# Data Centre
# Connection Offer Process and Policy

**Version 2.0**

**17 July 2020**

# 1 Executive Summary

This paper sets out the connection offer process and policy for data centres. It is an update to the previous Data Centre Connection Process and Policy (DCCOPP) which was issued in June 2019. Changes since the previous paper are set out in Appendix 1.

This paper provides details for data centre customers seeking to connect to the transmission system regarding the following:

- Two stage offer process.
- Linkages between achieving planning permission for a project and a connection offer.
- Annual capacity reviews to identify if any firm access is available in constrained areas.
- Flexible demand options in constrained areas.
- Ramping rates.
- Firm capacity availability where on-site dispatchable generation is installed.
- Clarity on related policy items such as mergers and capacity relocation.

This paper applies to data centres connecting directly to the transmission network or large data centres indirectly connected to the transmission system through the distribution system. Not all measures apply to every data centre as they depend on what stage of development that a data centre is at and the system to which it is connecting. Each section clearly sets out the categories of projects that it applies to.

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**Document History**

| Version | Modification | Date Issued |
|---|---|---|
| 1 | Original | 12/06/2019 |
| 2 | Updated per Appendix 1 | 17/07/2020 |

# 2 Introduction

Ireland has seen a paradigm shift in the scale of large data centres seeking to connect to the Irish electricity system. EirGrid has committed to meeting the challenge of maintaining Ireland's high standards in security of supply while maximising the opportunities presented by this new sector. While the connection of a large number of data centres presents a new challenge to EirGrid, we recognise the important role that data centres will play in the future as outlined in the Government paper on The Role of Data centres in Ireland's Enterprise Strategy ("Data Centre Strategy")[1]. To ensure that data centres can continue to connect to the transmission system and deliver the benefits as outlined in the Data Centre Strategy, and in response to the challenges highlighted above, EirGrid issued a data centre connection offer policy paper in June 2019, engaged with industry and have issued this updated paper.

The following sections set out the connection offer process and policy with respect to data centre customer applications.

[1] https://dbei.gov.ie/en/Publications/Publication-files/Government-Statement-Data-Centres-Enterprise-Strategy.pdf

# 3 Connection Offer Process

This section details the approach that EirGrid is now implementing for processing applications up to executed connection offers for data centres (the 'Offer Process').

**At a glance:**

1. Data centre applications progressed via a two stage connection offer process.
2. Customers are provided with a connection method during Stage 1.
3. This connection method is reserved for that customer while planning permission is being confirmed by that customer.
4. Stage 2 will commence once planning permission is achieved by the customer.
5. The connection offer then issues to the customer after Stage 2 and if accepted will book that customer's required capacity on the transmission system.
6. A structured approach will be implemented with regard to the processing of data centre connection offers located in the same geographical area.

## 3.1 Application Process

In order to apply for a Connection Offer (an 'offer') to connect to the electricity transmission system, a customer must make a formal application to EirGrid. This includes a fully completed application form (template available here), accompanied by all supporting documentation requested therein by EirGrid including two signed copies of EirGrid's standard confidentiality agreement, and the first instalment of €7,000[2] (inclusive of VAT) of the application fee (schedule of application fees available in current Statement of Charges

[2] This figure may be updated should the existing Statement of Charges paper be updated.

available). EirGrid will acknowledge in writing receipt of the application form, its supporting documentation and first instalment of the application fee. A further response will issue from EirGrid within 20 business days to advise the customer that either:

a. the application is deemed complete and advise of the second instalment of the application fee; or
b. that further information is required from the customer to progress the application further.

The total application fee is dependent on the size of the data centre (taking into account the Maximum Import Capacity ("MIC") values) and whether new connection works are involved in connecting the capacity required. The formula for calculating this fee is set out in the Statement of Charges document as approved by the Commission for Regulation of Utilities ("CRU")[3] annually. EirGrid will assess whether shallow connection works are likely to be required and determine the balance of the application fee accordingly. Please note EirGrid can only invoice the potential contracting entity as stated in the application. If this approach causes an issue for a customer it should be raised with EirGrid at the earliest point possible.

Where the application is incomplete, the customer will be advised which items of data are missing and / or any clarifications required. The application will only be considered complete when all information requested by EirGrid has been received and a written acknowledgement to that effect has been sent to the customer by EirGrid ("the Acknowledgement"). EirGrid will issue the Acknowledgement in the order in which complete applications are received by EirGrid.

This section applies to all transmission system data centre applications that had yet to be deemed complete and entered the Connection Offer Process as of 12 June 2019.

## 3.2 Offer Process Stage 1

### *3.2.1 Connection method determination*

Once the Acknowledgment has been issued for a fully completed application form and the full application fee has been received, EirGrid will commence processing the application up to connection method stage. This will typically take up to three months except for complex connections. Where a connection is deemed complex the customer will be advised of the

[3] https://www.cru.ie/

required timeframe in that instance. Note that this will be quite likely for applications in certain areas of Dublin given the scale of data centres in the process of connecting in those areas.

