to enter into a non-standard Street Lighting indemnity deed.

## 5. DEVELOPER DESIGN & CONSTRUCT PROCESS

### 5.1. OUTLINE OF THE PROCESS – KEY STEPS

This section describes the key steps required to establish a network connection for a DD&C Project subject to a Negotiated Connection Establishment Contract (**NCEC**) with Ergon Energy.

#### 5.1.1 Connection Enquiry Email

Developers will first need to forward a Connection Enquiry email to [CCG.Contestable@ergon.com.au](mailto:CCG.Contestable@ergon.com.au). This will initiate communications with Ergon Energy concerning the Project.

The email should set out :

- The name and contact details for the Consultant
- Street address and lot on plan of the development
- Name of the development (and stage number if applicable)
- Developers' contact details
- The size and type of development
- Whether a design concept/master planning meeting is being requested

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- Any request for Ergon Energy Network Mapping, internal or operational schematics, spare switches within Transformers or Ring Main Units
- Any request for non-standard alignments or standards clarifications
- Any request for Network Planning input, HV or LV Tie requirements
- Any other information you require to complete a compliant RPEQ approved design for application

You should ensure the following are attached to the email:

- Any concept or masterplans
- Council Decision Notice and/or approvals (if you have these already)
- A lot layout CAD file

Information requirements for the lot layout are set out below:

- Electronic file format.
- AutoCAD drawings (dwg format preferred).
- Maximum of 5 MB; and
- 2D drawings and drawings without cross-references are preferred. Drawings must show the following:
  - Boundaries – for both the new lots and also for at least one surrounding lot (to be used as a reference marker to place the new boundaries).
  - Lot numbers – for both the new lots and also for at least one surrounding lot (to be used as a reference marker).
  - Road boundaries and road names; and
  - Easement boundaries (if applicable).

Upon receiving the Connection Enquiry, Ergon Energy will advise the Developer of the fees and charges relevant to the Connection Enquiry stage.

## 5.1.2 Issue of Works Request upon receipt of Connection Enquiry

After receiving the Connection Enquiry, Ergon Energy will issue a Works Request number to the Developer/Designer. The Developer should reference the Works Request number of the Development on all future communications with Ergon Energy.

## 5.1.3 Provision of information requested at Connection Enquiry

Ergon Energy will provide information requested by the consultant for the works, taking into account the preliminary information supplied by the Designer, to enable the Designer to complete the detailed design works for the Project in a manner that is compatible with Ergon Energy's connection and planning requirements.

If a Development has multiple (two or more) stages, a Master Plan will be required for the entire Development, showing the lots and proposed transformer locations, to ensure that appropriate design parameters can be provided for the efficient design of the entire Development.

Should Ergon Energy require a formal planning study, then a quote for Ergon Energy to do this will be provided to the Developer.

## 5.1.4 Connection Application

Developers must do the following in order to lodge a Connection Application:

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- submit a completed “Network Connection Services Subdivision/Street Lighting Application Form PW000101F100”, which can be obtained via email from [CCG.Contestable@ergon.com.au](mailto:CCG.Contestable@ergon.com.au)
- upon receipt of a tax invoice, lodge the Connection Application fee and any other notified charges.
- submit a complete design package of the proposed Development layout in the prescribed electronic format.
- provide a compliant electronic copy of the proposed subdivision Electrical Reticulation/Street Lighting plan and other plans detailing other services (i.e., sewerage, water, storm water, telecommunications, and gas).
- provide a copy of the local government's conditions for the relevant development approval.
- nominate the proposed authorised contractors from Ergon Energy's Approved Suppliers' Register; and

## Notes:

- Local government-approved Electrical Reticulation and Street Lighting plans must be provided at the Connection Application stage. If there are any changes to these plans, the re-approved plans must be provided before the Certificate of Completion – Electrical Works can be issued.
- The technical compliance of the design in respect of the civil, electrical and Street Lighting components must be approved and signed by an appropriately qualified RPEQ. Any changes to the design after the initial validation must be authorized by an appropriately qualified RPEQ. Where third party approval information (e.g., local government approval) is not available when the design is submitted, written confirmation will be required that the information will be available before (or when) the Certificate of Completion – Electrical Works is to be issued.

### 5.1.5 Connection Offer and Negotiated Connection Establishment Contract

Ergon Energy will prepare a Connection Offer in the form of a Negotiated Connection Establishment Contract (NCEC) that complies with the requirements of the National Electricity Rules (NER). Under the NER, Ergon Energy must generally provide this Connection Offer within 65 business days of receiving the complete and compliant Connection Application.

The Negotiated Connection Establishment Contract will include all of the relevant connection requirements, including required payments and relevant milestone dates.

The Developer may accept the Connection Offer and enter into the Negotiated Connection Establishment Contract by returning the signed copies of the relevant documents, paying any relevant fees, and satisfying all other requirements set out in the contract by the due date.

