



Guide for New Customers (Ireland)



The current. The future.

About This Guide

You should consult this document before engaging with EirGrid as this will help foster more meaningful interaction for both parties. This document will help facilitate a more informed discussion and support optimum location selection with us should you wish to progress with an opportunity.

This document explains how to apply for, deliver and operate a connection to the electricity transmission system in Ireland. It is not applicable to Northern Ireland.

This guide is for anyone who intends to develop a large demand or generation project and we recommend that you use it when you are considering its location.

This guide should not be seen as a substitute for early and open engagement. We are available to discuss your project with you and guide you through the process.

First Point Of Contact

Our Customers and Stakeholders Team role is to provide professional, reliable and efficient assistance and support to business and industry customers.

The team is your first point of contact in relation to applications to connect to the grid, or if you have any questions on the information contained in this document.

We are available to work with you throughout the project's life cycle. From the time we receive the initial enquiry to the energisation of your facility and beyond, we are available to assist.

Contact EirGrid Customers and Stakeholders

☎ +353 (0)1 23 70472

✉ info@eirgrid.com

Block 2, The Oval, 160 Shelbourne Road, Ballsbridge, Dublin 4, D04 FW28, Ireland.



The current. The future.

Generation Customers

EirGrid is currently processing generation application in line with current CRU policy. The most recent version of which is available below;

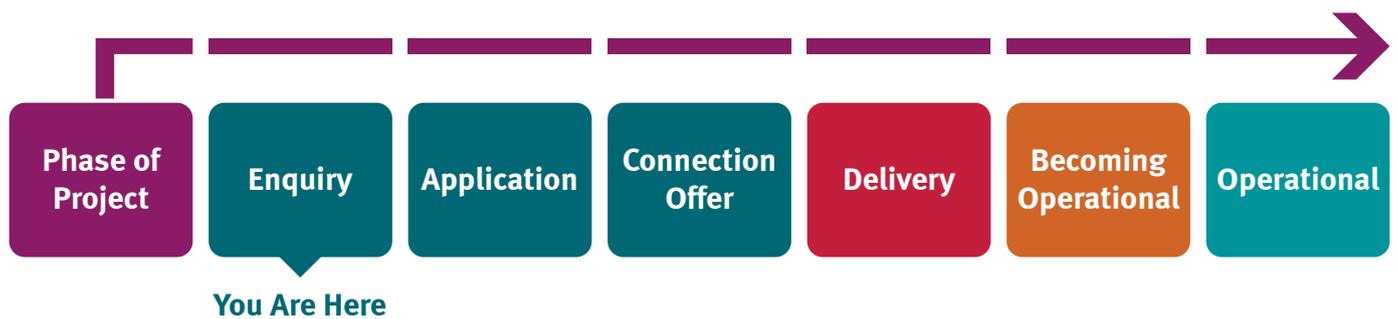
www.cru.ie/document_group/copy-of-electricity-connection-policy/

CRU Direction on 17 October 2018 to EirGrid and ESBN, as System Operators, allows a connection offer to any generator located within the Dublin region Level 2 Locational Capacity Constraint area successful in T-4 capacity auction for 2022/23; The qualification application deadline for the T-4 Capacity Auction for 2022/23 closed on 25 October 2018.



The current. The future.

