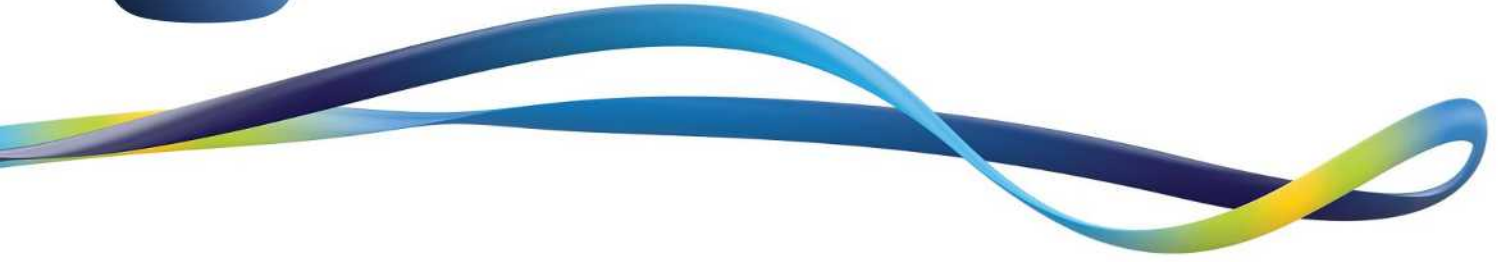




NETWORKS



PROPOSED DIRECTION ON DATA CENTRE GRID CONNECTION (CRU21060)

ESB Networks Response

7th July 2021

1. ESB Networks – who we are

In this consultation response, references to ‘ESB Networks’ comprise both ESB Networks DAC in its capacity as Distribution System Operator (DSO), and the ring-fenced ESB Networks business unit of ESB which has been designated for the purposes of the Transmission Asset Owner (TAO) and Distribution Asset Owner (DAO) Licences granted to ESB.

As DSO, ESB Networks works to meet the needs of all Irish electricity customers, providing universal affordable access to the electricity system, and delivering and managing the performance of the Distribution System.

As TAO, ESB Networks is committed to playing our part in contributing to the achievement of Ireland’s decarbonisation policy objectives and ensuring that the needs of all our customers and industry are met. In partnership with EirGrid, the licensed Transmission System Operator (TSO), ESB Networks designs, develops, constructs and maintains the transmission grid in an effective and efficient way.

2. Introduction

The increased demand for clean electricity in a decarbonised society means that the overall electricity demand will grow, both as it displaces other energy sources and as a natural consequence of economic growth. It is therefore essential that we continue to maintain a secure and flexible electricity supply to serve the needs of all electricity customers. Security of supply and system stability are key considerations in planning, developing, and operating the future electricity system, due to the increased dependence of society on electricity and the impact on citizens/consumers in its absence. In this consultation, CRU has highlighted growing concern that the rapid increase in data centre connection in recent years potentially threatens the safe operation of the network and the possible threat to security of supply for all customers.

ESB Networks welcomes the opportunity to respond to this important consultation and notes that the proposed Direction will specifically impact on ESB Networks interactions with an important industrial sector.

3. Context for Response

Data centre Demand on the DSO Increasing

As the DSO, ESB Networks is keenly aware of - and has a central role in - implementing the proposal that has been set out in detail in this consultation. While the consultation is primarily focussed on the Transmission System and relies on evidence provided by EirGrid, in practice many data centres connect or expect to connect to the Distribution System. ESB Networks has endeavoured to support this significant growth in data centre demand noting that this has utilised increasing amounts of the available capacity on the Distribution System. For context, there is currently 500MVA of data centre Maximum Import Capacity (MIC)¹ demand connected to the Distribution System, with a further 198 MVA of applications that have not received connection offers. In the last two years over 50% of the MIC applied for by Large Customers at Distribution level has been from data centres.

As noted above, capacity constraints are becoming more apparent on the Distribution System and it is possible that limitations in specific areas will mean connections in these areas will be restricted until solutions to improve available network capacity are put in place.

ESB Networks' mandate to make Connection Offers and treat all Customers Fairly

ESB Networks as the DSO is required to offer connections to the Distribution System subject to terms and conditions specified, and in accordance with directions given by CRU. The current EirGrid DCCOPP² explicitly applies to connection applications made by customers to the DSO.

ESB Networks is under statutory and licence obligations not to discriminate unfairly between persons or classes of persons, or between system users or classes of system users. These obligations are an integral part of the connection offer process. The Electricity Regulation Act, 1999 (as amended) states the DSO can only refuse to enter into an agreement to connect in limited circumstances, including due to capacity constraints, and reasons for refusal must be given to the applicant.