Under the NER, the Developer has 20 business days to accept the Connection Offer, unless otherwise agreed in writing with Ergon Energy. If the Connection Offer is not accepted within the relevant timeframe, it will automatically lapse and will no longer be able to be accepted.

Should the Developer wish to recommence the Project at a later date, it will need to lodge a new Connection Application and submit the required Connection Application fee.

Ergon Energy will have the right to negotiate a replacement NCEC or terminate the NCEC in certain circumstances, such as when:

- where the Developer's failure to comply with the NCEC has led to the works not being started or finished within the relevant timeframes set out in Clause 7 of the NCEC;
- if any authorisations or land interests required to carry out the works are not obtained by the relevant deadline dates; and
- if a site inspection or the detailed design of the works leads Ergon Energy to determine that the original scope of works needs to be varied.

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## 5.1.6 Construction works

Site construction works for the Development may only commence following the mandatory pre-start meeting and confirmation that design plans have been reviewed, and confirmed as appropriate, by Ergon Energy. Any site construction works that are carried out before this are in breach of the NCEC and are done at the Developer's risk.

The Developer is required to ensure that Ergon Energy has an opportunity to inspect site underground conduits and electrical apparatus prior to such infrastructure being buried or otherwise hidden from view.

Ergon Energy may also undertake random audits at any time during the construction phase, without notice to the relevant contractor or Developer, to assess compliance with specifications and the progress of works against nominated milestones. The Developer must ensure that its works are performed to the required standards and timeframes.

Before the Certificate of Completion – Electrical Works (indicating completion of the construction phase of the DD&C Works) can be issued, the Electrical Contractor must complete all relevant pre-commissioning testing of the DD&C Works in accordance with Ergon Energy's RSC10 UDC Electrical Testing Specification.

Once testing has been completed, and the required results achieved, the Electrical Contractor must give Ergon Energy the applicable certificates and associated documents, which must certify that the DD&C Works have been constructed in accordance with Ergon Energy's standards and specifications.

Ergon Energy will undertake a final audit after the construction component of the DD&C Works is finished. The Developer will be required to rectify any defects identified during this final audit before a Certificate of Acceptance can be issued.

## 5.1.7 Certificate of Acceptance

Upon issue of the Certificate of Completion – Electrical Works, all Electrical Reticulation is treated as "energized". This means that neither the Developer, nor its Contractors, are allowed to carry out any further works on the Project without the express permission of, or under the direction of, Ergon Energy.

Once Ergon Energy is happy that the DD&C Works are compliant with the NCEC (including the requirements of the RSC08 UDC Electrical Works Specification), Ergon Energy will issue the Certificate of Acceptance.

## 5.1.8 Final connection

The Developer's Representative must, in accordance with the RSC08 UDC Electrical Works Specification, notify Ergon Energy of expected completion dates in advance of the completion of the DD&C Works. This will allow Ergon Energy to schedule the final testing and commissioning works to ensure the timely connection of the Development.

## 5.2. DEVELOPER RESPONSIBILITIES

### 5.2.1 Design Consultants and Electrical Contractors

The Developer is responsible for directly engaging qualified consultants and contractors for the design and construction components of the DD&C Works. The Developer must choose Designers and Contractors from Ergon Energy's Approved Suppliers Register (**ASR**), which is located on Ergon Energy's website ([www.ergon.com.au](http://www.ergon.com.au)).

### 5.2.2 Civil Works Contractors

The Developer must engage suitably qualified and experienced civil works contractors to carry out the necessary civil works for the subsequent electrical installation and must ensure that all such works are completed in accordance with Ergon Energy's RSC07-Civil works Specification. There are no ACR requirements for civil works contractors.

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## 5.2.3 Consultation

The Developer must comply with all consultation requirements under relevant work health and safety laws, including the *Work Health and Safety Act 2011* (Qld).

## 5.2.4 Materials

All materials and equipment purchased and used for construction and maintenance of electricity distribution infrastructure is required (as a minimum) to be complying with Form PW000400R100 Approved Products List, which is available from the Ergon Energy website ([www.ergon.com.au](http://www.ergon.com.au)).

## 5.2.5 Local government conditions

The Developer must give Ergon Energy details of any specific conditions or requirements that the local government may have for the Development. (e.g., the conditions of the development approval.)

## 5.2.6 Contractual arrangements

The Developer must enter into a NCEC with Ergon Energy before undertaking any DD&C Works.

## 5.2.7 Pre-start meeting

The Developer must attend a “pre-start meeting” in accordance with the NCEC and the UDC specifications before the construction stage of the DD&C Works can start.