Connection Enquiry Phase



Your Point Of Contact During This Phase

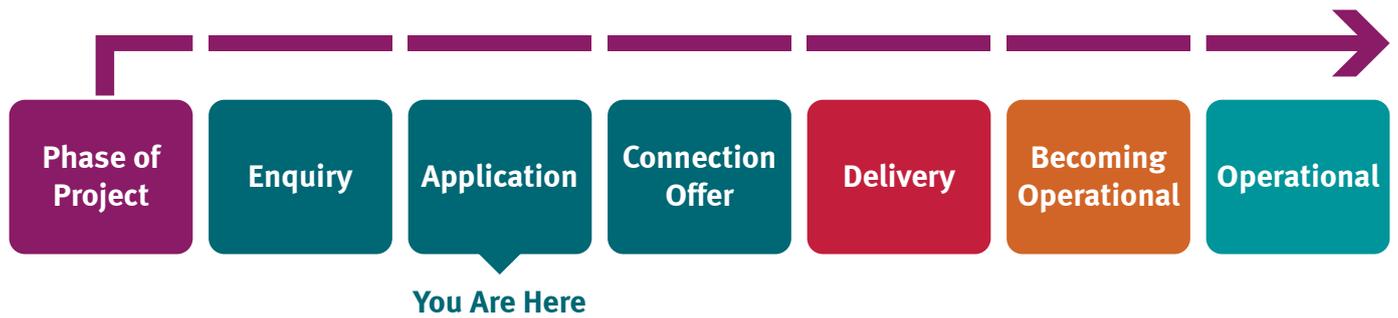
The Customers and Stakeholders team is your point of contact during this phase. The Customers and Stakeholders team is a source for information and can arrange discussions between the relevant internal teams.

Information Sources

There are a number of published sources which are helpful references at this point.

- **The primary source of transmission information is the all-island Ten Year Transmission Forecast Statement.** It describes the status and proposed development of the transmission system over a ten-year period.
- **The information contained in the annual forecast statement can be used to screen a location for the availability of transmission capacity.** The document includes a guide on its use for demand feasibility. A list of demand opportunities in the forecast statement is not exhaustive and may not capture the impact of more recent connection agreements. Therefore, we advise you to discuss your preferred location with us in order to assess whether the capacity requested is feasible.
- **We publish an indicative transmission map online.** This can be used to get an overview of the location of the transmission network in a region. More detailed mapping is available from ESB Networks' safe digging office which can be contacted via ESB Networks' *'contact us'* web page.

Connection Application Phase



Your Point Of Contact During This Phase

The Customers and Stakeholders team remains your point of contact during this phase. The Customers and Stakeholders team will provide you with information and arrange meetings for you as and when required.

Application Documentation

Everyone applying to connect to the transmission system must ultimately submit a formal application to EirGrid. Applications are advanced through the connection offer process approved by the Commission for Regulation of Utilities (CRU). This process is in place to ensure fairness, provide transparency and facilitate timely delivery of connection offers.

The required documentation for an initial demand application is described on our website and includes:

- Cover letter outlining your requirements;
- Completed demand connection application form;
- Evidence of electronic transfer of initial application fee;
- Two signed confidentiality agreements;
- Signed grid code acknowledgement declarations.

Application Fees and Lead-times

The total application fee is dependent on the MIC you are applying for. The formula for calculating the application fee and the current fees are set out in the CRU approved Statement of Charges

www.eirgridgroup.com/site-files/library/EirGrid/CER-Approval-Statement-of-Charges-2018_19.pdf

These are also available on our website. Fees are subject to review on an annual basis. The initial application fee is €7,000 (inclusive of Value Added Tax). This initial fee is to cover the cost of the application check. Part of the application check is to confirm the total cost of the application. The application check phase is typically a 20 business day process and additional time may be necessary where additional clarifications are needed.

Once the application check is complete, all clarifications are addressed and the balance of the application fee is received, the application is deemed complete. At this point the formal connection offer process commences.

Contestable and Non-contestable Delivery Models

During the enquiry phase we outline the options available for the design and build of a project. Traditionally EirGrid, in partnership with ESB Networks, would design, procure, build and commission a customer connection to the transmission system.

It is now more common for project developers to use a contestable build model. This is where the developer takes responsibility for the planning permission, the majority of the design and the construction programme. Non-contestable elements of a new connection could include work that may be required on existing lines and in remote substations.

Connection and Equipment Requirements

We have a responsibility to ensure the delivery of connections in an efficient and cost-effective way. The cheapest method for constructing and connecting stations is typically to use air insulated switchgear connected by overhead lines. Customers may however opt for gas insulated switchgear and underground cables as a preference.

