



# Guide to the Process for Connection of Demand Customers to the Distribution System

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**Commercial and Customer**

**Asset Management**

**ESB Networks Ltd.**

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## 1.0 About This Guide

This guide is designed to illustrate the steps in obtaining a connection to the Distribution System\* for electricity customers.

This Guide will be of interest to:

- Customers
- Consulting Engineers
- Architects
- Developers & Builders

Comments and suggestions on this guide are welcome. Please use the contact information at the end of this document.

## 2.0 Contact Information

Initial enquiries can be directed by phone to the ESB Networks General Enquiries phone number or in writing to the ESB Networks Central Applications Bureau in Athlone and these will be referred to the appropriate location to be dealt with. See Appendix 2 for contact details.

Completed applications for new, increased or decreased connections should be sent to ESB Networks Central Applications Bureau in Athlone. Copies of application forms and general information can be obtained by calling or emailing us.

Most reconnections or change of legal entity applications (i.e. moving into an existing house/premises) can also be arranged by calling or emailing us or by contacting your electricity supplier.

Note it will help us to assist you as quickly as possible if you use the **reference number** from our acknowledgement/connection agreement or your existing **Meter Point Reference Number (MPRN)**, which is available on your electricity supplier account statement, when you are sending follow-up information or making enquiries.

### 2.1 Commission for Energy Regulation (CER)

The Electricity Supply Industry is regulated by the Commission for Energy Regulation (CER). Information on competition in electricity is available from the CER's website [www.cer.ie](http://www.cer.ie), e-mail address: [info@cer.ie](mailto:info@cer.ie).

### 2.2 Distribution System Operator (DSO)

ESB Networks is the name of the separate business within ESB that provides the services on behalf of ESB in its role as Distribution System Operator (DSO) as licensed by CER. ESB Networks as DSO processes all applications for connection in an impartial and equitable manner.

Any queries relating to ESB in its role as DSO can be directed to ESB Networks at 1850 372 757 or by email to [esbnetworks@esb.ie](mailto:esbnetworks@esb.ie). Further details are available on the [ESB Networks Website](#). (Appendix 2, Contact Details refers)

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\* Distribution System means the electric lines, electric plant, transformers and switchgear which are used for conveying electricity to final customers.

## 2.3 Transmission System Operator (TSO)

EirGrid plc. is the independent electricity Transmission System Operator (TSO) in Ireland and the Market Operator in the wholesale electricity trading system. Load development on the Distribution System has implications for the Transmission system and there is close interaction between the two organisations to develop the electricity infrastructure efficiently.

Major customer load connections can impact on Transmission System transformer or network capacity and ESB Networks, as DSO, and EirGrid, as TSO, co-operate to ensure that connections are carried with the least cost to the customer. DSO engages with TSO for individual load enquiries over 4MVA and agrees with TSO if significant loads require connection direct to the Transmission system. The level at which customers are offered a Transmission connection varies throughout the country, depending on the size of load and strength of the local distribution network. Customers who are unsure which system operator to contact should in the first instance contact the DSO.

This process guide deals with connections to the Distribution System. Enquiries relating to Transmission System connections should be referred to EirGrid ([www.eirgrid.ie](http://www.eirgrid.ie)).

## 3.0 An Overview of the Connection Process

### 3.1 Connection Enquiry

Customers are strongly advised to apply to ESB Networks for their connection as early in the preparation of a development as possible. Initial contact should be made before any Planning Permission application is made to the Local Authority. If a substation building is required (typically for connections over 200kVA) the customer / developer will have to obtain Planning Permission to construct this building.

The initial enquiry considers the customer's requirements to provide an estimate of the connection cost and indicate the method of connection. The response from an enquiry cannot be regarded as a commitment, as this requires a formal connection application. Where a customer / developer decides to proceed with their enquiry, their connection application is processed either as a Demand Customer or as a Business Park Development.

Connection of individual business or domestic customers (including residential housing or apartments) are carried out according to the Demand Customer Application process (see Section 3.3) which applies from application through to energisation at the connection point.

The Business Park Development process (Section 3.4) deals with multiple customer connections of Business Parks, Industrial Estates, Town Centres, etc. which require a High Voltage (110kV or 38kV) Substation. Through this process, electrical capacity and the main electrical infrastructure are provided for the overall development. Individual customers within the development are connected by the Demand Customer Application process (Section 3.3)

Delays with connections or difficulties with project deadlines can arise from enquiries or applications being made too late. To avoid such problems, a formal connection application should be made as soon as a decision is made to proceed with a development.

## Connection Enquiry Process Description

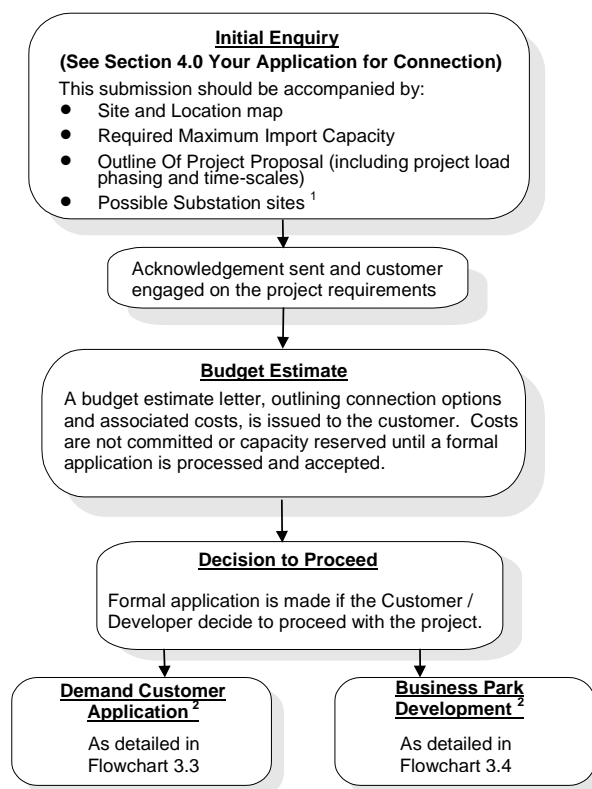


Fig. 1

<sup>1</sup> ESB Networks will assess the need for a substation site depending on the requirements of the Distribution System Security and Planning Guidelines.