## 5.2.8 Management of construction timeframes

The Developer’s Representative is responsible for monitoring the progress and timing of the Development to meet the milestone dates set out in the NCEC. Any delays in meeting the expected milestone dates must be communicated directly to Ergon Energy’s nominated Liaison Person. Ergon Energy will be undertaking its works to meet the relevant milestone dates in the NCEC.

## 5.2.9 Easements

While a Developer may facilitate the procurement of any required easements, the actual Registered Landowner of the land is required to consent to, and grant, the easement to Ergon Energy at no cost to Ergon Energy. All costs incurred in effecting the registration of such easement(s) (including survey, engrossment, perusal by or on behalf of Ergon Energy, stamp duty, lodgement fees, etc.) will be the responsibility of the Registered Landowner, or the Developer acting on their behalf.

The Registered Landowner or their agent (e.g., the Developer) is responsible for obtaining a survey of the easement location and preparation of the survey plan to meet the Standard Easement Conditions. This survey plan must be supplied to Ergon Energy to be checked for compliance with requirements.

Once accepted, the Registered Landowner/Developer may arrange for the preparation of the easement documents, subject to the Standard Easement Conditions, which can be forwarded to the Senior Property Administration Officer for execution by Ergon Energy.

Ergon Energy will not issue a Certificate of Acceptance – Electrical Works or connect the Electrical Reticulation to the Distribution Network until all required easement documentation has been received.

## 5.2.10 Authorisations

The Developer must ensure that the land is free from any encumbrances, including in relation to cultural, environmental and world heritage issues, and, if necessary, obtain the appropriate authorisations to undertake work on the land. The Developer must provide documentation to Ergon Energy of any specific conditions or requirements that any government authority may have imposed on the Development, before the Negotiated Connection Establishment Contract is entered into, so the appropriate design parameters can be determined.

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## 5.2.11 Pre-commissioning testing

Once the DD&C Works have been constructed, the Electrical Contractor must undertake the pre-commissioning electrical testing of the underground Electrical Works in accordance with Ergon Energy's RSC10 UDC Electrical Testing Specifications.

Once testing has been completed, and the required results achieved, the Electrical Contractor must give Ergon Energy the applicable certificates and associated documents, which must certify that the works are constructed to Ergon Energy's standards and specifications.

## 5.2.12 Connection Applications for electricity supply to individual lots within the Development

It is the responsibility of the Developer (or their Representative) to advise the purchasers of individual lots of the date on which electricity supply will be available to the Development. Individual electricity customers within the Development will each be required to lodge an application for electricity supply, as required by the customer's electricity retailer, before final connection to each individual lot is arranged.

For Commercial & Industrial subdivisions where individual customers within the Development require capacity in excess of the design ADMD for each allotment, those customers will need to make a separate Connection Application to Ergon Energy for their specific requirements.

## 5.3. ERGON ENERGY RESPONSIBILITIES

Ergon Energy is responsible for providing the relevant connection services to the Development, as referred to below.

### 5.3.1 Design and construction

Ergon Energy will, unless otherwise specifically agreed, carry out any Augmentation Works to augment the existing Distribution Network or Extension Works to extend the existing Distribution Network to the boundary of the Development, where this is required to support the connection.

### 5.3.2 Connection of High Voltage Electrical Works

Ergon Energy will carry out all works required to connect any HV installations within the Electrical Reticulation within the Development to the Distribution Network.

### 5.3.3 Final connections of LV Electrical Works

Except where otherwise agreed, Ergon Energy will carry out the final connection of the Low Voltage Electrical Works to the Distribution Network.

### 5.3.4 Audits

Ergon Energy undertakes compliance checks and audits of DD&C Works.

Ergon Energy will carry out the final audit on completion of the DD&C Works. Where the construction work delivered by the Electrical Contractor does not comply with the required standards and specifications, Ergon Energy will issue a notice providing details of the non-compliance and the required corrective actions.

Construction audit non-compliances will be monitored for seriousness and frequency and reported to the administrator of the Approved Suppliers Register for review of contractor performance. The compliance checking cycle will continue until compliance is achieved. The costs of undertaking non-compliance re-audits will be invoiced to the Developer.

### 5.3.5 Commissioning

Ergon Energy will carry out the final testing and commissioning of the Electrical Works.

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## 5.3.6 Part Energisation of Projects

Under extenuating circumstances Ergon Energy may, approve a request for the part energisation of a Project. Ergon Energy will detail, in writing, conditions applicable for the safe operation and completion of works. The Developer must acknowledge, in writing, acceptance and understanding of the conditions. Charges may apply for performing this service.

## 5.3.7 Certificate of Electricity Supply

Ergon Energy will provide a Certificate of Electricity Supply to the local government where a signed Negotiated Connection Establishment Contract is in place and any of the following are met:

- the Developer gives Ergon Energy a Performance Security to guarantee completion of the DD&C Works.
- Ergon Energy is carrying out the relevant Electrical Reticulation Works; or
- where the Electrical Reticulation Works are completed.