The proposed connection of a new data centre to the transmission system involves a number of studies to determine the most appropriate method to connect the customer's project to the transmission system. Based on the various studies, EirGrid will determine the connection method options, in compliance with EirGrid's Transmission System Security and Planning Standards[4]. EirGrid will choose the most prudent connection option taking into consideration least cost connection method, customer preferences and wider system planning.

Once the connection method is determined, it will be confirmed to the customer. A letter will be issued to the customer confirming completion of Stage 1 of the connection offer process, and informing them that their connection method is reserved for the period applicable under this policy paper.

### *3.2.2 Progressing with Planning permission*

In the event that the customer wishes to continue with their application, the customer must (where applicable) submit their planning permission application within three months of receipt of connection method confirmation from EirGrid. The customer shall notify EirGrid that a planning permission application has been submitted and received by the relevant authority. EirGrid will provide appropriate assistance e.g. provisional of technical specifications, checking station layout is in accordance with specifications and reviewing cable routes and designs.

The customer's connection method will remain valid for at least a further 3 months after submission of planning permission so that a customer has a connection method reserved for up to 6 months. If a customer is unable to secure a decision on planning permission within this time period, EirGrid will act reasonably in considering requests for an extension where the customer can demonstrate that failure to secure a decision on planning permission was outside their control.

[4] http://www.eirgridgroup.com/site-files/library/EirGrid/EirGrid-Transmission-System-Security-and-Planning-Standards-TSSPS-Final-May-2016.pdf

This section applies to all data centre applications connecting to the transmission system that have yet to be deemed complete and enter the Connection Offer Process as of 12 June 2019.

### 3.3 Offer Process Stage 2

To progress to Stage 2 of the Connection Offer Process, proof of valid planning permission[5] must be provided to EirGrid.

Once valid planning permission is received for the project, EirGrid will complete the construction, charging and legal aspects in relation to the connection application and issue a connection offer to the customer.

A connection charge is calculated for the works in accordance with current CRU approved connection charging policy[6]. This is based upon standard charges and leadtimes which are set out in the CRU approved Standard Transmission Charges & Timelines decision paper[7]. Figure 1 below highlights the interaction between Stage 1 and Stage 2 in the lead up to a customer receiving an offer from EirGrid. The offer will remain valid for 90 Business Days from date of issue.

This section applies to all data centre applications connecting to the transmission system that had yet to be deemed complete and entered the Connection Offer Process as of 12 June, 2019, and those that currently have a live connection offer.

[5] See later section relating to planning permission in this document
[6] http://www.eirgridgroup.com/site-files/library/EirGrid/Connection-Charging-Statement.pdf http://www.eirgridgroup.com/site-files/library/EirGrid/JointTSO_DSOGroupProcessingApproachChargingandRebatingPrinciples.pdf
[7] https://www.cru.ie/wp-content/uploads/2009/07/cer09077.pdf