<sup>2</sup> ESB Networks will advise the customer in the Budget Estimate whether the project will be handled under Business Parks Policy or not.

### 3.2 Method of Connection

When a customer applies for a new connection, they set out the details of their electrical loads, its type, e.g. disturbing characteristics which could impact on other customers, and the Maximum Import Capacity (MIC) and/or Maximum Export Capacity (MEC) they require (see Section 4.2).

This information is used to study network local to the customer to determine the type of connection that will be provided, specifying the voltage level, MIC, etc. ESB Networks design an appropriate connection for the customer that can be offered at the least cost and which is technically acceptable (LCTA).

Determining the method of connection can be a lengthy process, particularly for major loads which involves interacting with EirGrid as TSO, and an early application is essential for timely connection.

### 3.3 Demand Customer Application (for connection at LV, MV and at 38kV where standard connection charges apply)

The steps in obtaining connection for Demand Customers are illustrated in this flowchart.

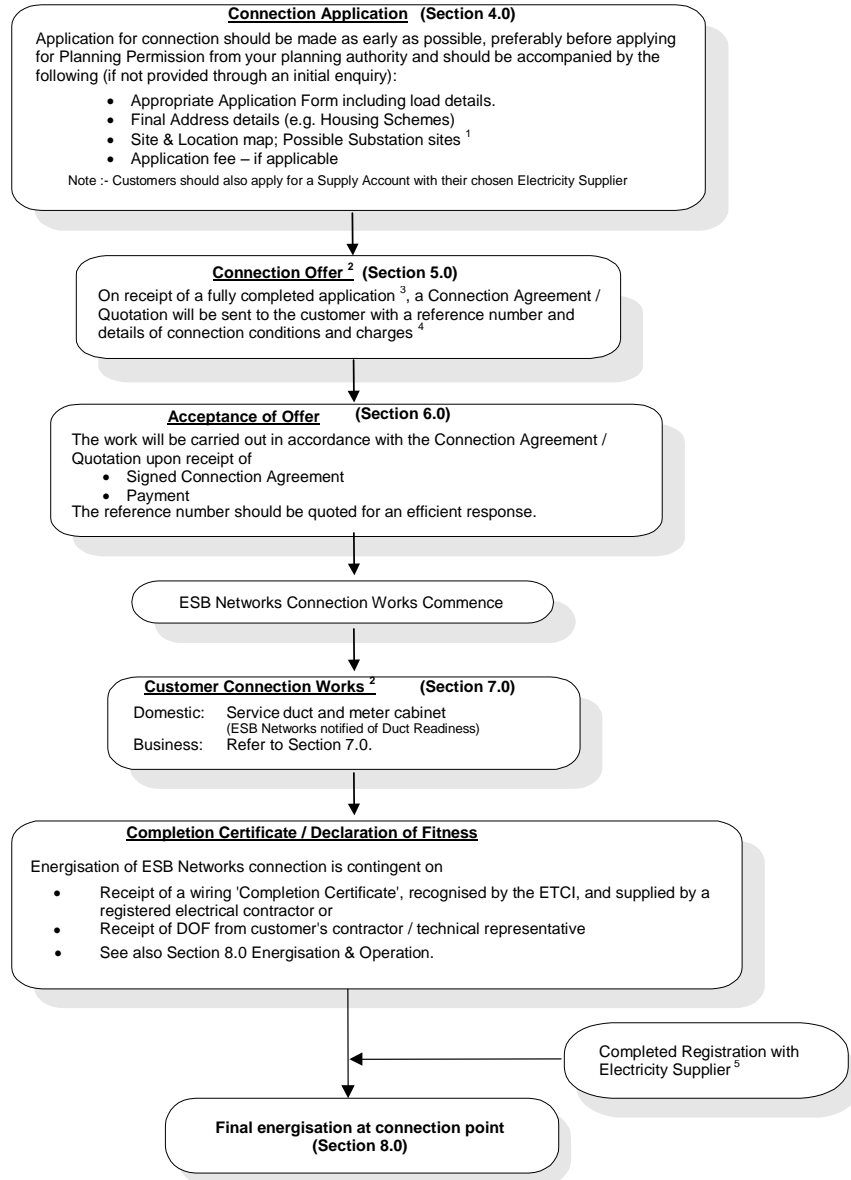


Fig. 2

<sup>1</sup> ESB Networks will assess the need for a substation site depending on the requirements of the Distribution System Security and Planning Guidelines.

<sup>2</sup> ESB Networks Customer Charter sets out our quotation and timing guarantees for providing a Connection

<sup>3</sup> An application must be fully completed and include any requested documentation to allow processing to proceed. Otherwise it will be returned to the applicant.

<sup>4</sup> Details of Charges for Connection to the Distribution System, approved by CER, are available on the [ESB Networks Website](http://www.esb.ie).

<sup>5</sup> For the current list of licensed electricity suppliers, please refer to Customer Information on the CER website at: [www.cer.ie](http://www.cer.ie).

### 3.3.1 Demand Customer Application (for connection at 110kV or at 38kV where standard connection charges do not apply)

The steps for obtaining connection by Demand Customers are illustrated in this flowchart.