## 6. COMMERCIAL TERMS AND CONDITIONS

### 6.1. CONNECTION POLICY

Ergon Energy's Connection Policy includes specific requirements for real estate Developments. The policy requires Developers to fully fund any Network Connection Works, which are classified as Alternative Control Services. The Connection Policy is approved by the Australian Energy Regulator (AER) and is available on Ergon Energy's website ([www.ergon.com.au](http://www.ergon.com.au)).

#### 6.1.1 Cost of works inside the Development

The Developer is responsible for **all of the costs** of the Electrical Works required within the Development, including design, civil works, tree clearing, landscape reinstatement, etc. This includes the cost of designing and constructing Street Lighting to local government and/or Department of Transport and Main Roads requirements (as relevant).

#### 6.1.2 Cost of works outside the Development

The Developer must pay for all of the Network Connection Works. In some circumstances where a Network Extension is required to bring the Distribution Network to the boundary of the Development, the parties may agree that the Developer carry out the works for that Network Extension in compliance with Ergon Energy's requirements.

Ergon Energy will undertake all overhead construction work for the Project.

#### 6.1.3 Network Extensions

Where the existing Distribution Network does not reach the Development or the point on the Development where the connection to the Distribution Network is required, the Distribution Network will need to be extended. The Developer funds all work to extend the Distribution Network to the Connection Point, including tree clearing, easement costs, fees imposed by third parties, etc.

In addition, the Developer funds all work to establish the Connection Point.

#### 6.1.4 Augmentation Works

In some cases, the new load imposed by the Development may reduce the capability of the Distribution Network to meet the needs of existing customers or may trigger additional requirements on the Distribution Network.

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The cost of all Augmentation Works required to ensure that the Distribution Network is capable of meeting both existing customer needs and the needs of the new Development will be borne by the Developer. These costs will be based on an Ergon Energy Alternative Control Services quotation in accordance with Ergon Energy's Connection Policy and its ACS Price List.

## 6.1.5 Transformer Equalisation Scheme (TES)

No new Transformer Equalisation Schemes will be established. The cost of establishing a transformer in a new Development must be fully funded by the Developer in accordance with the Connection Policy. Where a Transformer Equalisation Scheme has previously been established for that Development, Transformer Equalisation Payments will continue to be applied for any future benefiting stage of the Development.

## 6.1.6 Reimbursement scheme

Ergon Energy will establish a reimbursement scheme in accordance with Ergon Energy's Connection Policy for any Augmentation Works or Network Extensions that are:

- funded by the Developer; and
- physically located outside the boundary of the Development.

## 6.2. FEES AND CHARGES – ALTERNATIVE CONTROL SERVICES

All activities carried out by Ergon Energy that are associated with preparing Connection Offers and providing Network Connection Services for a DD&C Project are classified as Alternative Control Services. The costs for providing these services will be determined in line with Ergon Energy's Connection Policy and ACS Price List, and will be determined on a case-by-case basis for each individual Development, or stage of such Development.

A description of the relevant ACS charges that the Developer may be liable for are described below.

### 6.2.1 Pre-connection services

(a) Provision of site-specific connection information and advice

These services cover the provision of site-specific advice, data and/or information on request for small or major customer connections during the Connection Enquiry and/or Connection Application stage only.

For example:

- advice on Project feasibility.
- advice on whether augmentation is likely to be required.
- capacity information, including specific network capacity.
- load profiles for load flow studies.
- requests to review reports and designs prepared by external consultants before lodging the Connection Application; and
- additional or more detailed specification and design options.

These services exclude information provided in planning reports/studies and Project scopes, as these fall within separate, more specific, service descriptions.

(b) Pre-connection site inspections

These services cover site inspections required to determine the nature of the connection being sought.

(c) Protection and Power Quality Assessment prior to Connection

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These services are provided when Ergon Energy is evaluating the protection design contained in the Connection Application for completeness against the relevant engineering connection standard. It covers power quality studies including in respect of flicker, harmonics, and DC voltage injection.

## (d) Connection Application Fee – real estate development connection

There is a Connection Application fee that covers the services associated with assessing a Connection Application requesting a connection between the Development and the Distribution Network and preparing a NER-compliant Connection Offer. These services may be provided by Ergon Energy or its contractors.

### 6.2.2 Services performed after the Connection Offer

#### (a) Approval of Third-Party Design – real estate developments

These services cover the review, inspection and auditing of design carried out by an alternative service provider prior to energisation.

Note that if submitted designs do not comply with Ergon Energy specifications and are required to be resubmitted, then additional design approval fees may apply.

#### (b) Design and Construction

These services comprise the detailed design work and construction for a real estate Development after a Connection Offer has been made. It includes any work associated with the augmentation of the shared part of the Distribution Network that is directly attributable to the establishment or alteration of the connection of the real estate Development to the Distribution Network.