In the "Guide to the Process for Connection of Demand Customers to the Distribution System" ESB Networks issues quotations on a "first-come first-served" basis in response to formal applications

¹ Maximum Import Capacity (MIC) is the maximum electricity demand level that can be used by a Customer at their connection point

² Data Centre Connection Offer Process and Policy

from customers. Priority is then provided to customers who accept their connection offers and pay for their connections.

In summary, ESB Networks is obligated to make offers when capacity is available. In processing offers ESB Networks prioritises quotations on a first-come first-served basis and then prioritises customers who have signed connection agreements and who have paid their connection fee.

In light of this, any direction from CRU must be clear as to the treatment of a class of customer.

4. Specific Comments on the CRU proposal

Option 1 Do Nothing

The consultation states that the current and forecast levels of Data centre demand pose a significant threat to system security and continuity of supply. Our observations at DSO level confirm that there has been an exceptional increase in Data centre connection in the last 3-5 years.

Option 2 Moratorium

ESB Networks does not believe that a full-scale moratorium on all Data centre applications is either required or appropriate at this stage, and commits to exploring and piloting alternative, more innovative options in a collaborative fashion with the CRU, SOs and industry.

Option 3 Prioritisation Process

The CRU identifies four prioritisation steps (Location; Availability of Dispatchable Generation; Ability to provide flexibility through the use of generation/storage; the ability to provide flexibility by reducing load) with all measures to be applied on an Ireland wide basis.

ESB Networks notes that while there are four potential prioritisation criteria presented, it is not clear how each of the criteria interact with each other. Further clarification of how criteria should be applied or weighted should be provided to the SOs. For example, if a Data centre applies to connect in an area that is not defined as an area of constraint will it be required to meet any of the other prioritisation criterion?

Location

Under the proposed Direction, EirGrid will have responsibility for identifying areas of constraint.

ESB Networks notes its obligation with respect to providing capacity and security for all system users and to fulfil this role, ESB Networks has a dependency on the provision of Transmission System capacity. As such, ESB Networks requests clarification as to whether once an area has been so identified by EirGrid that all parts of the Distribution System that are located with a constrained area is also deemed to be constrained for the purposes of the direction.

Availability of Dispatchable Generation.

Clarification is requested that the generation facility in this context will be centrally dispatched and participate in the market as a regular generator and act or be required as back up generation for the data centre. We would also suggest that there would be a requirement that data centre load would not be commissioned in advance of the generation facility and that consideration should be given as to whether the generation facility would have to be connected at the same node as the data centre demand.

Ability to Provide Flexibility by Replacing load with Onsite Generation

ESB Networks notes that the current proposal may allow the interpretation that replacing system imports with back-up demand does not reduce the data centre MIC requirement and thus does not contribute to the resolution of the underlying system capacity constraint.

In the case of distribution connected generators, where the operations of behind the meter generation will have a material impact on local network operating conditions, including power quality, security and capacity for other customers in the area, it will be important that the generation is integrated securely and efficiently. As such, and cognisant of the role of the DSO with respect to managing the secure, efficient and safe operation of the Distribution System, we look forward to engaging with the CRU, the TSO and the customer representatives, to ensure that the operational control systems we put in place meet customer and TSO needs respectively.

Ability to Provide Flexibility by Reducing load when requested by TSO

See comments above.

Further General Comments and Request for Clarification

Non-discrimination

A direction to ESB Networks to act to prioritise customers in the manner proposed will need to be clear and unambiguous. For example, the language used in the draft letter does not clearly set out that prioritisation should be undertaken vis-à-vis all other applications regardless of customer type and not just prioritised relative to other data centre applications.

Consideration should also be given to a precise definition of what constitutes a Data centre as there may be types of facilities whose primary function is not that of a data centre but that do incorporate some characteristics of a data centre - e.g. data storage and processing with the associated load demand.

Amendment to First-Come First-Served Principal

Given the level of time and effort required to produce quotations, clarification is requested on whether the current first-come first-served process for managing applications is to be amended so that non-prioritised applications will not need to be processed or have studies conducted to complete the quotation process.

Applicability of Direction

CRU should clarify to which applications the direction will apply. Is it intended that it would cover current applications from data centres who have yet to receive an offer or is it for all new data centre applications?

De-minimis Level

ESB Networks requests clarification that the proposed direction will apply to all applications regardless of size.

5. Conclusion

We look forward to working with the CRU, EirGrid and the data centre industry to provide further clarification to any of the points raised in our response to this consultation and remain available to meet with CRU and the relevant stakeholders to discuss further.