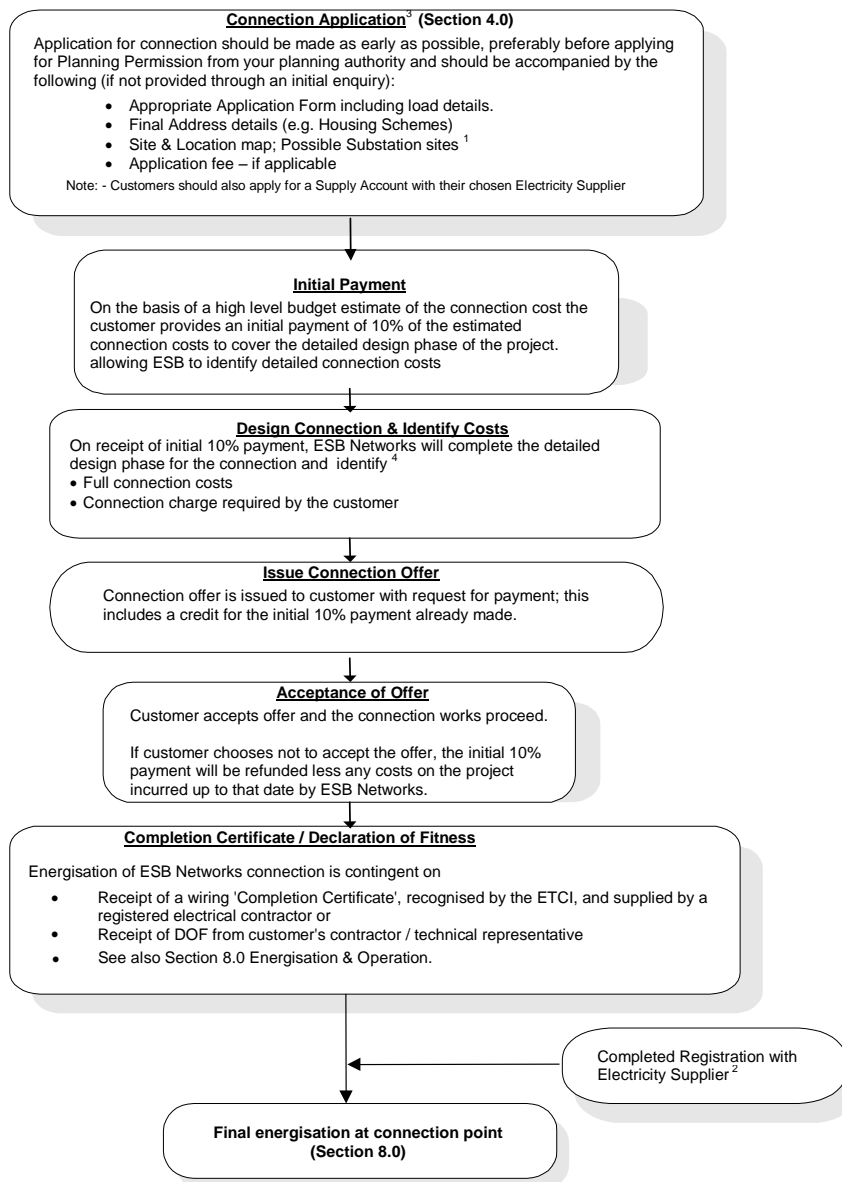


Fig. 2

<sup>1</sup> ESB Networks will assess the need for a substation site depending on the requirements of the Distribution System Security and Planning Guidelines.

<sup>2</sup> For the current list of licensed electricity suppliers, please refer to Customer Information on the CER website at: [www.cer.ie](http://www.cer.ie).

<sup>3</sup> An application must be fully completed and include any requested documentation to allow processing to proceed. Otherwise it will be returned to the applicant.

<sup>4</sup> Details of Charges for Connection to the Distribution System, approved by CER, are available on the [ESB Networks Website](http://www.esb.ie).



### 3.4 Business Park Development

The steps for developing a Business Park (see Section 11) are illustrated in this flowchart:

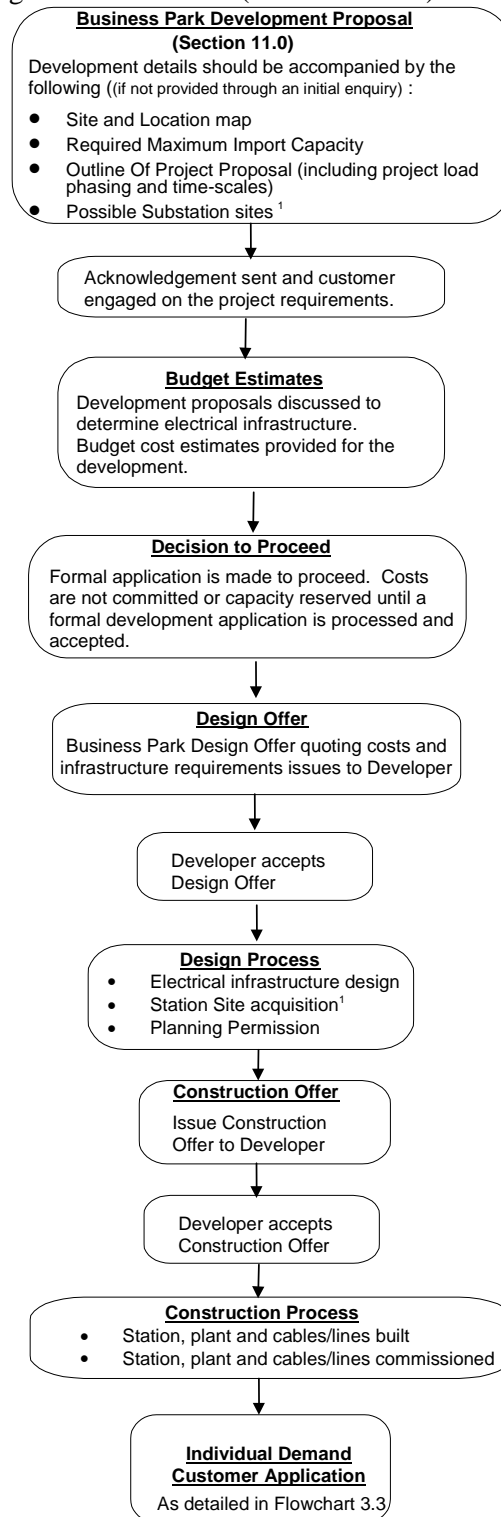


Fig 3

<sup>1</sup> ESB Networks will assess the need for a substation site depending on the requirements of the Distribution System Security and Planning Guidelines.

## 4.0 Application for Connection

Discussions with ESB Networks should start early in the planning of a development and an application for connection should be made as early as possible, preferably before applying for Planning Permission to your local planning authority.

Depending upon available capacity, and typically for loads over 200kVA, a substation may be required and this will have to be included in the customer's application for Planning Permission. Notice of decision to grant Planning Permission may be requested and legal processing of the site transfer will be required before connection can be provided where a new substation is required.

Difficulties with delays can be minimised and timescales for project deadlines better advised when an application is made early.