#### (c) Construction Audit

These services comprise the review, inspection and auditing of construction works carried out by an alternative service provider prior to energisation.

Construction audits for compliance with Ergon Energy materials and Construction Standards will be carried out by Ergon Energy's Representatives in accordance with Ergon Energy's processes and procedures. The number and timing of these audits and the associated costs will depend on the rating of the construction contractor.

Where a construction audit has identified a non-compliance in the materials and/or Construction Standards of the Electrical Works, a construction re-audit fee will apply for each and every occasion on which the work is re-audited by the Representative, until compliance is achieved.

**Note:** Fees for re-auditing non-compliant works and any other costs outlined in the Connection Policy and ACS Price List that are incurred by Ergon Energy that could not be determined prior to the establishment of the Network Connection Establishment Contract will be invoiced to the Developer at the time they are incurred. The Certificate of Acceptance will not be issued until all outstanding invoices have been paid.

#### (d) Commissioning and Energisation Charges These services include:

- the inspection and testing prior to physical connection to the Distribution Network.
- the physical connection and energisation of electrical equipment to allow the conveyance of electricity.
- administration services involved in reconciling the financials of a connection Project and processing and finalizing network information and contracts in relation to a connection; and
- generation support (if required) to supply energised customers while equipment is de-energised to allow testing and commissioning.

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## (e) Approval of third-party materials

These services involve the certification of non-approved materials (i.e., approval of non-approved materials to be used on Ergon Energy's Distribution Network)

### 6.2.3 Other payments

#### (a) Transformer Equalisation Payment

Where a Transformer Equalisation Scheme has been established for a previous Development stage, a Transformer Equalisation Payment will be applied to future connections that utilise the available capacity of the transformer. Any applicable TEP costs will be included in the Negotiated Connection Establishment Contract.

#### (b) Reimbursement Scheme Contribution

Where a reimbursement scheme has previously been established for a section of the Distribution Network that will be used to connect the new Development, a Reimbursement Scheme Contribution may be required. These payments are reimbursed to the parties that funded the existing assets.

## 6.3. PAYMENT TERMS

This section outlines the terms, conditions of payments and provision of securities made between the Developer and Ergon Energy.

### 6.3.1 Payments to Ergon Energy

The Developer will make payments to Ergon Energy as per the Negotiated Connection Establishment Contract and any agreed additional costs as outlined in this document, the Connection Policy, or the ACS Price List.

Tax invoices will be issued for the required amounts.

There are two payment options for costs payable on acceptance of the Negotiated Connection Establishment Contract, as set out below.

#### (a) 100% upfront payment

The Developer may pay the full costs on acceptance of the Negotiated Connection Establishment Contract.

The Developer may provide Ergon Energy with an unconditional, irrevocable bank guarantee as an alternative to the up-front cash payment. While the initial receipt of the guarantee will place the works for the Project in Ergon Energy's works schedule, the bank guarantee will be drawn on if the monies are not received by the agreed due date prior to commencement of Ergon Energy works.

#### (b) 40% - 60% split payment

A minimum payment threshold will apply for eligibility of this arrangement, as outlined in the Connection Policy. It involves:

- initial payment of 40% of the total price, which is payable upon acceptance, as set out in the Negotiated Connection Establishment Contract; and
- a second instalment payment of 60% of the total price, which is due not less than six weeks before Ergon Energy starts the construction component of the Network Connection Works.

Ergon Energy will provide a tax Invoice for payment by the due date to ensure that the commissioning program is not jeopardized (as this could result in delays to the delivery of the Network Connection Works).

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## 6.3.2 Performance Securities

Where a Performance Security is requested, Ergon Energy will determine the value of the Performance Security required. A Certificate of Electricity Supply will then be issued as set out in section 6.3.6 of this Handbook.

If the Developer commences and undertakes works covered by a Negotiated Connection Establishment Contract, and then decides at a later time that they require a Certificate of Electricity Supply, Ergon Energy may decide (at its absolute discretion) to either:

- (a) not accept a Performance Security from the Developer and not issue a Certificate of Electricity Supply until the completion of the works; or
- (b) accept a Performance Security from the Developer, regardless of the amount of works completed, and issue a Certificate of Electricity Supply. In this circumstance, a new Negotiated Connection Establishment Contract may be required, and additional fees may apply.

Where Ergon Energy has issued a Certificate of Electricity Supply and the Developer fails to complete the DD&C Works in accordance with the Negotiated Connection Establishment Contract, Ergon Energy may call upon the Performance Security in order to complete the works and comply with the Certificate of Electricity Supply.

The balance of any Performance Security held by Ergon Energy will be returned to the Developer within 20 business days of the Certificate of Acceptance being issued.

