

# Briefing Note

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**CER/09/099**

***Processing Transmission Non-GPA  
Applications***

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December 2016



## Abstract

The purpose of this document is to clearly outline EirGrid's implementation of CER/09/099 Treatment of Small, Renewable and Low Carbon Generators outside the Group Processing Approach ("Non-GPA Process") with regard to transmission Non Group Processing Approach ("Non-GPA") applications.

## Audience

The document will be of particular interest to organisations that have or are considering submitting a Non GPA application to EirGrid to connect a generation facility to the transmission system under the Non GPA Process.

## Background

The Commission for Energy Regulation ("CER") decision paper [CER/09/099](#) and related consultation [CER/09/044](#) on the Treatment of Small, Renewable and Low Carbon Generators outside the Group Processing Approach outline the processes under which the System Operators (SOs) shall process all qualifying generation. Since the CER decision paper in 2009, and until recently, EirGrid as Transmission System Operator (TSO) has received a limited number of transmission applications to be processed under the Non-GPA Process. There was a steady flow of distribution applications, which were assessed by EirGrid, but were primarily small scale. In 2015 the number and scale of distribution non-GPA applications (primarily solar) increased significantly and are being managed on a sequential basis at each node. In recent months however, the number and scale of transmission applications has now also increased substantially. The rules for processing transmission applications, and in particular the assessment of 'interactions' are less specific under CER/09/099 than for distribution applications. As a result EirGrid in this paper has set out how it is processing transmission applications received under CER/09/099.

## Interaction Assessment process

One aspect of these processes is to consider the potential impact on the connection method(s) of the current applicant(s) on other generators for whom applications have already been received, i.e. the interactions between their shallow connection methods. In accordance with CER/09/099 *"two applications are deemed to be interacting if progressing an application outside of the GPA, results in an additional cost being incurred by other applicants in the GPA queue. Interaction studies relate to the shallow connection."* EirGrid interprets that this to mean that if a non-GPA application is anticipated to increase the shallow connection charge for a GPA application<sup>1</sup> then it is considered to be interacting. The primary basis for EirGrid's shallow connection charging is set out in CER approved [Transmission Connection Charging Methodology Statement](#) and related charging rulesets which outline that there are only some cases whereby generators may be charged for transmission works outside the looped/meshed transmission station used to connect them. On that basis there are limited cases whereby a transmission non-GPA applicant which often requires a new transmission station will create an additional shallow connection charge for a GPA applicant. This interaction assessment therefore ignores any additional non shallow

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<sup>1</sup> These are applications that are currently awaiting a CER direction on how they are to be processed e.g. not eligible for non-GPA and may be processed under GPA.

connection costs, charges or extension to leadtimes<sup>2</sup> that may arise for a potential GPA application. In this section we set out where there may be potential for additional shallow connection charges for a GPA application, due to the processing of a non-GPA applicant.

To date, interactions studies have predominantly been completed by the DSO using the “Proposed Interaction Study Procedure” as outlined in Appendix D of CER/09/044. These studies are required for all non-wind renewable projects with an MEC above 5 MW and for any small conventional plants up to 5 MW. EirGrid have also undertaken a limited number of interaction assessments for a very small number of parties seeking transmission connections consistent with the principles established for the DSO interactions studies and other existing shallow capacity evaluation methods. Given the recent larger scale submission of transmission non-GPA qualifying applications it is timely for EirGrid to specify how interactions referenced under CER/09/099 are assessed from a transmission perspective.

An overview of the TSO process for interactions assessments is depicted in Figure 1. Upon receipt of an application form, the TSO will first establish if the requested generation plant is eligible to receive a non-firm connection offer as per the ruleset outlined in [CER/09/099](#). This check is to ensure that the request is for a small, renewable and low carbon generator from one of the qualifying classes of technology (i.e. Bioenergy, CHP, Autoproducers, Hydro, Ocean, Wave, Solar, Geothermal or Experimental technology). In the event that an application is received that requests to be processed under non-GPA but is not on the qualifying classes of technology and/or are making the request under the Experimental Technology qualifier these applications are submitted to CER for instructions on how to proceed.