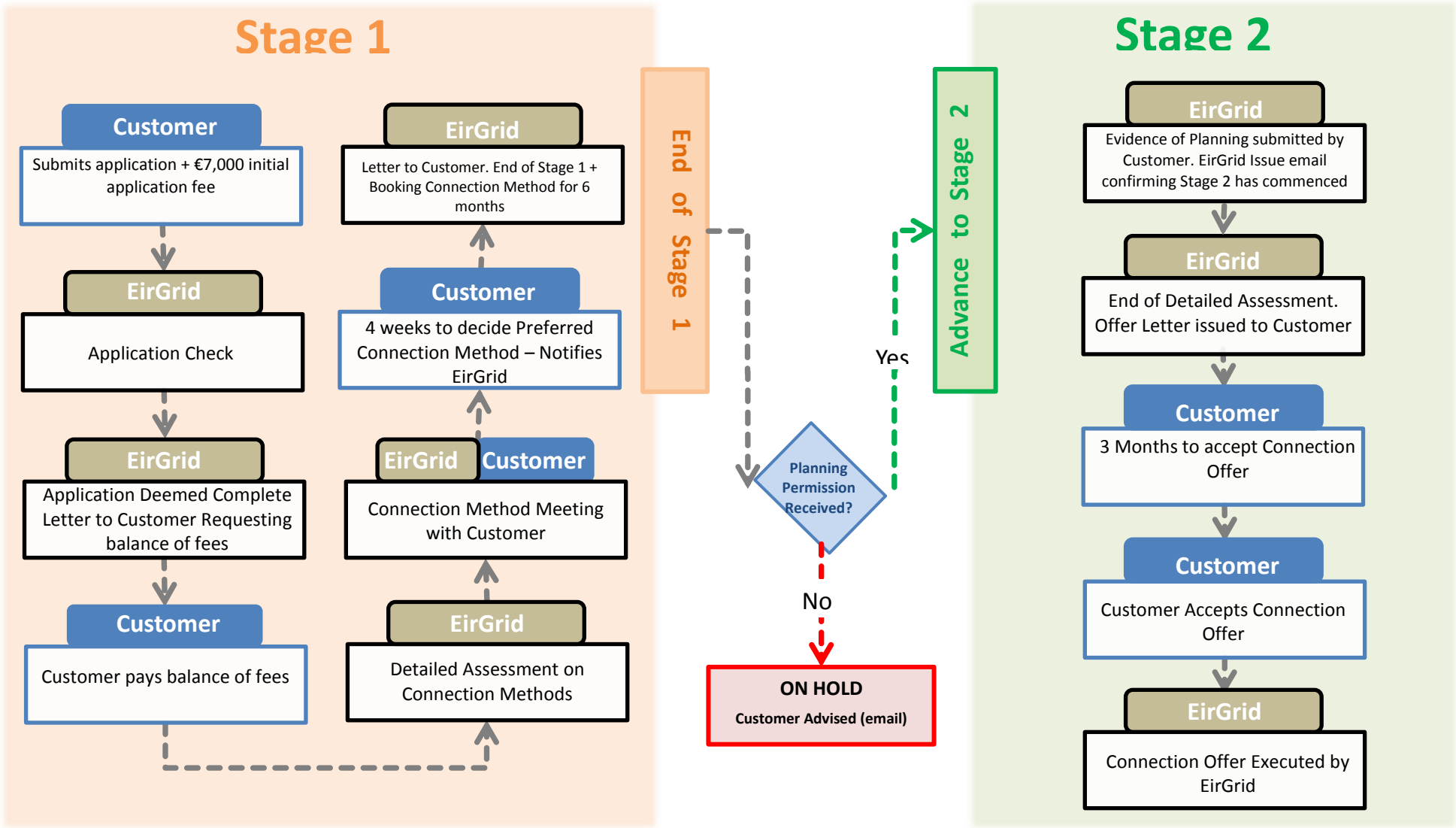


Figure 1 Data Centre Application Process

## 3.4 Accepting a Connection Offer

To accept an offer, the customer must return the signed connection agreement to EirGrid within 3 calendar months of receiving the offer. In the event that the customer does not accept the Offer within 3 calendar months of receiving the offer, the offer will lapse unless an extension has been agreed with EirGrid. Where the offer lapses, the customer will be required to re-submit a new application should they wish to connect a data centre to the transmission system in the future.

This section applies to all new data centres connecting directly to the transmission network, transmission customers who have yet to receive a connection offer and those that currently have a live transmission connection offer.

## 3.5 Interacting Applications

It is in the nature of a national electricity system that at times, a number of applications will be in progress simultaneously which may be in some way competing with or will affect in some way other applications. If an offer is accepted then work that EirGrid may be undertaking for another customer or an issued connection offer which has not yet been accepted by the customer may no longer be valid or appropriate.

EirGrid will adopt a ‘first come, first served’ approach when processing data centre applications. Where a customer submits a request to connect to the transmission system, EirGrid will process the application based on the two stage process as outlined in Section 3 above.

However, should another data centre customer(s) seek to connect to the same transmission infrastructure, EirGrid will inform the first customer that a second application has been received and as such any potential extensions to timelines will have to be limited accordingly. Similarly, upon receipt of a second application to connect to the transmission system, EirGrid will inform the second customer that a customer application is currently progressing in the same area as their connection application. The second customer will have the choice to:

1. Wait until the completion of the connection offer process for the first customer; or
2. Continue with their application, on the basis that the first project will continue to completion.

The risk of choosing the second option is that the connection method may be more expensive and/or require more time to complete than if the first option is chosen. Choosing the first option however would likely lengthen the time to receive an offer.

EirGrid will advise all affected interacting customers of the receipt of a deemed complete application and any acceptance of a connection offer which affects or invalidates a live connection offer, or a connection application being processed, as soon as reasonably practicable. EirGrid can, in general, only base connection offers on committed connections i.e. those with executed connection agreements. An offer must allow for the rights of third parties to proceed to a committed connection, which may occur in advance of an offer being accepted by the original customer. The first interacting or conflicting customer to accept an offer will be the one to be given priority. Other customers will be advised that the capacity situation has changed and if appropriate the extent to which the terms and conditions of their unaccepted offers or applications are affected or invalid.

This section applies to all new data centres applications and customers who have yet to receive an offer and those that currently have a live connection offer.