## 6.3.3 Defects rectification

A 24-month defects rectification period will apply to all works undertaken by the Developer and gifted to Ergon Energy.

The Developer has an obligation under the Negotiated Connection Establishment Contract to reimburse Ergon Energy for any cost incurred for the rectification of any defects identified during the defect's rectification period.

## 6.3.4 Rolling Performance Security

To be eligible to use the Rolling Performance Security option, a Developer must be dealing with large Developments consisting of multiple stages of work.

The agreement to implement a rolling performance security arrangement will be entirely at Ergon Energy's discretion.

# 7. GENERAL REQUIREMENTS

## 7.1. APPROVED SUPPLIER REGISTER (ASR) CONTRACTOR RATING

Developers can choose a single contractor or multiple contractors to facilitate and/or carry out some or all of the following functions:

- design; and
- electrical construction.

Note that without exception, any Designer or Electrical Contractor selected by the Developer to complete work must be on Ergon Energy's ASR. This includes all sub-contractors.

Details of Ergon Energy's Approved Suppliers are available on the Developers' Toolkit page of Ergon Energy's website ([www.ergon.com.au](http://www.ergon.com.au)).

Please note that the Developer may nominate a contractor not on the ASR, but the nominated contractor must undergo the process of obtaining Ergon Energy approval and ASR registration before they can commence work.

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The selected contractor/s must hold and maintain a Rating A, B or C on the Ergon Energy ASR for one or more of the functions of design and construction (as relevant).

All sub-contractors must also be registered on the Ergon Energy ASR. If a contractor wishes to use a sub-contractor who does not have a rating, the sub-contractor will be required to apply to the administrators of the ASR for a rating. Once a contractor or sub-contractor has obtained a rating, the responsibility for maintaining their rating will rest with the contractor or sub-contractor (as applicable). This will entail compliance with all of the requirements of the ASR, which includes, but is not limited to, ensuring the currency of certificates, and maintaining workplace health and safety and environmental protection conditions and demonstrating competency to complete the works to the required standards.

An Alternative Control Service quoted fee will apply for assessment of contractors applying for membership of the ASR.

For any Approved Supplier Register enquiries, please complete the ASR Enquiry form on Ergon Energy's website ([www.ergon.com.au](http://www.ergon.com.au)) and e-mail it to [ddcworks@ergon.com.au](mailto:ddcworks@ergon.com.au), or contact Ergon Energy on 13 74 66.

## 7.2. CIVIL WORKS

The Developer will be required to engage and supervise contractors to provide civil works for the installation of cable ducts, substations, lighting, and pillar foundations in accordance with the Ergon Energy Underground Construction Manual and specifications. This may require the Developer to install additional electrical ducts or conduits to facilitate the installation of cables and pillars for future development.

Where the civil works are found to be defective or deficient in any way that may compromise the integrity of the subsequent electrical works installation and do not comply with the Specification, Ergon Energy will not issue the Certificate of Acceptance for the electrical works until all defects are rectified to the satisfaction of Ergon Energy.

Note that Ergon Energy does not maintain an Approved Suppliers Register for civil works contractors, and there is no requirement for the Developer to select civil works contractors from a preferred supplier panel.

## 7.3. ELECTRICAL WORKS

All Electrical Reticulation in new Developments or in new stages of existing Developments must be underground unless agreed otherwise with the local government. The Developer will be required to produce the current agreement in writing with the local government for alternative Electrical Reticulation at the time of the Connection Application.

The Electrical Reticulation within a Development must be designed and installed in accordance with Ergon Energy's design and construction standards.

## 7.4. MATERIALS

All materials and equipment purchased and used for construction and maintenance of electricity distribution infrastructure is required (as a minimum) to be complying with Form PW000400R100 Approved Products List, which is available from the Ergon Energy website ([www.ergon.com.au](http://www.ergon.com.au)).

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## 8. ERGON ENERGY CONTACTS

Contestable Works Manager	<b>Email:</b> - <a href="mailto:ccg.contestable@ergon.com.au">ccg.contestable@ergon.com.au</a> ;
Approved Supplier Register Enquiries	<b>Phone:</b> 13 74 66 <b>Email:</b> <a href="mailto:ddcworks@ergon.com.au">ddcworks@ergon.com.au</a>
Other Enquiries	Customer service network 13 74 66 7.00am - 6.30pm, Mon to Fri  Faults only 13 22 96 24 hours a day, 7 days a week  Life-threatening emergencies only Triple Zero (000) or 13 16 70 24 hours a day, 7 days a week Office of the Customer Advocate PO Box 264 Fortitude Valley QLD 4006 <a href="mailto:customer.advocate@ergon.com.au">customer.advocate@ergon.com.au</a> Ergon Energy website: <a href="http://www.ergon.com.au">www.ergon.com.au</a>

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## 9. APPENDIX A – DEFINITIONS, ABBREVIATIONS AND ACRONYMS

The following list has been provided for clarification of the terminology used by Ergon Energy in this Handbook. Note that where a term used is already defined in the Negotiated Connection Establishment Contract, it has the meaning given to that term in the Negotiated Connection Establishment Contract.