Interaction assessments are only required for Non-Wind renewables with Maximum Export Capacities (MEC) greater than 5 MW or conventional generators with an MEC of 5 MW or less. Therefore, all qualifying transmission connected generation<sup>3</sup> are subject to an interactions assessment. Any qualifying generation seeking a distribution connection above the thresholds will also be considered from a transmission station infrastructure perspective. Although the DSO will consider all qualifying generation seeking a distribution connection as per [CER/09/044](#), this methodology only considers the radial distribution network up to the transmission connection point. However, there may be further transmission interactions with other generation also connecting in the same transmission station which must also be identified, i.e. the looped or tailed network stemming from transmission station.

For the avoidance of doubt non-GPA applications being assessed under this paper include:

- New transmission non-GPA applications
- Non-GPA applications to increase Maximum Export Capacity (MEC) at transmission projects with MEC increase greater than 5 MW
- New distribution non-GPA applications with MEC greater than 5 MW, or MEC increase greater than 5 MW, or conventional generators with an MEC of 5 MW or less

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<sup>2</sup> For example, the connection of non-GPA generation could increase short circuit levels in an area, and as a result, a GPA applicant could then have to wait for short circuit reinforcements before that GPA generator could energise.

<sup>3</sup> Transmission applications are typically above 40MW

## Interaction Assessment Procedure

A transmission interaction assessment is conducted in a manner analogous to the process used at distribution level. This assessment is intended to provide a timely, practical, transparent and replicable mechanism by which the TSO can identify if there is a possibility for the applicant to interact with other prior transmission or distribution applicants to the possible future disadvantage from a charging perspective of those other transmission and distribution applications. However, the interactions assessment procedure will not determine the detailed nature of any potential interaction(s), nor will it identify any shallow connection method requirements. It will merely detect if an interaction as outlined in CER/09/099 is likely to exist. The network configuration assumed at the time of the Interaction Assessment for each Application will be based on the proposed network topology in the year of the Preferred Connection Date as outline by the Applicant in the application, assuming the proposed Preferred Connection Date is reasonable.

**Step 1** – EirGrid determines the nearest transmission station(s) and circuit(s) to the applicant in question. It is assumed that the applicant may drive a new looped/meshed<sup>4</sup> 110kV or above station (“Transmission Node”) based on the Rules for Determining Nodes as per Appendix 2 of the Gate 3 Direction to the System Operators [CER/08/260](#). EirGrid then plots a geographic map with applicant’s coordinates and the neighbouring transmission (or 110kV distribution) infrastructure included. EirGrid carries out a high level costing exercise to compare the cost of connecting into the nearest suitable<sup>5</sup> transmission station with the cost of a new looped/meshed 110kV or above station. Should the applicant drive a new Transmission Node, as the cheapest option based on high level assessment, they will not be tested further for interactions as it is assumed that they will not drive additional shallow charges for other applicants. This is on the basis that a GPA applicant’s least cost connection remains unchanged even if it is determined that their actual connection method should change into the new Transmission Node. If the application does not drive a new Transmission Node then it will need to be assessed against an existing Transmission Node and Step 2 begins.

**Step 2** – EirGrid will check if there is an existing queue of non-GPA applications awaiting processing at an existing Transmission Node. If so the non-GPA application will be given a place in the queue and will await an interaction assessment and offer processing until the preceding member of the queue has accepted its connection offer or allowed it to lapse. EirGrid then includes all other applications with a Received Complete Date prior to the non-GPA application being assessed on a geographic map to visually identify what other applicants would likely be connected into the existing Transmission Node – either directly via a new or existing 110kV/220kV bay, or via a new or existing 110kV/220kV tailed<sup>6</sup> station connecting to the Transmission Node. The total megawatt (MW) application value prior to the new non-GPA application is calculated for the existing Transmission Node including all applications (based on their Maximum Export Capacity) identified in Step 2.