### 4.1(a) Your application should include the following:

#### Application Requirements

Required Information	Domestic	Business	Housing Schemes	Business Parks
1. Completed Application Form	✓	✓	✓ <sup>1</sup>	✓
2. Site Map: Scale 1:100 – 1:500 <sup>2</sup>	✓	✓		✓
3. Location Map: Scale 1:2500 – 1:10560 <sup>2</sup>	✓	✓	✓	✓
4. Complete set of electrical load details		✓	✓	✓
5. Approximate time phasing of construction		✓	✓	✓

Table 1

<sup>1</sup> Your Application should include details of all Final Addresses, drawings and designs for the scheme.

<sup>2</sup> These maps are also a requirement of your application for planning permission and are part of your submission to the planning authority.

### 4.1(b) Accuracy

The application form must be fully and accurately completed and include any supporting documentation to allow it to be processed. The applicant will be contacted by telephone for missing information if telephone contact information is provided, otherwise incomplete applications will be returned with a cover note indicating the information that is missing.

The ultimate electrical load being connected should be carefully considered. Understating the Maximum Import Capacity (MIC) can mean an inadequate initial connection and result in costly difficulties or delays upgrading it to the required level. For details see Section 4.2, The Maximum Import Capacity.

### **4.1(c) Confidentiality**

ESB Networks complies fully with the Data Protection Act. Unless you request us to do so, information provided by you in your application form will not be disclosed to other parties except in the following specific circumstances:

Once our terms are accepted, ESB Networks will be at liberty to make available the existence, location, and/or technical aspects of your connection to EirGrid as Transmission System Operator (TSO); licensed Electricity Suppliers and other parties involved in your electricity connection as necessary. In the case of business connections, all technical data supplied by the applicant in or with the application form will then be treated by ESB Networks as system planning data and may be published as part of system data.

In the case of new connections, ESB Networks will temporarily make available your telephone contact number to licensed Electricity Suppliers in order to facilitate energisation of the connection. If you contact us requesting energisation prior to securing an electricity supplier, you are authorising ESB Networks to disclose details submitted on your application form to the Public Electricity Supplier.

## **4.2 The Maximum Import Capacity (MIC)**

### **What is it?**

We offer customers a connection designed around a specified capacity – this is the contracted capacity. The capacity of your connection is the total electrical loading for which your connection is designed. Capacity is measured in kilovolt-amperes (kVA) and the relation between kilovolt-amperes (kVA) and kilowatts (kW) determines the Power Factor (PF) of the electrical load.

Business customers can incur energy charges referred to as “Wattless” Units for poor Power Factor performance and Power Factor correction can be used to improve performance and reduce “Wattless” charges. Contact your Electricity Supplier for further information.

The capacity level for Demand Customers is described as the Maximum Import Capacity (MIC) to distinguish it from the Maximum Export Capacity (MEC) which applies to Generators or customers with on-site generation.

Domestic customers’ needs are in most cases met by the standard connection capacity of 12kVA. Customers can apply for a greater import capacity at the time of application should the standard connection capacity not meet their requirements. For example, heat pumps, large night storage loads etc. may require a higher than standard connection or a three phase connection.

Business customers agree a level with ESB Networks according to their specific requirements. In the Connection Agreement, ESB Networks makes available that level of capacity at the connection point. Business customers should carefully assess their MIC and consider diversity in load usage (see “How to estimate your capacity requirement”). Over-estimation can increase the cost of the connection method, cause delays due to obtaining a connection from a higher voltage or impact on electricity charges. Under estimating the MIC can give rise to an inadequate initial connection or result in costly difficulties or delays upgrading it to a suitable level.

### **Why is it important?**

When applying for a connection, the most important decision is the capacity level you require. The Maximum Import Capacity of your connection is an important figure for several reasons:

- This is the capacity which ESB Networks makes available to your premises at the connection point.
- Therefore the MIC places an upper limit on the total electrical load you can use in your premises.
- The MIC is a major determinant of the connection method and charges.
- The MIC is a determinant of Public Service Obligation Charges (for customers where the MIC equals or exceeds 30kVA).
- The MIC affects the charge that ESB Networks makes on your electricity supplier in respect of the electricity used at your connection (known as Distribution Use of System, or DUoS charges). If the MIC is higher than required, your supplier will incur higher than necessary electricity charges; if it is too low, exceeding it will result in extra charges to your supplier. These costs may be passed onto you by your supplier. For a detailed breakdown of these charges refer to [ESB Networks Website](#).

### **How to estimate your capacity requirement**

ESB Networks can advise based on experience but ultimately each customer must choose the capacity which meets their needs. It will almost always be a much lower quantity than the sum of the kilowatt ratings of all the equipment that is to be installed. The correct capacity level is chosen by grouping the electrical equipment that is to be installed into categories (e.g. heat pumps, motors, lighting etc.) multiplying the total electrical loading (in kilowatts – kW) for each category by a percentage known as the ‘diversity’ and adding up the total of all the categories.

You should discuss your required MIC in detail with your electrical contractor/consultant.

Existing customers wishing to change their MIC, should apply to ESB Networks.

## **4.3 Acknowledgement**

We will promptly respond to your application with a connection agreement incorporating a quotation and the ESB Networks Customer Charter, which sets out our guarantees for providing a Connection Quotation. The application must be fully completed and include any requested documentation to allow processing to proceed, otherwise it will be returned.

For further information on the Connection Quotation guarantee, please refer to the Customer Charter on the [ESB Networks Website](#)

## **4.4 Changes**

If there are any changes to the information submitted in your application, it is the responsibility of the customer to inform ESB Networks, in writing, of the details of the changes. This must be done as soon as the changes have been decided. Such changes can lengthen the application process, as the connection arrangement may need to be reconsidered.

ESB Networks cannot accept responsibility for delays in processing your application where changes are made, and particularly if they are not notified promptly. Once the connection agreement has been issued any changes will invalidate that connection offer, as the offer is based on the information originally provided by the customer. Any material changes of information will require a revised connection agreement and quotation.

