

Network Codes: Consultation on  
Requirements for Generators (RfG)  
Banding Thresholds in Ireland

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TSO Final Position

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15 May 2018



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## Background

The Network Code Requirements for Generators (RfG) established under COMMISSION REGULATION (EU) 2016/631<sup>1</sup> is one of three Connection Codes which form part of the European Network Codes. It seeks to provide a clear legal framework for grid connections and facilitate electricity trading whilst ensuring system security, facilitating the integration of renewable energy and ensuring a more efficient use of the network.

The RfG 'entered into force' on 17 May 2016, however an implementation period is allowed for. The RfG only applies to generators that have concluded a final and binding contract for the purchase of their main generating plant after 17 May 2018. Article 4(3) allows TSOs to consider retrospection subject to a Cost Benefit Analysis (CBA), however the TSO does not intend to seek retrospection at this time.

The RfG defines the requirements applicable to new generators with a Maximum Capacity<sup>2</sup> of 800 W or greater. Generators are placed into one of four 'type' categories A-D which provide for a sliding scale of technical capabilities to support System Operators. These categories are as defined in Article 5 of the RfG (see Appendix 1) and are based on:

- the synchronous area;
- the maximum capacity of the power generating module (PGM); and
- the connection point voltage level.

As part of the national implementation of RfG, the relevant TSO of each member state is required to set banding thresholds within these maximum values. TSOs can either apply the maximum MW boundaries as defined in Table 1 of Article 5 or, where it is reasonable (e.g. for reasons of system security), choose lower values.

Article 5 (3) requires the TSO to carry out a public consultation lasting at least one month on these thresholds (see Article 10 in Appendix 2).

In a consultation document<sup>3</sup> issued on April 7<sup>th</sup> 2017 the TSO set out its proposals for the banding thresholds for Ireland. In summary, the TSO did not propose to reduce the lower boundary of the bands below the maximum limits allowed for in Article 5. The TSO considered the limits provided in Article 5 to be adequate.

Industry views on the proposals were sought until 15<sup>th</sup> May 2017. An identical position was proposed by SONI for Northern Ireland and the consultation ran for the same time

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<sup>1</sup> <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32016R0631&from=EN>

<sup>2</sup> Maximum Capacity is the maximum continuous active power which a power generating module can produce, less any demand associated solely with facilitating the operation of that power generating module and not fed into the network. This is not the same as Maximum Export Capacity.

<sup>3</sup> <http://www.eirgridgroup.com/site-files/library/EirGrid/RfG-Banding-Thresholds-Consultation-Ireland.pdf>

period. The responses were generally in support of the proposals and are summarised in the TSO's Minded-To Position Paper<sup>4</sup>, published on 14 July 2017.

The minded to position was to set the boundaries as described in the Consultation document, pending completion of the second RfG consultation (non-exhaustive parameter selection).

The TSO and the DSO (ESB Networks) have now also consulted upon the non-exhaustive parameters as set out in the RfG. Further information and documents are available in the Consultation section of the EirGrid website here <http://www.eirgridgroup.com/customer-and-industry/european-integration/integration/>. A Consultation Paper was issued on 20 December 2017 and an industry workshop was held on 16 January 2018. Submissions on the proposed non-exhaustive parameter proposals were welcomed until 16 February 2018. For some non-exhaustive parameters the requirements are different for each band and that consultation offered an opportunity to revisit the banding threshold levels.

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<sup>4</sup> [http://www.eirgridgroup.com/site-files/library/EirGrid/RfG-Banding-Thresholds-Consultation\\_Minded-To-Position\\_Ireland.pdf](http://www.eirgridgroup.com/site-files/library/EirGrid/RfG-Banding-Thresholds-Consultation_Minded-To-Position_Ireland.pdf)

## Final TSO Position

The TSO and DSO are now publishing the final position on the non-exhaustive parameters. No comments were received during the RfG non-exhaustive parameter consultation that drive a need to re-assess the original banding thresholds as set out in the Minded To Paper of July 2017. Furthermore no issues have arisen with the bands during discussions on the Emergency and Restoration Network Code and the System Operation Guidelines.

As such the TSO has now finalised its position on the banding thresholds for generators and there is no change from those set out in the Minded-To position Paper of July 2017.

The proposal relates to the D/C, C/B and B/A boundaries for the generation Types as defined in Article 5 of the Requirement for Generators (RfG). Table 1 below shows the allowed boundary ranges for Ireland and the boundary proposal by the TSO.

**Table 1 Final Boundary Proposal**

Boundary	Allowed boundary range (MW)	Boundary proposed by TSO (MW)
D/C	0.0008 – 10	10
C/B	0.0008 – 5	5
B/A	0.0008 – 0.1	0.1

This can be seen more clearly in Table 2 below.