## 3.6 Influencing Applications

A connection offer made to a customer may be one of a number of offers that have been issued to customers for connections to the transmission system. The charges, method of connection and connection dates and periods specified in a customer's offer letter may be based on a number of 'Influencing Connections' which will be identified in a customer's offer. If any of the Influencing Connections do not proceed in accordance with the timeframes as set out in their connection agreements, then the method of connection, the timing of the connection and/or charges may be amended to reflect the changed circumstances. This applies to data centres connecting directly to the transmission network or large data centres indirectly connected to the transmission system through the distribution system.

## 3.7 Modification requests

While EirGrid requests that customers endeavour to submit accurate applications, it is recognised that there may be instances where a customer may wish to seek to modify their application. EirGrid will, in assessing any such modification request, take account of the impact on all offers issued or due to be issued before the modification has been processed. Customers should be aware that modification requests will likely delay connection offer dates (when made during offer processing), and may require an additional processing fee. Information regarding the processing of customer modification requests can be accessed here[8]. There are some cases whereby EirGrid may need to make a Company Modification and Clause 21.3 of the Transmission General Conditions of Connection and Transmission Use of System[9] sets out the terms and conditions which apply in this context. The rules below apply to data centres connecting directly to the transmission network or large data centres indirectly connected to the transmission system through the distribution system.

### *3.7.1 Reductions* in MIC

Reductions in MIC can create additional work, uncertainty and time when processing an application. Therefore reductions in MIC can only be accommodated where a reduction in MIC would be beneficial to a project(s) without having a negative impact on other customers. This scenario can generally occur where a project does not share connection assets with other projects. Therefore the rules under which a reduction in MIC can be allowed are as follows:

- The reduction in MIC can be accommodated without negatively impacting on costs for other transmission system customers;
- The reduction in MIC can be accommodated by EirGrid without negatively impacting on the delivery date of connection offers of other data centre customers; and
- A processing fee will be charged to reflect the additional work undertaken by EirGrid.

### *3.7.2 Increases in MIC*

MIC increases are assessed and treated in the same manner as new applications for capacity.

[8] http://www.eirgridgroup.com/customer-and-industry/becoming-a-customer/demand-customer/
[9] http://www.eirgridgroup.com/site-files/library/EirGrid/GeneralConditionsofConnectionandUseofSystem(July-2013).pdf

### *3.7.3 Mergers*

Mergers occur whereby two or more separate projects, with separate MICs, apply to become one project with a combined MIC and a single connection point to the Transmission System, with the individual site connected via internal developer network. EirGrid will permit a merger of two separate applications within the same site boundary up until Stage 2. Customers should note that applications to merge projects during the offer process may result in delays to the processing of their application.

To merge a project, the customers must

i. Submit an updated application form from a single legal entity with all appropriate information.
ii. The application must include a signed declaration on official company paper that the customers that own the projects seeking to merge are satisfied for the merger to take place and identify the single legal entity to whom the new connection agreement will be issued.
iii. The offer shall be issued on the assumption that this legal entity will be formed and that all the premises and equipment will be owned by them (confirmation of this to be by way of declaration). This will also be a pre-condition in the connection offer.
iv. Where a merger is requested and even in the case where an offer has yet to be issued, an appropriate fee will apply to cover any additional costs required to process the merger and will be levied in accordance with the standard practice by EirGrid.
v. The timeline to process the modification shall be advised at the time of application or as per the appropriate modification process.

### *3.7.4 Capacity relocation*

The relocation of capacity offered to a data centre customer is not permitted. Capacity relocation is where a customer seeks to move capacity to a site which is not proximate to the location of the capacity at the existing site.

# 4 Access Arrangements

**At a glance:**

1. Flexible demand will be available to customers seeking to connect in constrained areas.
2. Capacity review to be performed following the annual T-4 capacity auction to determine if additional firm access can be been made available.
3. Firm capacity will be provided for data centres where new on-site dispatchable generation is made available to EirGrid.
4. Connection offers are based on planning permission for a site and must line up with the capacity sought.
5. Flexibility will be allowed for MIC ramping in constrained areas.

## 4.1 Data Centre Flexible Demand

Following the EirGrid Data Centre Forum in September 2018, EirGrid introduced a “flexible demand” offering for data centres in constrained areas to enable EirGrid to offer connections where firm capacity may not be readily available. Flexible demand is the portion of a data centre’s electrical load that must be reduced on instruction from EirGrid via the National Control Centre (NCC). Where capacity availability in a particular area is constrained, EirGrid will reserve the right to apply flexible demand arrangements and this will be reflected as a requirement for connection offers for new data centres in that area. EirGrid identify constrained areas as areas where there is a risk or potential risk that the level of demand may be greater or has the potential to become greater than the level of supply currently available or that will be available in the coming years. At present, EirGrid has identified the greater Dublin region as constrained. It is important to note that EirGrid reserves the right to apply the rules outlined in this paper to other constrained regions should a risk to the security of supply of electricity arise.