#### **4.5 Interacting Enquiries and Applications**

If we are dealing with a number of interacting enquiries or formal applications for connection to associated networks at the same time, the following procedures apply to treat each customer fairly:

##### **Co-Incident Enquiries**

Speculative developments or those at an early planning stage may result in a number of connection enquiries in locations where the available network capacity is limited or the timing of the required connection is unclear. Because of these uncertainties, these enquiries may be examined without fully considering the impact of co-incident requests.

Budget estimates or connection method proposals are made without commitment to costs or reserving capacity. These can only be committed through a Connection Agreement, which results from a formal application.

Timing of when enquiries are received has no bearing on offers for connection being available to an individual customer, and gives no entitlements to priority over other enquiries. Priority for connection only comes into effect on acceptance of Connection Offers from formal applications, as covered in the following sections on Applications.

##### **Applications - Combined Designs:**

Where a combined design is feasible and will result in a lower cost to both customers where formal applications are jointly made, the connections will be designed together. In these cases:

- Both customers will be quoted on the basis of shared costs. We will clearly state that this is the case in each quotation. However specific details of your application will not be divulged to another customer unless you agree.
- If both applicants accept the offer ESB Networks will proceed with the work.
- If only one applicant accepts the offer within the offer period then the combined offer lapses and that applicant will be requoted for an individual design.

##### **Applications - Individual Designs:**

In certain business applications, capacity is a limiting factor and therefore a combined design is not beneficial to both customers. In these cases:

- Quotations are issued on a first come first served basis in response to Formal Applications.
- The quotations are prepared without taking the impact of the other application into account.

- When one of the applicants accepts the offer by returning a signed Connection Agreement and first payment, all other interacting applicants' connection offers are now invalid.
- If necessary, fresh quotations will be prepared and issued to these customers with the now invalid connection offers, taking into account the impact of the first application on the networks.

We will prepare a non-binding estimate for a combined design if the applicant requests it.

#### 4.6 Reconnections

ESB Networks undertakes to maintain the agreed connection capacity at the connection point. However, this does not apply if there is no agreement in place and the connection point is de-energised and de-registered, i.e. not registered with any electricity supplier, as referred to in CER's decision paper "De-registration of Supplier from a De-energised Meter Point" (CER/05/075 May 2005).

**Domestic Premises** - Reconnections of domestic premises within two years of disconnection are carried out without any connection charge applying. If the connection has been de-energised on request from the customer's electricity supplier, a re-energisation charge will apply. Applications to reconnect premises which have been disconnected for more than two years are treated in the same way as a re-energisation and can be reconnected without any connection charge applying provided no work is required to provide for the reconnection, only a re-energisation charge will apply.

Where work is required to reconnect a premises that has been disconnected for more than two years then standard connections charges will apply.

**Business Premises** - Reconnection of vacant business premise for a new customer within two years depends on the previous customer's connection being maintained intact and capacity being available. Connection and energisation charges may apply if capacity is not available or work is required to restore the connection (i.e. network may have been dismantled or capacity allocated to other customers) and requirements for a particular site must be confirmed with ESB Networks. Reconnection of business premises vacated more than two years are normally treated as new connections.

However, from 01/05/2015 requests to reinstate a connection that has been de-energised greater than two years may in certain circumstances be subject to a reduced charge calculated as follows:

Components of the reduced charge:

- An Energisation Fee - charge code A1\* (if metering is still in place).

or

- An Additional Meter Installation Fee - charge code A13\* (if no metering is in place).

plus

- $(n/20) \times (\text{Current standard charge for the requested MIC})^{**}$

where n = the number of years that the connection point has remained de-energised.

Plus

- VAT at the current rate.

\*Published in table 5.1 of [ESB Networks Ltd. statement of charges](#) document

\*\*Published in table 2.4 of [ESB Networks Ltd. statement of charges](#) document

Provisions / Exceptions:-

- Only applies if the contracted MIC at time of de-energisation was less than 200kVA.
- Only applies for reinstatement of the connection type and MIC\*\*\* that existed in the premises at time of de-energisation.
- No work other than replacement of fuses, reinstatement of metering, or switching of a breaker must be required to affect the reinstatement. If any other work is required standard policy will apply.

\*\*\* If a MIC less than the contracted MIC at time of de-energisation can be accommodated within the bounds of the work listed above then a lesser MIC may be applied to the reinstated connection point.

After a period of no less than 2 years we may review this policy again and potentially return to the current policy, but that will be evaluated at the time.

Any building disconnected for 6 months or more requires an Electrical Completion Certificate prior to being reconnected.

Any building disconnected for 6 months or more requires an Electrical Completion Certificate prior to being reconnected.

#### 4.7 Tariffs

ESB Networks bills each electricity supplier for Distribution Use of System (DUoS) Charges in respect of each of its registered customers. It is important to be aware of these charges (your DUoS Tariff) as your supplier may pass them on to you. The various DUoS Tariff Groups for customers are shown in Appendix 1. A detailed breakdown of the DUoS Tariffs is available on the [ESB Networks Website](#).

Supply tariffs are confidential between the customer and their electricity supply company.

#### 5.0 Quotation

The guarantees for providing a Connection quotation are covered in the ESB Networks Customer Charter, which is available from the [ESB Networks Website](#).

The connection offer (see Section 5.1), made by ESB Networks to the applicant, will be based on the technical details of the applicant's facility provided in the application form and will provide a costing for the works to be undertaken by ESB Networks up to the connection point.

When a quotation is issued it will state the period for which the terms will remain valid. Where a quotation lapses, an offer may be extended if the circumstances of the connection have not changed (e.g. customers requirements, network capacity available, no other conflicting applications), otherwise the conditions of the application will need to be reassessed and a revised connection offer made.

The quotation will be subject to ESB Networks obtaining any necessary wayleaves/easements from landowners and permissions from local authorities. The quotation letter will state the other terms and conditions which will apply which will include the obligation to enter into a connection agreement with ESB Networks.

A new quotation and connection agreement will be issued to the customer where unexpected construction conditions are encountered causing ESB Networks to incur additional costs or where a detailed quotation cannot be provided as in the case of major new business projects. Examples of these situations include: overhead lines through forestry, telecommunications infrastructure conflicts, motorway crossings, meeting requirements of planning conditions.