TERM	DEFINITION
ACS	Alternative Control Service
ACS Price List	Ergon Energy's Price List for Alternative Control Services, a copy of which is available on our website ( <a href="http://www.ergon.com.au">www.ergon.com.au</a> );
AER	The Australian Energy Regulator established under section 44AE of the Competition and Consumer Act 2010 (Cth).
ADMD	After Diversity Maximum Demand – as set out in Ergon Energy's Distribution Design Manual.
Alternative Control Service	Has the meaning given to that term in Chapter 10 of the NER.
Approved Suppliers Register (ASR)	The register of contractors that have been assessed, accepted, and rated by Ergon Energy as being suitable to undertake electrical design and construction works associated with DD&C Projects.
Augmentation Works	Works that must be carried out in respect of the existing Distribution Network to facilitate the connection of the Development to the Distribution Network. Essentially, these are works that are on the shared network. Augmentation Works exclude any Network Extension.
Certificate of Acceptance – Electrical Works	A certificate issued by Ergon Energy advising that the work as detailed on the Certificate of Completion – Electrical Works has been inspected and accepted by Ergon Energy.
Certificate of Completion – Electrical Works	A certificate issued to Ergon Energy advising all works undertaken have been completed in accordance with Ergon Energy's requirements.
Certificate of Electricity Supply	A certificate issued by Ergon Energy confirming that electrical supply will be available for use at one or more lots.
Commercial & Industrial	Subdivisions that are not primarily for residential purposes, with a minimum number of two lots and generally directed by the local government to be provided with underground Electrical Reticulation.
Connection Application	The second stage of establishing a new connection or modifying an existing connection, between a Development and Ergon Energy's Distribution Network. At the end of this stage, Ergon Energy will make a Connection Offer to the Developer.
Connection Enquiry	The first stage of establishing a new connection or modifying an existing connection, between a Development and Ergon Energy's Distribution Network. At the end of this stage, the Developer may submit a Connection Application.

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TERM	DEFINITION
Connection Offer	This is an offer to establish a new connection, or modify an existing connection, between a Development and Ergon Energy's Distribution Network. It will typically comprise a Negotiated Connection Establishment Contract for the relevant works.
Connection Policy	The Ergon Energy Connection Policy, a copy of which is available on our website ( <a href="http://www.ergon.com.au">www.ergon.com.au</a> ).
Connection Point	Generally, the point where the Developer's Electrical Reticulation connects to Ergon Energy's Distribution Network (where these assets are separately owned).
Construction Standard	The standard of construction required by Ergon Energy. This is the standard of construction that ensures a quality of supply acceptable to Ergon Energy's customers, continuity of supply and the least long-term cost to Ergon Energy. The Development must be designed and constructed in accordance with Ergon Energy specifications and drawings as applicable to the satisfaction of the Liaison Person. Construction carried out by the Developer's Contractors must meet this standard.
Customer	Applicant for an electricity supply to a premises (this does not include Developers requiring connection of their Development).
Customer Connection Group (CCG)	The Customer Connection Group within Ergon Energy that will facilitate the connection of the Electrical Reticulation to Ergon Energy's Distribution Network. The CCG will be the point of contact for the Developer.
Customer Connection Manager	A person appointed by the CCG to be responsible for managing the Project within Ergon Energy.
Design Standard	Ergon Energy design standard. This is the standard of design that ensures the quality of the Ergon Energy electrical network, continuity of supply and the least long-term cost to Ergon Energy. The design carried out by the external Designer must meet this standard and be checked for compliance by Ergon Energy.
Designer	An entity who is involved in the design of the DD&C Works
Developer	Any entity that enters into an agreement with Ergon Energy for Electrical Reticulation works.
Developer Design & Construct Works (DD&C Works)	All works to be completed by the Developer associated with the establishment of Electrical Reticulation within the development and the connection of that Electrical Reticulation to Ergon Energy's Distribution Network.
Developer's Representative	A company or person selected by the Developer and nominated in the Negotiated Connection Establishment Contract to facilitate and coordinate electrical works for the Development.
Development	The area being developed by the Developer, usually where the Developer has entered into a Negotiated Connection Establishment Contract with Ergon Energy in respect of the Electrical Reticulation within that area.