### *4.1.1 Hierarchy for dispatch*

In a security of supply event (or risk of such an event), EirGrid will in the first instance dispatch available generation and demand side units. Should a risk to the security of supply of electricity in a particular area remain, EirGrid will then instruct data centres with flexible demand to reduce their load.

In an area where there is a constraint, EirGrid will instruct all data centres with flexible demand that can best resolve that constraint in that area to reduce their demand on a pro rata basis. This means that the demand reduction will be based on a percentage of their contracted flexible demand required to address the constraint.

The hierarchy for dispatch in the event of a security of supply event (or risk of such an event) is as follows:

1. EirGrid will maximise existing capacity including available generation (and relevant on-site generation) and appropriate DSU capacity
2. Pro rata constraint across flexible demand data centres in a particular area to resolve a localised or regional constraint; and
3. Standard emergency measures are implemented thereafter if the constraint persists.

### *4.1.2 Flexible Demand in Practice*

The table below illustrates a scenario where there is a requirement for a Flexible Demand reduction of 100 MVA in order to ensure power system security. The scenario assumes this reduction can be spread across eight Flexible Demand sites. The eight sites are utilising a combined load of 320 MVA. Some of the sites have a portion of firm demand and the remainder is flexible. There is a total of 230 MVA of flexible demand. In order to achieve the required demand reduction of 100 MVA, each site will have to reduce the flexible portion of their demand by 43%. This would result in the sites with smallest volumes of flexible demand reducing 4.3 MVA of load and the largest reducing by 24 MVA. The aggregate combination of the eight load reductions is sufficient to maintain the power system within standards.

| Data Centre | Load (MVA) | Firm (MVA) | Flexible (MVA) | Demand Reduction (MVA) |
|---|---|---|---|---|
| A | 100 | 60 | 40 | 17.4 |
| B | 40 | 20 | 20 | 8.7 |
| C | 50 | 0 | 50 | 21.7 |
| D | 15 | 0 | 15 | 6.5 |
| E | 60 | 5 | 55 | 23.9 |

| | | | | |
|---|---|---|---|---|
| F | 30 | 0 | 30 | 13 |
| G | 10 | 0 | 10 | 4.3 |
| H | 15 | 5 | 10 | 4.3 |
| **Totals** | **320** | **90** | **230** | **100** |

**Table 1 Flexible Demand Example**

The example above is a simplified scenario to illustrate the concept of flexible demand. There are a range of additional factors that will need to be taken into account in advance of the implementation of such a scheme, for example:

- The specific details of the control protocols between the NCC and the customer sites.
- The acceptable response times from customers before the NCC will have to take additional actions to reduce demand (for example by fully disconnecting non-responsive sites).

The specific details of how Flexible Demand will be implemented are being covered as part the EirGrid FlexTech Initiative.

This section applies to all new data centres connecting directly to the transmission network or large data centres indirectly connecting to the transmission system through the distribution system in constrained areas and also to existing customers that have already received or are due to receive a connection offer with a flexible arrangement included.

## 4.2 Allocation of Additional Firm Capacity

EirGrid will provide firm capacity in constrained areas where a customer undertakes to provide new dispatchable generation to reduce the impact that their connection has on that constraint[10]. In addition, EirGrid will complete an annual review following the T-4 capacity auction results taking into account network and generation capability. This will identify any additional levels of firm capacity available for data centre customers.

### *4.2.1 Annual Data Centre Ramping Forecasts*

In order to better understand and therefore effectively plan for data centre load requirements we are seeking annual updates from data centres customers of their ramping expectations. This will also help inform EirGrid's annual capacity reviews and the determination of whether additional firm access can be provided.

[10] See section 4.2.3

EirGrid will contact Data Centre customers at the start of each year requesting updated ramping forecasts. We will update contractual agreements to reflect these where allowable under MIC ramping policy. As these ramps feed into our capacity reviews we would request that customers give as accurate information as possible.

### *4.2.2 Annual Capacity Review*

Following the annual T-4 capacity auction results, and data centre ramping forecasts, EirGrid will perform a review to identify areas where potential firm capacity may be available to data centres that have flexible demand. This review will incorporate general load changes, large customers MIC changes, any additional capacity from capacity auction(s) in that year and changes on the generation/transmission network such as the installation of new transmission infrastructure which may result in a decrease in the level of potential demand constraint in a particular area.

This review will facilitate EirGrid in determining whether there is additional firm capacity available that can be allocated to data centres with flexible demand. In determining whether to allocate any of the new additional available firm capacity to a customer with flexible demand, EirGrid will, at a minimum take into consideration the following:

- whether the customer is currently utilising their existing allocated MIC; and
- the date which the customer connected to the transmission network.

Any changes to firm capacity will be notified by EirGrid to a customer via a formal notification under that customer's connection agreement, or via the Distribution System Operator for large data centres indirectly connected to the transmission system through the distribution system.