The connection method is ultimately determined by a number of factors, including design standards and specifications, location, customer requirements and system requirements.

Customers can outline their specific preferences when submitting the application and EirGrid will endeavour to incorporate these requests when designing connection methods.

Information Sources

In addition to the application documentation itself there are a number of information sources available to assist you in completing an application form.

System performance information and data is available to prospective demand customers. This includes standard maintenance outage cycles and durations, operating security standards, the transmission system performance report and average fault instances. Additional information may be available for a specific location; however this information would require retrieval which could take a number of weeks.

We maintain a suite of functional specifications and technical schedules. These outline the general and technical requirements for all new substation builds and high-voltage transmission equipment connecting to the system. The specifications cover all areas of transmission high-voltage equipment design, along with associated civil and steelwork requirements.

The specifications are available on an extranet site for transmission customers and their representatives. The extranet site also contains relevant policies associated with new connections. You can request access to the extranet site by contacting Customers and Stakeholders.



The current. The future.

Connection Offer Phase



Your Point Of Contact During This Phase

When you have submitted an application form, your primary point of contact is an offer owner in the connections and charging team. You are also assigned your Customers and Stakeholders account manager who is available to assist you through the process or with any queries you may have.

Connection Offer Process and Lead-times

During the offer process we meet with you to discuss the connection method and contestability arrangements. This meeting is approximately 6-8 weeks from the time which a complete application and all relevant fees have been received by EirGrid. It is an opportunity for us to discuss progress to date and the connection options that have been assessed.

During the connection offer process a number of connection options are studied. A 'least-cost chargeable connection method' is identified. This forms the basis of the connection charges for the new demand facility. Demand customers are required to pay 50% of the least-cost charge. The remaining 50% is recovered through the transmission charges recovered from all customers. Should a Demand customer require a more elaborate connection or have specific customer preferences due to their own requirements e.g. redundancy of their connection, the Demand customer is liable for 100% of any incremental costs. Wider system reinforcements which may be required to facilitate the new demand facility are not charged directly to the connecting customer.

If the new demand facility requires a connection method which includes a customer preference, e.g. a second feeder, you are charged 100% of the incremental cost above the least-cost charge.

Further details are available on our website:

www.eirgridgroup.com/customer-and-industry/general-customer-information/connections-and-contracts/

We advise you to review the published connection agreement template and general conditions documentation in advance of receiving your connection offer. This is standard for all offers.

The offer letter and connection agreement sent to you for signature are valid for three calendar months.

During the offer validity period, we are available to clarify any questions you may have on the content of the connection offer, including charges and bonding arrangements.

When the connection agreement is signed by you and returned to us for counter-signing the connection offer is executed – as long as the necessary financial transactions are complete. Your project now moves on to the delivery phase.

Connection Offer Documentation

Only the bespoke aspects of your connection may need to be considered by your team during the offer validity period. The connection agreement and offer letter issued to you is confidential and not published.

A connection offer is a suite of documents comprising:

Connection offer letter;

Connection agreement;

General conditions of the connection agreement.

The connection offer letter contains all of the project-specific technical and commercial details resulting from the connection offer process and discussions with you.

Connection Charges and Bonds

Transmission connection charges are regulated by the CRU. A standard charge methodology is employed to provide customers with a reasonable degree of financial certainty when estimating connection charges. The standard charges are published and updated annually.