The quotation will also include any Pass-Through costs incurred by ESB Networks in providing a connection, including the charge for ESB Networks to complete MV substation civil works inspections, or costs associated with acquiring wayleaves.

ESB Networks will inform the customer, as soon as practicable, of any significant changes to the Connection Quotation. In cases where a standard charge does not apply, a schedule / breakdown of the final quotation can be provided on request from the customer.

## **5.1 Connection Offer**

A connection offer package will be issued to the customer advising them of the terms and conditions under which their connection will be made available. This contains a Connection Agreement letter and Conditions Governing Connection which define the Connection Characteristics. It also includes a Down Payment Request notice to be returned with the connection payment, the Capital Contribution. The connection offer gives details of their MPRN (in the case of new customers) and a connection reference for dealings with ESB Networks. It also refers in particular to the Distribution Code, which is available from the [ESB Networks Website](#).

Any site specific conditions of connection or particular requirements relating to the individual customer that were agreed during meetings or discussions relating to their connection application are detailed in the Connection Agreement letter. These need to be carefully verified to ensure the connection provided satisfies the customer's needs.

The Characteristics of Connection give details of the customers MPRN, Meter and DUoS group, MIC and/or MEC, voltage, phasing and frequency. Larger customers are also provided with short circuit information to allow them set their interface protection to discriminate with ESB Networks system protection.



The terms and conditions of the connection offer should be carefully checked to ensure it meets the customer's requirements. Business customers should particularly be satisfied that the level of MIC / MEC being offered is correct; as this defines the size of electrical load that can be operated and is the basis for energy charges. Refer to Section 4.2, The Maximum Import Capacity for information, or contact your electricity supplier for details of energy charges.

## 5.2 Distribution Planning Standards

Under the Distribution System Operator (DSO) licence ESB Networks is required to: *'operate and ensure the maintenance of and develop, as necessary, a safe, secure, reliable, economical and efficient electricity distribution system...'* and this is covered under "The Distribution System Security and Planning Standards" which refers to the Distribution and Grid Codes.

These standards outline ESB Networks' approach to the development of network and how this affects the connection of new loads and embedded generators to the Distribution System.

The full text of the Distribution System Security and Planning Standards is available on the [ESB Networks Website](#)

## 5.3 Application Fees

Most demand Customer connection applications are processed free of charge. Application fees can apply for major loads involving significant network planning or consultative services. Fees can also apply where network studies or capacity statements are requested to indicate circuit or network capabilities or to project load development and to examine disturbing loads which can affect the quality of supplies for other customers.

Details of Application Fees are available on the [ESB Networks Website](#).

Transmission connections at 110kV involve detailed power flow and loading studies and will incur application fees. Details will be advised by EirGrid when processing the connection enquiry or check the [EirGrid Website](#)

## 5.4 Initial Payment – Distribution System Operator 110kV connections and 38kV connections where standard charges do not apply

### 110kV

Charges for connection to the Distribution System at 110kV are based on 50% of Detailed Design Costs for the connection. The customer is required to provide an initial payment of 10% of the estimated connection costs to cover the design phase. This payment will be counted towards payment of the connection charge where the project proceeds. If the project does not proceed the 10% payment will be refunded to the customer less any costs incurred on the project by ESB Networks. See Section 3.3.1

### 38kV

Charges for connection to the Distribution System at 38kV are normally based on standard connection charges. In situations where standard charges do not apply [e.g. where a medium voltage connection is the Least Cost Technically Acceptable (LCTA) connection but where 38kV must be employed due to the presence of a disturbing load] the connection charge is based on Detailed Design Costs. The customer is required to provide an initial payment of 10% of the estimated connection costs to cover the design phase. This payment will be counted towards payment of the connection charge where the project proceeds. If the project does not proceed the 10% payment will be refunded to the customer less any costs incurred on the project by ESB Networks. See Section 3.3.1

## 6.0 Acceptance of Offer

Table 2 sets out the acceptance of offer requirements for the different connection types:

**Acceptance of Offer Requirements**

Required Information	Domestic	Business	Housing Schemes	Business Parks <sup>2</sup>
1. Full payment <sup>1</sup> of cost of Connection	✓	✓	✓	✓
2. Terms and conditions of the Connection Agreement/ Quotation Letter	✓	✓	✓	✓
3. A signed Connection Agreement	✓	✓	✓	✓
4. Design Phase Performance Bond				✓
5. Construction Phase				✓

Performance Bond				
6. Capacity and Decommissioning/ Reinstatement Bonds		↙ <sup>3</sup>		

Table 2

1 See Section 6.2 Connection Charges.

2 See Section 11.0 Business Parks and Commercial Developments

3 A Decommissioning/Reinstatement Bond may be a requirement in some business connections where the connection asset has a limited life.

## 6.1 Connection Agreements

The framework and operation of the Electricity Supply Industry is underpinned by agreements between the three players as in Figure 4:

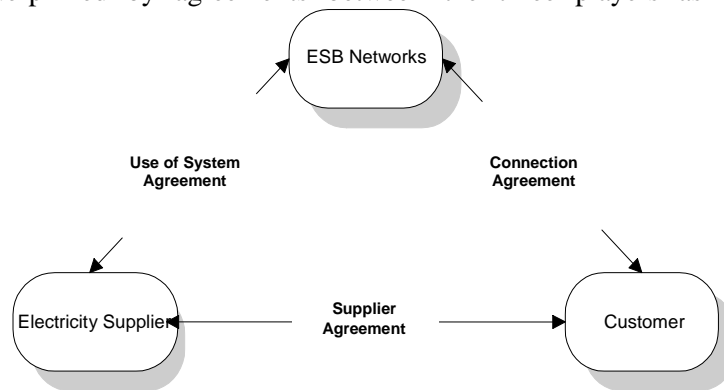


Fig. 4

Connection Agreements are the agreements between individual customers and ESB Networks in its role as DSO, for the provision of an electricity connection of a defined capacity to the Electricity Distribution System and also security of connection, fault repair, meter reading and other routine services on the network. Connection Agreements contain the customer's terms of connection and quotation letter, which the customer accepts before connecting for the first time or before changing the capacity of their connection.