### *4.2.3 Annual Flexible Demand Constraint*

As part of the review of firm capacity, EirGrid will also provide guidance to data centre customers with flexible demand as to the anticipated level of reduced load that a data centre can expect at times for a given connection year. This will be provided via the Distribution System Operator for large data centres indirectly connected to the transmission system through the distribution system.

### 4.2.4 On-Site Generation

#### 4.2.4.1 Overview

EirGrid will provide firm capacity where a data centre provides new on-site dispatchable generation[11] that meets the annual availability requirements as described in section 4.2.4.2 below and is capable of continuous running for extended periods, e.g. its running is not limited by fuel reserves, environmental licencing or regulatory obligations.

Generation must be proximate to the data centre, owned by the customer and must be energised and operational prior to firm capacity being available to the associated data centre. Generation is not considered as 'new' if it has been successful in a T-4 Capacity Auction[12] at the time that the customer applies to use the generation to offset flexible demand for that data centre.

All on site generation above a certain threshold is required to be compliant with Grid Code controllability obligations. Where there are multiple sites in close proximity with on-site generation EirGrid is open to working with developers about how certain Grid Code obligations could be met between these sites.

Planning permission for an on-site generator offsetting flexible demand would be a requirement as part of the two stage process referenced in this document i.e. planning permission would need to be in place prior to moving into Stage 2. Where a customer seeks to apply for a Maximum Export Capacity, e.g. as an 'Autoproducer[13]', the requirements to apply are set out in the CRU Decision paper on Enduring Connection Policy Stage 2[14].

#### 4.2.4.2 Annual Availability Requirements

The Capacity Market applies specific de-rating factors to generating units according to size and technology class to account for unavailability of the capacity at times. For example, T-4 23/24 applied a de-rating factor of 0.905 for a gas turbine unit of 100 MW. Therefore, for a 100 MW gas turbine unit this would equate to 35 days of outages assumed per annum on average. This is designed to cover both scheduled and forced outages, but represents an on

[11] Dispatch signals will be provided via the National Control Centre.
[12] For the Capacity Year within which the data centre expects to connect
[13] Meaning set out at https://www.cru.ie/document_group/network-charges-for-autoproducers-and-chp-producers/
[14] https://www.cru.ie/wp-content/uploads/2020/06/CRU20060-ECP-2-Decision.pdf

average position and clearly availability may be either higher or lower than this in any given period for any given generator.

A ratio of 3:2 is considered a reasonable ratio for scheduled to forced outages. Using the 35 days as a guide; a split of 23 days scheduled and 12 days forced would be a reasonable expectation of availability for this sort of unit per annum. Please note this is an example only to give an indication but each unit would have to be assessed individually. Recognising that the level of forced outages may be expected to vary around the average in any given year EirGrid may, in some circumstances, consider the annual forced outage allowance over a multi-year period to account for, and reasonably reflect, reasonably expected variances over a short number of years.

Where a unit is forced out for a period of time above the forced outage allowance determined per above the TSO would regularly assess whether the system is at potential risk and therefore whether flexible demand needs to be called upon for any associated data centre.

EirGrid will act reasonably in assessing the circumstances that apply to any given case and will not require a customer to implement flexible demand unless it is clear that it is necessary for prudent system operation reasons to do so. The data centre would however have to be capable of implementing flexible demand at short notice in the event that the conditions outlined in this paper have not been met, and therefore the capability will be required at the outset. In the event that flexible demand has to be called upon for a data centre the provisions regarding flexible demand as set out in this paper including an annual capacity review to determine if additional firm access can be made available will apply.

Projects will have to allow EirGrid the flexibility of changing the requested start date of a generator outage by up to 8 weeks in either direction as part of agreeing a planned outage. The scheduling of outages of a site with additional units would also have to be carried out in a reasonable manner i.e. they do not overlap with times when the system is likely to be under duress and are not requested simultaneously with the main unit.

Specifics relating to the forced outage allowance allowable, the review mechanism and other related details would be looked at on a case by case basis specific to an individual project and the local network circumstances and requirements, and advised to customers accordingly as part of the connection offer process for the project.

### 4.3 Planning permission

Achieving a connection offer is only one part of the necessary requirements to connect to the transmission system. For many years this was the starting point for developing a project (either generation or demand) and consenting and financing happened at a later date. It has since been recognised however in recent years that achieving planning permission is an increasingly significant milestone in any project. In 2018, CRU introduced planning permission as a key part of the eligibility criteria for generation projects to be able to apply for connection to the transmission system under Enduring Connection Policy Stage 1 (CRU/18/058)[15]. This decision was designed to ensure that more advanced or "shovel ready" projects receive priority over less advanced projects and that transmission capacity is allocated to projects most likely to utilise the valuable transmission capacity in the shortest period of time. The implementation of the planning permission requirement is viewed as an important measure to effectively allocate scarce generation capacity in a targeted manner.