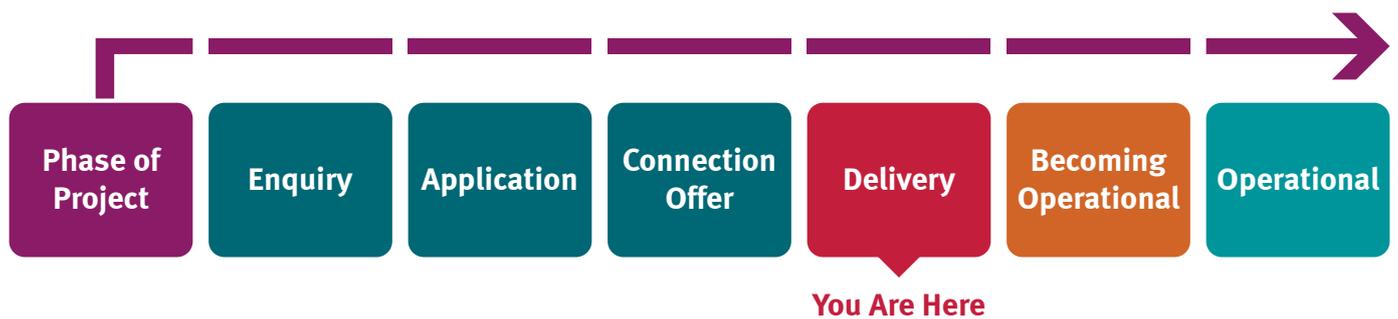
On or after the execution of a connection agreement, a number of forms of security cover are required. These must be provided by an organisation with an approved credit rating.

Details of security are outlined in the General Conditions.



The current. The future.

Connection Delivery Phase



Your Point Of Contact During This Phase

When the connection agreement is executed, attention now turns to the delivery of the transmission connection. This is known as the delivery phase. At this point the offer owner hands over the connection agreement to a project manager. The project manager, is now your primary point of contact, and arranges a project kick-off meeting with your team. (The project manager is to be your primary point of contact up to the energisation of the connection and the close out of the connection works). Your customer account manager is also available to assist you with any non-project related queries you may have.

Delivery Roles and Milestones

Key aspects of the delivery phase for your project include:

- Clarity on the roles and responsibilities of our project team and your project team;
- Project scheduling and key deliverables;
 - It is important that your team has an awareness of the various deliverables and how they are sequenced. You need to be aware of all of the deliverables that must be met, the activities required to meet them and when and how they should be scheduled.
 - The lead times for major deliverables, such as planning permissions for the facility and the transmission connection (including the appeals process), should be accounted for in your programme.
- Clarity on communications;
 - It is important that everyone understands how project and non-project communications are managed. The delivery phase includes regular project meetings and regular communications on project schedules and deliverables.
- Financial milestones;
 - There are a number of financial milestones during the delivery phase. These include the balance of the connection charges, connection charges bond, pass through charges and, where applicable, refunds and capital contributions.

- EirGrid and ESB Networks approvals;
 - The Infrastructure Agreement is the legal agreement in place which outlines how ESB Networks (Transmission Asset Owner, TAO) provides services to EirGrid, (Transmission System Operator, TSO). There are a number of process and approval milestones which we have to meet before we can engage ESB Networks.
- Contestable and Non-contestable project scope.
 - The project manager will be the point of contact for the contestable project scope.
 - The project manager will be the point of contact for engaging with the TAO regarding the non-contestable project scope and all through the contestable construction up to energisation. The non-contestable project scope is transmission system work which cannot be completed by a customer. The Infrastructure Agreement is used to progress the non-contestable project scope.
 - The Infrastructure Agreement is a bi-lateral contractual agreement between ESB (TAO), and EirGrid, (TSO). The Infrastructure Agreement forms the basis of the relationship between the TSO and TAO.
 - The Infrastructure Agreement is designed to ensure the development of the Project Agreement for the non-contestable project scope. Under the Infrastructure Agreement the TSO will then issue a Committed Project Parameter (CPP) to the TAO. The TAO will develop a Project Implementation Plan (PIP) from this CPP and submit to the TSO for approval. Once the CPP is finalised and the PIP is determined or agreed to be satisfactory, the Project Agreement shall be prepared and executed between TAO and the TSO.
 - The executed Project Agreement allows the detailed design, tendering and construction work associated with the non-contestable project scope to proceed.