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<sup>4</sup> A looped/meshed station has two or more circuits connecting it to other stations that are themselves looped/meshed.

<sup>5</sup> Meaning it has a 110kV or above busbar and can reasonably be assumed to be capable of accommodating an additional bay without significant expansion.

<sup>6</sup> A ‘tailed station’ only has one 110kV or 220kV circuit connecting it to a looped/meshed transmission station

**Step 3** – EirGrid will use this shallow capacity to assess the potential shallow charge impact of a connection into the existing Transmission Node by the Non-GPA application in accordance with the following checks:

- Are any remaining spare transmission bay(s) being used that would otherwise be likely used for a GPA application?
- Is any remaining space in a transmission station being used that would otherwise be likely used for a GPA application?
- If there are tailed stations connecting into the Transmission Node would any of the radial circuits require upgrading to connect the GPA application in the future that would not otherwise have been the case?
- If it is a 110/220kV station would any of the 110kV/220kV transformers require upgrading to connect the GPA application in the future that would not otherwise have been the case?
- Is the capacity of the two (or more) circuits connecting the Transmission Node cumulatively less than the sum of the generation capacity connected, contracted and applications with a Received Complete Date earlier than the Non-GPA application?

An example of this is:

**Available infrastructure capacity:**

*Lessor of:*

Cumulative Summer rating of connecting circuits (2x150MVA)	300	MVA
Tailed circuit to Transmission Node (Summer rating)	170	MVA
110/220kV transformer capacity	250	MVA
<i>Net available</i>	<i>170</i>	<i>MVA</i>

**Existing Station Generation:**

- Existing connected and contracted generation	- 70	MVA
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**Shallow Capacity available<sup>7</sup>**

<b>Applications prior to non-GPA application</b>	- 50	MVA
<b>Potential GPA spare bay used?</b>	No	
<b>Potential remaining station space used?</b>	No	
<b>Capacity Available for non-GPA application</b>	<b>50</b>	<b>MVA</b>

In the example above there is 50MVA available for a new transmission non-GPA connection. It is worth noting that this is a desktop analysis and some of the assessments such as available space in a station may rely upon some element of TSO judgement rather than a detailed investigation of the specific arrangements in a particular station.

**Step 4** – In the event that there is no spare capacity available, or the non-GPA application is using station infrastructure that otherwise would be used to connect a GPA application, the non-GPA application is deemed to be interacting and shall be referred to the CER for decision on how to proceed in accordance with CER/09/099.