EirGrid requires that planning permission is provided prior to a customer progressing to Stage 2 of the connection offer process. Planning permission provided to EirGrid must be specific to the connection application submitted by the customer. When submitting proof of valid planning permission, the customer will provide a certified declaration, witnessed by a solicitor[16] or an accredited planning consultant[17] that their planning permission aligns with their application for connection to the transmission system. In order to ensure that capacity is being allocated effectively, EirGrid will provide a connection offer for up to 2 MVA of MIC for every 1000 $m^2$ of data centre planning permission received. For the avoidance of doubt, this capacity could be either firm or flexible depending on the location of the data centre and the available firm capacity.

If a customer makes an inaccurate declaration in respect of their data centre application, that this will be deemed to be an "event of default" under the applicable connection agreement, giving rise to a right of termination for EirGrid. If it is discovered before a contract is in place that a customer has made an inaccurate declaration, then the application may be removed from processing by EirGrid, and may result in any live offer being rescinded. In the event that

[15] https://www.cru.ie/wp-content/uploads/2017/04/CRU18058-ECP-1-decision-FINAL-27.03.2018.pdf
[16] As per the Law Society of Ireland (www.lawsociety.ie)
[17] As per the Irish Planning Institute (www.ipi.ie) or Royal Town Planning Institute (www.rtpiconsultants.co.uk)

planning permission expires or is rendered invalid before a project has been constructed, then the application, live offer or contract may correspondingly be removed, withdrawn or terminated by EirGrid.

In instances where a customer secures planning permission in advance of submitting a transmission connection application, EirGrid will accept a customer's planning permission only when the planning permission will not expire within 12 months of the customer entering Stage 1.

In the event that the customer elects to progress the grid connection works on a non-contestable basis, the customer should note that EirGrid can only submit a planning application for the works to connect the data centre once the Connection Agreement has been executed. An estimate of these timelines will be provided in the offer. More information can be accessed here[18]

This section applies to all data centres connecting directly to the transmission network or large data centres indirectly connecting to the transmission system through the distribution system and also to customers who have yet to receive a connection offer and those that currently have a live connection offer.

## 4.4 MIC Ramping

A Maximum Import Capacity (MIC)[19] ramping schedule is primarily a charging concept used for calculating and administering TUoS charges. The actual technical studies for the connection will primarily focus on identifying the works required for delivering the full MIC. Please note that customers cannot connect until the works required for a specific MIC are in place. If there are significant transmission works required to serve the full MIC and none (or a subset) of these works can facilitate the connection at a lower MIC (per the ramping schedule) then the customer will be advised of this and may be allowed to connect to and use the system at a lower MIC in advance of the full works being complete. On occasion, customers may wish to defer connection of part of their capacity, developing the project over a number of phases as opposed to one. EirGrid considers that, in the context of some cases where there are relatively long lead times to achieve firm access, such requests are

[18] http://www.eirgridgroup.com/__uuid/463e7512-d115-4d94-b1ab-79b8cb366f73/index.xml
[19] MIC is the maximum amount of energy stated in MVA that the customer wishes to import from the transmission system at any point in time. It is a single number, i.e. not a range.

reasonable. There should be no negative impact on other customers awaiting offers provided all phases are complete prior to the phased project achieving firm access. This information will be provided in the offer.

At present, transmission demand customers outside constrained areas are currently afforded an eighteen month period within which they must ramp up to their full contracted MIC across a maximum of three individual steps. To facilitate better network planning in constrained areas, for data centre applications, EirGrid will allow a reasonable number of steps/ramps in the MIC ramping schedule.[20] Such requests will:

- Be assessed on a case by case basis;
- Be required to be practical and reasonable under the particular circumstances in the constrained region; and,
- Be reflected contractually where such a request is granted by EirGrid.

The MIC ramping schedule will need to be compliant with the rule set included in the MIC Administration Paper[21] with exception to the rule regarding a maximum of three (3) ramps within eighteen (18) months.

This section applies to all transmission data centres in constrained areas.

## 4.5 General Contractual Information

Customers should consider a number of key commercial items when applying for a connection to the transmission system. The offer is a contract issued to a customer by EirGrid which the customer can execute or allow lapse. The offer for transmission connections is made up of 2 key documents;

- A connection agreement which includes site specific schedules such as customer details, schedule of works to be carried out by EirGrid and by the Customer, payment schedules and other contractual details. One of the schedules of the Connection Agreement is the Offer Letter.
- The 'General Conditions' – the terms and conditions applicable to all parties connecting to the transmission system.