Asset Handover

If you have chosen a contestable model, ownership of the asset will be handed over to the TSO/TAO upon energisation.

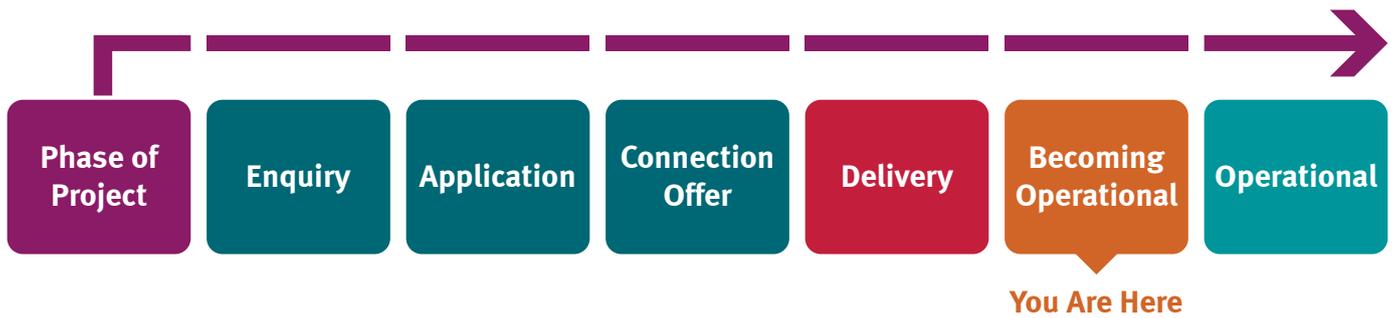
Information Sources

It is important that in discussions with equipment suppliers that you understand your obligations to comply with the grid code and with our functional specifications (Section 2). The 'getting connected' manual is relevant to customers who are undertaking to contest the delivery of some or all of the site-related connection equipment. Your project team should use it for reference and information throughout the delivery phase of the project. The 'getting connected' manual supports the information presented to you at the project kick-off meeting and complements the slide pack from that meeting.



The current. The future.

Becoming Operational



Your Point Of Contact During This Phase

The EirGrid project manager remains your primary point of contact right up to the energisation of the connection and the close out of the connection works.

Your Obligations Before Becoming Operational

It is important that you have a high-level understanding of your obligations so that you can plan for them from an early stage and not introduce risk that could impact your schedule.

The following key aspects of the energisation of a new demand facility require some consideration:

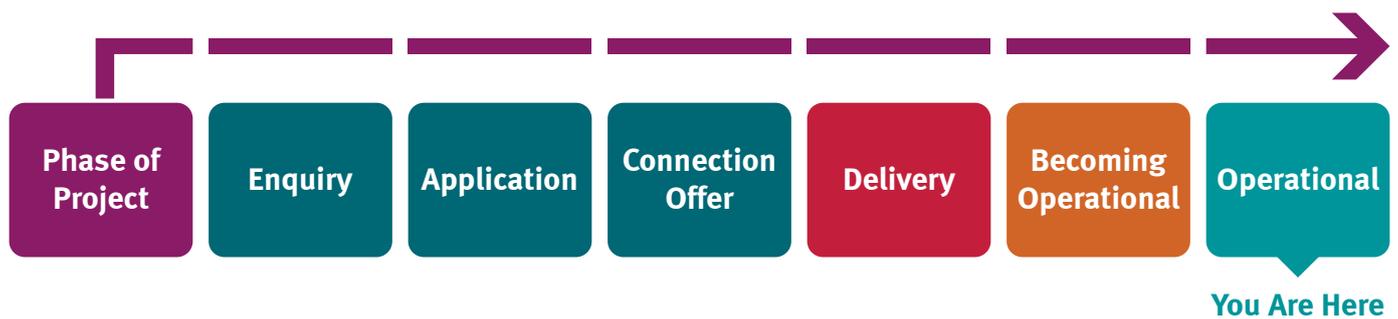
- The grid code, how it is reviewed modified and your obligations;
- Grid code compliance testing
 - All customers connecting to the transmission system must undergo grid code compliance testing. The aim of this testing is to demonstrate compliance with the relevant sections of the grid code, in as far as is possible to do so. These tests may take a number of different forms including:
 - Documentation submission;
 - Declarations of fitness for equipment;
 - Studies and simulations; and
 - Physical tests.
- Energisation instruction
 - An energisation instruction is a detailed step-by-step switching procedure for making switchgear/ equipment live safely using proven protection. Following the submission of detailed information for the connection, an energisation instruction is issued in advance of the proposed energisation date.