ESB Networks has sole responsibility for providing customer connections to the distribution system. An individual customer may not provide an electrical connection to another (third party distribution) or develop a private distribution system and this condition is included in the Connection Agreement.

The Connection Agreements make a clear distinction between electricity supply services, which are open to competition, and distribution services that continue to be provided by ESB Networks. Also because of the increased number of companies involved, and in line with international practice, the agreements are more defined in the rights and responsibilities conferred on customers and ESB Networks.

Every electricity customer is a customer of ESB Networks for distribution services. Our commitment to serve you as our customer remains regardless of your choice of electricity supplier.

## 6.2 Connection Charges

Connection costs are calculated on the basis of standard charges detailed in the “Charges for Connection to the Distribution System” as approved by CER. This document is available on the [ESB Networks Website](#) to provide an explanation of our connection charges.

ESB Networks Customer Charter sets out our guarantees for providing a Connection quotation.

Connections at 110kV or at 38kV where standard connection charges do not apply are calculated on the basis of 50% of the Detailed Design Costs of providing the connection.

## 7.0 Customer Connection Works (Arrangements to Accept Connection)

All connection works to be carried out by the customer must comply with the Distribution Code. The relevant specifications are in Annex 1 of the Code, available from the [ESB Networks Website](#).

The Customer is responsible for excavation and reinstatement within their own site and must provide suitable ducts to the connection point. Service duct details are sent with an information pack for individual customer connections. Substation buildings or plinths, in the case of fully enclosed “unit” substations, are required for housing developments, business parks and in cases for individual business customer connections. It is the customer’s responsibility to provide the substation building or plinth.

Details of installation requirements for ducts, cables, mini pillar, substations, etc. throughout housing schemes are explained in a booklet entitled “Housing Scheme Electrical Services Guidebook” which is available from the [ESB Networks Website](#). Connection conditions for Business customers are defined in the Conditions Governing Connection to the Distribution System.

These Customer Connection Works detailed in Table 3 must be completed to specification **prior** to the commencement of ESB Networks Connection Works on the customer’s site.

### Specification Requirements

Specification	Domestic	Business	Housing Schemes	Business Parks
1. Service duct – as per ESB Networks specifications.	✓	✓	✓	✓
2. ESB Networks Substation Plinth/Building (where required) <sup>1</sup>		✓	✓	✓
3. Housing Scheme Electrical Services Guidebook			✓	
4. Conditions Governing Connection to the Distribution System		✓		✓

Table 3

1 Must comply with ESB Networks specifications, e.g. ‘General Specification for MV Substation and Metering Switch-room Buildings’ (Spec No. 13320).

## 8.0 Energisation and Operation

### 8.1 Energisation Pre-Conditions

The connection will only be energised subject to certain terms and conditions covered in Table 4, Energisation Pre-Conditions. Energisation and metering guarantees are set out in ESB Networks Customer Charter for providing a Connection.

**Energisation Pre-Conditions**

Required Conditions prior to final energisation and Operation	Domestic	Business	Housing Schemes <sup>3</sup>	Business Parks
1. Specified ducts and/or Substation Building <sup>1</sup>	✓	✓	✓	✓
2. Completion by ESB Networks of Civil Works Inspection for MV Substation/Metering Switchroom <sup>2</sup> .		✓	✓	✓
3. Completion by Customer and Receipt by ESB Networks of Certificate of Completion for MV Substation		✓	✓	✓
4. Electrical Completion Certificate <sup>2</sup>	✓	✓	✓	✓
5. Completion of Commissioning Tests (as per Distribution Code)		✓	✓	✓
6. Declaration of Fitness Certificate <sup>3</sup>		✓	✓	✓
7. Completed Registration with a Licensed Supplier.	✓ <sup>4</sup>	✓ <sup>4</sup>		

Table 4

1 As per Table 3 Specification Requirements

2 The customer will be liable for any additional professional fees incurred by ESB Networks in completing the inspection of Civil Works for MV Substation/Metering Switchroom

3 Electrical Completion Certificates and Declaration of Fitness forms must be completed and presented to ESB Networks before final energisation. ESB Networks does not inspect installations, however, for safety reasons ESB Networks reserve the right not to connect if the installation is obviously in breach of SHAWW Act, Part (viii) S.I. 44 of 1993.

4 For Domestic and Business connections where the MIC is less than 30kVA, energisation will still proceed in the event that no electricity supplier has been registered. The connection will default to the Public Electricity Supplier (PES).

## 9.0 Application Time-scales

The following are indicative time-scales for Formal Applications and are subject to wayleaves, planning permission (if applicable) and customer’s acceptance of offer (see Section 6.0 Acceptance of Offer).

Time-scale guidelines are not given for initial enquiries because requirements or timing can be uncertain or involve numbers of iterations to resolve. These generally develop until they become Formal Applications when the following time-scales apply.

Applicants should be aware that for a large load, a considerable lead time can occur from application to connection, relating to investigating the connection method, establishing costs and when the contribution is paid, carrying out work to provide the connection. This may include applying for Planning Permission, ordering materials and programming the work.

Connection times vary considerably from one installation to the next. Large LV or smaller MV loads, typically over 200kVA, involving a substation can take 6 to 9 months from application to connection; major business loads, e.g. over 4MVA, requiring a high voltage 110kV connection can take over 2 years.

Timescales very much depend on the application and connection works being well organised e.g. timely interaction by the customer, developer or consultants; processing of Planning Permission or Wayleaves without difficulties; site works properly prepared and ready on time.

These examples are by way of illustration and should **not** be regarded as indicative timescales. An early application and discussion during the application process can best determine the overall timescale involved.

ESB Networks Customer Charter sets out our metering and connection timing guarantees for providing a connection once the required conditions are met.