[20] Please note that any change to the requested MIC ramping schedule during the offer process may cause delays to the offer processing time and therefore the initial MIC ramping schedule submitted should be the customer's best available information.
[21] http://www.eirgridgroup.com/__uuid/463e7512-d115-4d94-b1ab-79b8cb366f73/index.xml

Once connected the customer pays Demand Transmission Use of System (TUoS) Charges on a monthly basis calculated on the MIC. Changes to the MIC are only allowed in accordance with the MIC Administration Paper.

### *4.5.1 Standard Regulated Contractual Documents*

The customer should in advance of receiving the offer familiarise themselves, and their legal representatives if required, with the standard regulated contractual documents. It is advised for customers to arrange for any required due diligence to be performed on these documents in parallel with the connection offer process period. Please note that, as these are regulated documents, changes cannot be made to them unless approved by the CRU. More information regarding connection agreements and charging documentation can be accessed here.[22]

### *4.5.2 EirGrid's Standard Payment Terms*

EirGrid's standard payment terms are as set out in section 7 of the General Conditions. If a customer has any issues with these payment terms it should be raised with EirGrid as early in the process as possible for alternative payment terms for charges related to connection to be investigated under clause 7.7 of the General Conditions.[23]

### *4.5.3 Security Arrangements*

MIC security is required on acceptance of an offer and connection charge security is required by the 'Consents Issue Date' ("CID") where further connection charges fall due post CID. MIC and/or connection charge security may be provided via a bond or alternative security arrangements in accordance with the General Conditions available here.[24] We would encourage applicants to prepare such security arrangements well in advance of offer execution where possible.

### *4.5.4 Advanced Works Packages*

In some cases, customers may wish for EirGrid to undertake certain works at the customer's risk in advance of a signed connection agreement being in place. An Advanced Works Package (AWP) is a means of allowing customers to progress works, by delivering specific details relating to those works to the customer ahead of schedule. This would typically be in

[22] http://www.eirgridgroup.com/customer-and-industry/becoming-a-customer/relevant-documentation/
[23] http://www.eirgridgroup.com/site-files/library/EirGrid/GeneralConditionsofConnectionandUseofSystem(July-2013).pdf
[24] http://www.eirgridgroup.com/site-files/library/EirGrid/GeneralConditionsofConnectionandUseofSystem(July-2013).pdf

advance of execution of a connection agreement, or where the works required differ from those specified in a customer's connection agreement due to a modification application. This may assist the customer in the timely delivery of their project.

AWP requests will be considered on a case-by-case basis by EirGrid, and the customer will need agreement from EirGrid on the appropriateness and suitability of an AWP to meet their needs. An AWP will only be offered in cases where there is a genuine need to keep a project on schedule and where, if the project was to await the issuance of a formal offer, it would materially delay the completion of a project. In addition, the connection offer will need to be at a stage such that the required information (e.g. connection method report) is available, and that the Customer has agreed to the connection method, in order to progress the AWP. There are a number of the key risks with progressing certain works in advance of the offer process being completed, and customers should make themselves aware of these. Further information on Advanced Works Packages is available here.[25]

### *4.5.5 Data Publication*

To assist in greater transparency and to aid data centres in their own planning, EirGrid will publish data centre application and contractual information on the EirGrid website. This will be aggregate data on historical energy consumption for the last five years. Aggregate Maximum Import Capacity (MIC) values by year that are contracted and that are in the Connection Offer Process are also published. While this aggregate information will not be specified by region at present due to low volumes outside of the Dublin Region, regional breakdown may be included in future publications.

[25] http://www.eirgridgroup.com/site-files/library/EirGrid/Application%20for%20Transmission%20Advanced%20Works%20Packages%20updated%201.09.14.pdf

# Appendix 1

## DCCOPP – Updates since Version 1 2019

For information, we outline here a number of areas where we have updated the DCCOPP to provide further clarity based on feedback from data centre customers.

### Flexible Demand

We have updated Section 4.1 with a substantial worked example to make it easier for customers to understand how flexible demand will work in practice if required.

### Advanced Work Package Process

It is often desirable for customers to progress certain works while the contract development or modification process is underway. Section 4.5.4 includes more details on Advanced Works Packages.

### On-Site Generation

We have offered a route for customers to offset the requirement for flexible demand where they provide on-site generation. We updated Section 4.2.4.2 to clarify the minimum level of availability of the on-site generation required in order to be considered suitable.

### Annual Forecasts

In order to better understand and therefore effectively plan for data centre load requirements we are seeking annual updates from data centres customers of their ramping expectations. Details of this are set out in Section 4.4. This will inform EirGrid's annual capacity reviews and the determination of whether additional firm access can be provided.

### Stage 1 Process

The existing DCCOPP introduced a 2-stage process for connecting data centre customers. We have updated this section to provide more clarity, including more detail on what the customer should expect to receive at the end of stage 1.

### Data Publication

To assist in greater transparency and to aid data centres in their own planning, EirGrid will publish data centre application and contractual information on the EirGrid website.