- Declaration of fitness
 - A declaration of fitness is a statement of fact by a commissioning entity certifying that equipment and plant is fit for connection or re-connection to the transmission system and subsequent energisation. A declaration of fitness is provided to the National Control Centre (NCC).
- Operation instruction
 - The operation instruction describes the necessary procedures to de-energise / energise and isolate high-voltage plant at the operational boundary, between a customer's site and the transmission system. The operation instruction must be signed off before energisation takes place.
- Approved operators
 - All customers must have competent operators who can perform switching of all plant and equipment under their operational control. ESB Networks, on behalf of EirGrid, carries out all switching of plant and equipment under our operational control. In order to carry out switching at the operational boundary, your operators must have a suitable level of competency and must be trained by ESB in the ESB telemessing procedures.



The current. The future.

Operating A Connection



Your Point Of Contact During This Phase

After the delivery phase is concluded and the demand facility is energised your primary point of contact is your customer relations account manager.

Key Interactions When You Are Operational

Once your project is operational interactions will continue between us. Our customer account management structure is to ensure your interactions with us are effective. Our account manager is the point of contact for items such as:

- Database of 24 hour contacts, approved switchers and authorised transmission plant operators;
- The maintenance of distribution lists for the circulation of scheduled and forced outages and system faults;
- The scheduling of customer maintenance outages and the annual transmission outage programme;
- Information on industry workshops, events and publications;

When you are operational you may be interested in demand side participation. You may be interested in becoming a demand side unit or in providing system services such as frequency response. Your account manager can provide information on demand-side participation.

While operational you incur transmission use of system charges. These charges are invoiced by us each month.

Outages

To facilitate maintenance, outages will occur on an annual basis once per year. The EirGrid Group Guide to Transmission Equipment Maintenance will provide a guide to determine the potential duration of any such outages.

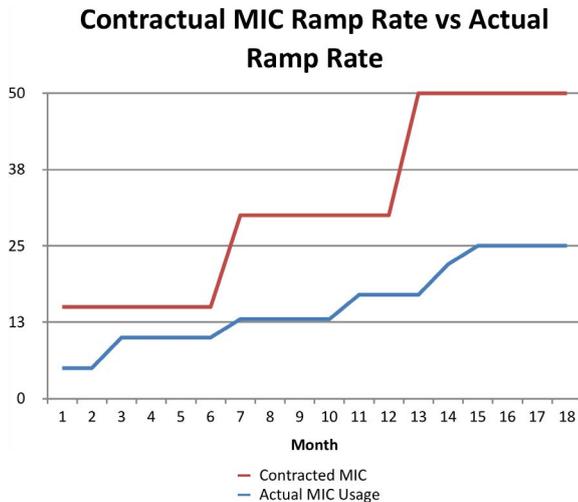
Information sources

An operational manual will be available for easy reference. It includes guidance on the correct processes to follow for the variety of interactions with us.

Frequently Asked Questions

How does the ramp rate work?

- EirGrid administers ramp rates in line with the MIC Administration Paper: www.eirgridgroup.com/site-files/library/EirGrid/MIC-administration-paper-v2-0-updated-14-April-2015.pdf
- A new demand customer is expected to achieve their full contracted MIC 18 months from energisation of their connection.
- Typically this ramp rate is supplied by the customer as part of the new demand application.
- Demand customers may use 3 ramp steps over an 18 month period to achieve their full contracted MIC.
- While a customer may not utilise 100% of their contracted MIC, TUoS will be charged in line with the contracted MIC for each TUoS billing period in line with the contracted ramp step over the 18 month period.
- From month 18 customers are charged TUoS based on their full contracted MIC.