### Application Timescales

Time Scale Description	From	Domestic	Business: LV & MV	Business: HV	Business Parks
Quotation sent to customers	Receipt of completed Application <sup>1</sup>	3 weeks <sup>2</sup>	3 weeks <sup>2</sup>	18 weeks	18 weeks
Acceptance of Offer	Period for which quote is valid	6 months	3 months	3 months	3 months
Connection Works <sup>4</sup>	Acceptance of Offer (see 6.0)	10 weeks	10 weeks	Non-Standard <sup>3</sup>	Non-Standard <sup>3</sup>
Final energisation	Date of customer's notification/advice of completion of Customer Connection Works (See 7.0 & 8.0)	2 weeks <sup>4</sup>	2 weeks <sup>4</sup>	1 month <sup>3</sup>	1 month <sup>3</sup>
Typical Overall Project Duration (for planning purposes) <sup>4</sup>	Receipt of completed Application <sup>1</sup>	15 weeks	15 weeks <sup>5</sup>	Non-Standard <sup>3</sup>	Non-Standard <sup>3</sup>

Table 5

1 See Section 4.1 (a) Application Requirements.

2 For domestic connections & connections with an MIC < 100kVA, 3 weeks apply when a visit to your site is required. If a visit is not required, ESB Networks will issue a connection cost quotation within 7 working days. For connections with an MIC >= 100kVA, ESB Networks will issue a connection cost quotation within 18 weeks.

3 These timescales will vary depending upon the extent of the work required on the Distribution System, material lead-times & the Customer's works schedule.

4 This applies for service and meter only connections or where a customer has applied and paid for connection at least 10 weeks prior to the completion of their electrical installation.

<sup>5</sup> This applies for connections with an MIC < 100kVA. For connections with an MIC >= 100kVA, the overall duration could be longer.

## 10.0 Refunds

An explanation of our refund policy is available in 'Charges for Connection to the Distribution System' available on the [ESB Networks Website](#). ESB Networks Customer Charter sets out our guarantees for providing refunds.

## 11.0 Business Parks and Commercial Developments

The process described in this guide applies equally to all customers. In the case of Business Parks and Commercial Developments, ESB Networks and the developer conclude an agreement to provide the necessary infrastructure prior to the final customers applying for connections. The procedure is summarised as follows:

- Initial meeting with the Developer or his consultants. Developer identifies the location of the proposed development, the expected electrical load and the approximate phasing of the construction.
- ESB Networks evaluates this information and prepares a preliminary design for electrical connections.
- ESB Networks issues the Design Offer to the Developer. This Offer will indicate to the Developer the capacity being considered for the Business Park and the value of the Design Bond required.
- The developer accepts the Design Offer by executing the bond and returning it to ESB Networks.
- ESB Networks designs the electrical infrastructure for the Business Park.
- ESB Networks issues the Construction Offer to the Developer. This includes the exact Capital Contribution and size of a Construction Bond if required.
- The developer accepts the Construction Offer by paying the Capital Contribution, executing the bond and returning it to ESB Networks.
- ESB Networks constructs the electrical infrastructure for the Business Park in consultation with the Developer regarding the order of the site development.
- As the electrical network is being installed, connection applications are made by individual customers within the Business Park development according to the Demand Customer Application process.

## 12.0 Wayleaves/Planning Applications

It may be necessary for ESB Networks to obtain permission to cross public or private property in order to provide network connections. This occasionally leads to delays in commencing the necessary work.

The quoted price and guideline times given in Section 9.0 are dependent on the necessary wayleaves and planning approval (where applicable) being

obtained. Any extra costs associated with consents are passed onto the customer.

### **13.0 Fairness**

We will ensure that our work is guided by ESB Networks commitment to fairness in all its business dealings. We value our customers and are committed to treating all customers equally.

A copy of ESB Code of Business Ethics is available on the Corporate Governance section of the ESB website entitled [Employee Code of Business Ethics](#).



## Appendix 1

### Categories of Users of the Distribution System

User Description	Category			Operating Voltage Range (V)		DUoS Tariff Group
				High	Low	
<b>Domestic</b>	B4	<b>Low Voltage (LV)</b>	230 V Phase to Neutral	253	207	DG1 or DG2 <sup>1</sup>
			400 V – Phase to Phase	440	360	DG1 or DG2 <sup>1</sup>
<b>Business</b>	B3	<b>Low Voltage (LV)</b>	230 V Phase to Neutral	253	207	DG3, DG5 or DG6 <sup>2</sup>
			400 V – Phase to Phase	440	360	DG3, DG5 or DG6 <sup>2</sup>
<b>Business</b>	B2	<b>Medium Voltage (MV)</b>	10,000 Volts (10kV)	10,750	*	DG7 <sup>3</sup>
			20,000 Volts (20kV)	21,500	*	DG7 <sup>3</sup>
<b>Business</b>	B1	<b>High Voltage (HV)</b>	38,000 volts (38kV)	41,350	*	DG8 or DG9 <sup>4</sup>
			110,000 Volts (110kV)	120,000	*	DG10 <sup>5</sup>

The Distribution Code sets out the standards applying to the Distribution System. A brief extract from the Code is given in this table. Refer to the Distribution Code on the [ESB Networks Website](#) for further details.

\* Variable according to operating conditions. Information is available from ESB Networks for a particular location on request by the user concerned.

<sup>1</sup> Urban Domestic Customers are classified as DG1. Rural Domestic Customers are classified as DG2.

<sup>2</sup> For all new connections, customers with an MIC greater than or equal to 50 kVA will be classified as DG6.

<sup>3</sup> The minimum MIC for new or existing MV connected customers is 100kVA.

<sup>4</sup> 38kV Looped Customers are classified as DG8. 38 kV Tailed Customers are classified as DG9.

<sup>5</sup> It is extremely rare for customers to be connected to the Distribution System at 110 kV. There are a number connected to the Transmission System at 110 kV. Refer to the [EirGrid Website](#) for further information.

## Appendix 2

### Contact Details

ESB Networks Office	Contact Details
ESB Networks by phone ( <i>general queries</i> )	1850-372-757
ESB Networks by phone ( <i>emergencies or faults</i> )	1850-372-999
ESB Networks Website (documents & forms)	<a href="http://www.esb.ie/esbnetworks">www.esb.ie/esbnetworks</a>
ESB Networks email ( <i>general queries</i> )	<a href="mailto:esbnetworks@esb.ie">esbnetworks@esb.ie</a>
ESB Networks Central Applications Bureau	P.O. Box 29, Garrycastle, Athlone, Co. Westmeath
ESB Networks Unmetered/Public Lighting Application Bureau	UMR, ESB Networks, Abbeyleix Rd, Portlaoise, Co Laois