**Table 2 Final Proposal on MW ranges for each Type**

	Voltage	Type	Capacity
RfG	Below 110 kV	A	≥ 0.8 kW and < 100 kW
		B	≥ 100 kW and < 5,000 kW
		C	≥ 5,000 kW and < 10,000 kW
		D	≥ 10,000 kW
	At 110 kV or above	D	All

Note the following:

- Power Generating Modules (PGMs) connected at voltages levels of 110 kV or higher are automatically classified as a Type D.
- PGMs with a maximum capacity of less than 0.0008 MW (800 W) do not have to comply with the RfG.

The proposal is shown graphically in Appendix 3.

**The TSO hereby submits these banding thresholds for CRU approval.**

To avoid any confusion with the existing Types in the Distribution Code (these refer to topology) ESB Networks will progress to modifying the Distribution Code to rebadge the existing topology Types A to E to Topologies 1-5.

ESB Networks will consider further type testing for generation up to 50 kW. This may be included in ongoing discussions on the implementation of the Operational Notification provisions of RfG.

For further information please email EirGrid at [gridcode@eirgrid.com](mailto:gridcode@eirgrid.com) or ESB Networks at [DistCodePanel@esb.ie](mailto:DistCodePanel@esb.ie).

## Appendix 1 - Article 5

Article 5, sections 2, 3 and 4 state<sup>5</sup>:

“2. Power generating modules within the following categories shall be considered as significant:

- (a) connection point below 110 kV and maximum capacity of 0.8 kW or more (type A);
- (b) connection point below 110 kV and maximum capacity at or above a threshold proposed by each relevant TSO in accordance with the procedure laid out in paragraph 3 (type B). This threshold shall not be above the limits for type B power generating modules contained in Table 1;
- (c) connection point below 110 kV and maximum capacity at or above a threshold specified by each relevant TSO in accordance with paragraph 3 (type C). This threshold shall not be above the limits for type C power generating modules contained in Table 1; or
- (d) connection point at 110 kV or above (type D). A power generating module is also of type D if its connection point is below 110 kV and its maximum capacity is at or above a threshold specified in accordance with paragraph 3. This threshold shall not be above the limit for type D power generating modules contained in Table 1.

<b>Synchronous areas</b>	<b>Limit for maximum capacity threshold from which a power generating module is of type B</b>	<b>Limit for maximum capacity threshold from which a power generating module is of type C</b>	<b>Limit for maximum capacity threshold from which a power generating module is of type D</b>
<i>Continental Europe</i>	<i>1 MW</i>	<i>50 MW</i>	<i>75 MW</i>
<i>Great Britain</i>	<i>1 MW</i>	<i>50 MW</i>	<i>75 MW</i>
<i>Nordic</i>	<i>1.5 MW</i>	<i>10 MW</i>	<i>30 MW</i>
<i>Ireland and Northern Ireland</i>	<i>0.1 MW</i>	<i>5 MW</i>	<i>10 MW</i>
<i>Baltic</i>	<i>0.5 MW</i>	<i>10 MW</i>	<i>15 MW</i>

Table 1: Limits for thresholds for type B, C and D power generating modules

3. Proposals for maximum capacity thresholds for types B, C and D power generating modules shall be subject to approval by the relevant regulatory authority or, where applicable, the Member State. In forming proposals the relevant TSO shall coordinate with adjacent TSOs and DSOs and shall conduct a public consultation in accordance with Article 10. A proposal by the relevant TSO to change the thresholds shall not be made sooner than three years after the previous proposal.

<sup>5</sup> <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32016R0631&from=EN>

4. Power generating facility owners shall assist this process and provide data as requested by the relevant TSO.”

## Appendix 2 – Article 10

Article 10 states<sup>6</sup>

### “Public consultation

1. Relevant system operators and relevant TSOs shall carry out consultation with stakeholders, including the competent authorities of each Member State, on proposals to extend the applicability of this Regulation to existing power-generating modules in accordance with Article 4(3), for the proposal for thresholds in accordance with Article 5(3), and on the report prepared in accordance with Article 38(3) and the cost-benefit analysis undertaken in accordance with Article 63(2). The consultation shall last at least for a period of one month.

2. The relevant system operators or relevant TSOs shall duly take into account the views of the stakeholders resulting from the consultations prior to the submission of the draft proposal for thresholds, the report or cost benefit analysis for approval by the regulatory authority or, if applicable, the Member State. In all cases, a sound justification for including or not the views of the stakeholders shall be provided and published in a timely manner before, or simultaneously with, the publication of the proposal.”

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<sup>6</sup> <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32016R0631&from=EN>



## Appendix 3 – Final TSO Position Diagram