What if my forecasted load is lower than expected?

- Depending on the stage of the process the project is at will determine the courses of action available.
- If the facility is connected a customer may request to reduce the contracted MIC. This requires the submission of a formal modification. Details on how to submit a modification are available here:

www.eirgridgroup.com/_uuid/463e7512-d115-4d94-b1ab-79b8cb366f73/index.xml. A notice period of 18 months is required before the MIC can be reduced

- If a connection offer has been signed to secure demand capacity requested and the customer wishes to reduce the MIC requested, the customer should contact their contract manager to consider the options available.
- If an application has been submitted and is being processed, the customer should notify EirGrid as soon as possible that the forecasted load is lower than expected. Next steps can be discussed.
- If an application has been submitted but has not yet been processed, a revised application can be provided to advise EirGrid of the revised load. Please also get in touch with your main point of contact as soon as possible to advise of the possible change.

When will I have to pay my full committed MIC?

- While a customer may not utilise 100% of their contracted MIC, TUoS will be charged in line with the contracted MIC for each TUoS billing period in line with the contracted ramp step over the 18 month period.
- From month 18 customers are charged TUoS based on their full contracted MIC.

I need a temporary supply during my delivery phase, can you provide this?

A customer may request a specific temporary connection. This could typically occur where the customer is concerned that the ultimate permanent connection will take too long to complete. In the first instance the permanent connection must be determined. Following this, there may be options for the customer to suggest a temporary connection.

In some situations a customer can request a medium voltage temporary connection from ESB Networks the Distribution System Operator. If necessary, EirGrid can engage with ESB Networks and the customer to determine a connection method that can evolve from an initial medium voltage temporary DSO connection into a final permanent TSO connection.



The current. The future.

Frequently Asked Questions

The following general considerations should be taken into consideration for temporary connections:

- Temporary connections will generally only be offered where there is expected to be a material difference between the lead time for the permanent and temporary connections;
- The temporary connection should give rise to minimal additional stranded shallow works;
- Usual system studies apply e.g. connection must be technically feasible;
- The temporary connection must be built in accordance with the relevant transmission or distribution design standards;
- The temporary connection should not unduly increase the risk to security of supply for customers in the region;
- In the event additional stranded shallow assets are required – over and above those required for the permanent connection - these are to be paid for in full by the customer;
- The customer will be liable for decommissioning and reinstatement costs associated with any stranded assets;
- The temporary connection will only be allowed if it can be accommodated in the overall work programme without impacting negatively on other system users; and

Can you provide a pre-feasibility study?

EirGrid can on occasion be contracted on a commercial basis to carry out pre-feasibility studies on behalf of specific customers. However this must be balanced with our general regulatory and statutory functions (for example processing connection agreements for prospective new users of the transmission system). Given the general workload involved in these functions, customers requiring pre-feasibility studies are typically encouraged to utilise the private sector. EirGrid publishes documentation (for example the Transmission Forecast Statement) and network models of the power system, which allows third parties to undertake their own simulations and analysis.

I want to deliver my own project in tandem with the grid phase? What can we do to speed up your timelines? Are there any tools available?

Advance Work Packages can be used to front load work which typically occurs post execution of the connection offer. Further details of Advance Work Packages including how to apply are available here: www.eirgridgroup.com/__uuid/463e7512-d115-4d94-b1ab-79b8cb366f73/index.xml

What happens if I want to reduce my MIC?