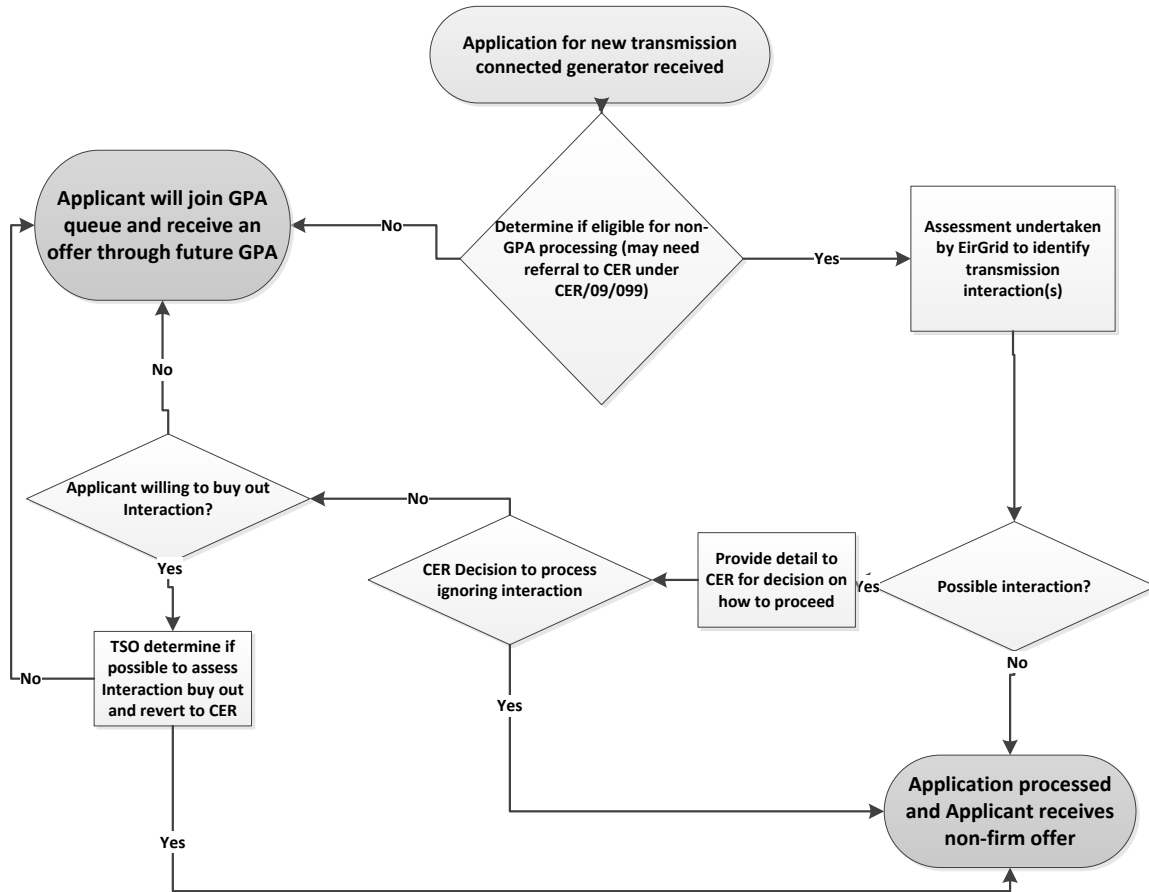
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<sup>7</sup> Note: There is no short-term overload capability assumed in these calculations since shallow capacity is determined on the basis of intact network conditions.

### Interaction Referrals to CER

Should any potential interacting projects be identified, the application requesting to be processed under non-GPA is referred to the CER for consideration. In accordance with CER/09/099 it is expected that the CER will then provide a decision on how to progress each applicant based on public interest criteria such as diversity of fuel mix, environmental benefits, research gains or predictability and power system support. Depending on the outcome of this decision, the Interacting applicant(s) may be processed and will receive a non-firm connection offer or they may be placed in the GPA queue. In the event that interacting parties do not wish to avail of the GPA mechanisms, they may still in theory obtain a Non-GPA offer by exercising an option to buy out their interaction and cover the additional shallow connection costs potentially incurred by other applicants as provided for in CER/09/099. It is unclear specifically how such a process would work in practice and should such a situation arise EirGrid would engage further with CER as to how to give effect to this.

Figure 1: Process for Interaction Assessments at Transmission level.



### Processing Distribution and Transmission Applications Sequentially

At present distribution non-GPA applications are processed sequentially at a 110kV node by Received Complete Date and processed in that order (assuming they pass interaction assessments). Transmission applications however are of a scale which means that they will often drive a new 110kV (or above) node.

EirGrid intends to progress on the basis that, where transmission non-GPA applications drive a new Transmission Node, they are processed per that new node. Any transmission applications that do not drive a new Transmission node will be processed sequentially with any other DSO, capacity modifications or TSO non-GPA applications at that existing 110kV station. DSO and TSO have implemented a joint system to monitor the order by which these applications are processed.

## Next Steps

EirGrid is committed to implementing CER/09/099 to the extent possible and practical. EirGrid believes that the approach outlined above is appropriate and consistent with the overall purposive nature of the CER's decision for the advancement of applicants under the Non-GPA process.

For further information please contact us at (01) 23 70472 or per email at [customersupport@eirgrid.com](mailto:customersupport@eirgrid.com).