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Distribution Network	The electricity distribution network owned and operated by Ergon Energy and, where relevant, includes any connection assets.
TERM	DEFINITION
Electrical Contractor	The Electrical Contractor engaged by the Developer (selected from the Ergon Energy Approved Supplier Register) to carry out the DD&C Works (including any Street Lighting).
Electrical Reticulation	The electrical reticulation located within a Development for the purposes of distributing electricity within that Development.
Electrical Works	The DD&C Works, the Network extension and augmentation works, and any other work associated with the installation of electrical infrastructure, which may comprise work outside the boundary of the Development (including in a Publicly Controlled Place).
Energized	The state in which electricity is connected to the Development and available at any point of supply throughout the Development.
Handbook	This Developer Handbook for Underground Distribution Construction.
High Voltage	A voltage greater than 1,000 Volts but less than 66,000 volts alternating current.
Liaison Person	A person appointed under the Negotiated Connection Establishment Contract by either Ergon Energy or the Developer, who has authority to deal with the other party's Liaison Person.
Low Voltage	A voltage of 1,000 volts or less, alternating current.
Master Plan	A development plan showing the lot layout of all proposed stages, HV conduit arrangements and padmount locations.
Negotiated Connection Establishment Contract (NCEC)	The contract between the Developer and Ergon Energy for the parties to carry out the DD&C Works and Network Connection Works (respectively).
NEL	The National Electricity (Queensland) Law, as defined in the <i>Electricity – National Scheme (Queensland) Act 1997</i> (Qld).
NER	The National Electricity Rules under the NEL.
Network Connection Services	The services to be provided by Ergon Energy to carry out the Network Connection Works and to facilitate the DD&C Works carried out by the Developer.
Network Connection Works	The Augmentation Works and the Network Extension.
Network Extension	Works that are required to extend the existing Distribution Network and establish a Connection Point to facilitate the connection of the Development to the Distribution Network.
Negotiated Connection Establishment Contract	A contract between the parties under Chapter 5A of the NER that provides for the provision of a new connection or connection alteration.

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Performance Security	The financial security referred to in the Negotiated Connection Establishment Contract, which is to secure the Developer's performance of the obligations under that contract in case Ergon Energy is required to complete the DD&C Works to comply with the Certificate of Electricity Supply.
TERM	DEFINITION
Project	The Electrical Works to be undertaken, including Augmentation Works, Network Extension, and the Electrical Reticulation, including Street Lighting where required.
Publicly Controlled Place	Has the meaning given to that term in the <i>Electricity Act 1994</i> (Qld).
QECMM	Queensland Electricity Connection and Metering Manual
Rating	A classification assigned by Ergon Energy to a Contractor based on assessment against predetermined criteria in the ASR contractor rating process and used to determine the level of auditing that may be applied. Ergon Energy charges applied are based on the resultant assigned Rating.
Registered Landowner	The owner of the property as registered on the title deed of the property.
Reimbursement Scheme Contribution	A contribution made by a customer under a reimbursement/pioneer scheme, as those terms are defined in the Connection Policy (essentially, the contribution made by a customer designed to recompense earlier customers for the use of existing assets funded by those earlier customers)
Representative	The agents, contractors, sub-contractors, designers, employees, officers, and other representatives of a party.
RPEQ	An engineer registered with the Board of Professional Engineers under the <i>Professional Engineers Act 2002</i> (Qld).
Rural Residential	Subdivisions with average lot sizes larger than 2000 m <sup>2</sup> , including park residential.
Standard Easement Conditions	Ergon Energy's registered standard easement documents.
Street Lighting	Road lighting installed as part of the Project and designed to Australian Standards and/or applicable local government/ Department of Transport and Main Roads requirements, and as approved by that body.
Transformer Equalisation Payments	The amount which the Developer is required to pay for each lot in which electricity is supplied from a previously installed transformer.
Urban Residential	Subdivisions having lot sizes of more than five lots per hectare (that is, an average lot size < 2000 m <sup>2</sup> ) with frontages of 15 to 25 metres.
UDC	Underground Distribution Construction.
Work Request	Ergon Energy's works management folder, where each UDC Project is allocated a unique reference number.
Works Schedule	A schedule setting out the expected stages of the Project and the estimated dates of completion for those stages.

## 10. APPENDIX B - REFERENCES

All references listed below are available from the Developers' Toolkit on Ergon Energy's website ([www.ergon.com.au](http://www.ergon.com.au)).

- Ergon Energy Connection Policy July 2015
- Ergon Energy Price List for Alternative Control Services 2015-2016
- Distribution Design Manual.
- Underground Construction Manual.
- Queensland Public Lighting Construction Manual.
- Guidelines for the Provision of Public Lighting Services.
- RSD01. UDC Design specification.
- RSD04. Distribution Design Drafting Standard specification.
- RSC07. UDC Civil Works specification.
- RSC08. UDC Electrical Works specification.
- RSC09. Horizontal Directional Drilling specification.
- RSC10. UDC Electrical Testing specification.
- Negotiated Connection Establishment Contract Standard Terms and Conditions for developer reticulates and gifts reticulation.