- Depending on the stage of the process it will determine the courses of action available.
- If the facility is connected a customer may request to reduce the contracted MIC. This requires the submission of a formal modification. Details on how to submit a modification are available here: www.eirgridgroup.com/__uuid/463e7512-d115-4d94-b1ab-79b8cb366f73/index.xml. A notice period of 18 months is required before the MIC can be reduced.
- If a connection offer has been signed to secure the capacity requested and the customer wishes to reduce the MIC requested, the customer should contact their contract manager to consider the options available.
- If an application has been submitted and is being processed, the customer should notify EirGrid as soon as possible that the forecasted load is lower than expected. Next steps can be discussed.
- If an application has been submitted but has not yet been processed, a revised application can be provided to advise EirGrid of the revised load. Please also contact your main point of contact as soon as possible to advise of the possible change.

What happens if I want to close my plant and no longer require a grid connection?

Generators: The Grid Code require generators to give three years' notice where they intend to close their generation plant if the capacity of the plant being closed is 50MW or greater, or two years' notice otherwise. A generator intending to close its plant must send the requisite notice on formal company



The current. The future.

Frequently Asked Questions

letterhead to EirGrid and clearly indicate which unit or plant the generator intends to close and a date on which it intends to implement the change. At the same time as submitting the notice, the generator shall submit an application to terminate their connection agreement to the relevant SO. These notices and applications are subsequently assessed and processed in accordance with the EirGrid's Generation Plant Closure Process which is available on our website, as well as the terms and conditions of the Connection Agreement.

***For the avoidance of doubt, Connection Agreements require customers to comply with the Grid Code relevant to their jurisdiction. Where notice period requirements are different in various documents, for example between the Connection Agreement and the Grid Code, the Grid Code requirements apply.**

Demand Customers: Demand customers who wish to close their facility are required to give two years' notice in accordance with the terms and conditions of their Connection Agreement. A demand customer intending to close its facility must send the requisite notice on formal company letterhead to EirGrid and should clearly indicate which facility the demand customer intends to close and a date on which it intends to implement the change. At the same time as submitting the notice, the demand customer shall submit an application to terminate their connection agreement to the relevant SO. These notices and applications are subsequently assessed and processed in accordance with the terms and conditions of the Connection Agreement.

What happens if I want to reduce my MEC?

Please refer to the EirGrid Policy for MEC Administration for Customers of the TSO for direction on how to apply to reduce MEC and for further detail on associated costs, timelines and considerations.

What happens if I want to reduce the MIC of my facility?

Please refer to the EirGrid MIC Administration Policy for Customers connected to the Transmission System for direction on how to apply to reduce MIC and for further detail on associated costs, timelines and considerations.

Where are there good opportunities to connect large demand facilities?

Tomorrow's Energy Scenarios provides up to date information on suitable locations for demand facilities.

What are 'Pass Through' Charges?

'Pass Through' Charges are the difference between the actual and estimated Connection Charge payable by the customer to company or by the company to the customer dependant on whether the actual costs are greater or lesser than the Connection Charge.

How can I increase the MIC of my connected or contracted facility?

To increase the MIC of an existed connected facility or a planned facility a new application is required.



The current. The future.

References & Links

1. The all-island transmission forecast statement is updated annually.
www.eirgridgroup.com/library/
2. The all-island transmission map is updated annually.
<http://smartgriddashboard.eirgrid.com/assets/All-IslandTransmissionMap.pdf>
3. ESB Networks' central site for safe digging can be contacted for mapping information.
www.esbnetworks.ie/tns/contact-us
4. EirGrid website with information including the application form, the statement of charges (updated annually).
www.eirgridgroup.com/customer-and-industry/becoming-a-customer/
5. Contractual documentation including a standard connection agreement and the general conditions.
www.eirgridgroup.com/customer-and-industry/becoming-a-customer/relevant-documentation/
6. The standard transmission, distribution and maintenance charges are published by the Commission for Energy Regulation. They are updated annually.
www.cer.ie/
7. The grid code for all users of the transmission system.
www.eirgridgroup.com/customer-and-industry/general-customer-information/grid-code-compliance-test/index.xml

