

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

TSO “Minded To” Position

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Executive Summary

The Network Code Requirements for Generators (RfG) established under COMMISSION REGULATION (EU) 2016/631¹ 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 Capacity² 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 document³ issued on April 7th 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.

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

² 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.

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

Industry views on the proposals were sought until 15th May 2017. The responses were generally in support of the proposals and are summarised in this document.

Therefore the TSO is minded to set the boundaries as described in the Consultation document, pending completion of the second RfG consultation on Parameter selection.

These proposed boundaries shall form the basis of the assessment being undertaken by the TSO to establish and consult upon the non-exhaustive RfG parameters. These parameters can be different across the different bands. As such it is possible that in establishing the parameters the SOs or industry consider a change in the banding thresholds is required. Following the SO consultation on RfG requirements later this year, a final submission on the thresholds shall be made to the relevant Regulatory Authority (CER) for approval.

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1. Background

1.1. Consultation

As required by Article 5 of the RfG, the TSO issued a Consultation Document entitled “*Network Codes: Consultation on Requirements for Generators (RfG) Banding Thresholds in Ireland*” (hereafter referred to as the “Consultation Document”). The Consultation Document was issued by EirGrid (Hereafter, the TSO) on April 7th 2017 setting out its proposals for the banding thresholds for Ireland. It is available to download from the EirGrid website⁴. The consultation ran until May 15th 2017. An identical position was proposed by SONI for Northern Ireland and the consultation ran for the same time period.

1.2. Proposal Summary

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 Proposed Boundaries

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

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.

1.3. Feedback Sought

Feedback on the Consultation Document was sought. In particular we sought views via the following questions:

- Do you agree with the banding proposals as set out in this paper?

⁴ <http://www.eirgridgroup.com/customer-and-industry/european-integration/integration/>

- Do you believe that lower thresholds should have been considered?
- If yes, please explain what levels you would have proposed?
- If yes, please explain why including any costs/benefits/savings you believe will materialise from your proposal?
- If yes, do you believe your levels facilitate Grid and Distribution Code objectives?
- Do you have any views on the general approach on the extension of the threshold of type-testing as described in Section 7?
- Do you have any views on the renaming of the topologies from Types A-E to Topologies 1-6?
- Are there any other considerations you believe the TSO should consider in finalising the proposals?
- Any other comments.

Keep the following in mind whilst preparing your response:

- The TSO does not intend on applying the requirements retrospectively at this time;
- Changes cannot be made for three years;
- Requirements are only applicable to generation that have concluded a final and binding contract for the purchase of the main generating plant after 17th May 2018; and
- RfG requirements are based on Maximum Capacity and not Maximum Export Capacity (MEC).

2. Feedback Received

In Ireland we received four responses. The main topics raised were:

- the boundaries,
- interaction with other codes,
- the definition of maximum capacity,
- the Distribution Code types,
- type testing, and
- the frequency of stakeholder fora.

Each topic is considered separately below.

2.1. Thresholds

Two of the responses were in agreement with EirGrid's proposal not to lower the lower limit of each band below the maximum threshold. One was silent on this topic. The final response indicated concern that the banding thresholds for Ireland were more restrictive than other member states.

As can be seen in the consultation document and in Table 1 above, this proposal chose the least restrictive limits allowable for Ireland and Northern Ireland. The ranges allowed for Ireland and Northern Ireland are specified by the RfG which was entered into force on 17 May 2016. Consultation on the RfG itself has already concluded. Further information on the decision surrounding the limits is set out in the ENTSOE document entitled *Network Code for Requirements for Grid connection Applicable to all Generators Frequently Asked Questions*⁵, dated 19 June 2012, specifically FAQ numbers 5, 6 and 7.

No consultation responses indicated a preference to drop the boundaries below the levels proposed.

2.2. Interaction with Other Codes

One comment related to the interaction with other codes. There was concern that this consultation is taking place in advance of the final wording of the Emergency and Restoration Network Code and the System Operation Guidelines. The concern relates to the interaction between the banding thresholds applied under the RfG and requirements placed on *existing* generation falling within these bands under the Emergency and Restoration Network Code and the System Operation Guidelines.

Note in the first instance that this paper indicates the "Minded-To" position of the TSO. It is proposed to finalise the proposal following on from the consultation on the non-exhaustive parameters. The TSO will also reconsider the thresholds if any significant changes are made to the current drafts of the Emergency and Restoration Network Code and the System Operation Guidelines. In any event the bands proposed are the least onerous allowable, however if any discrepancy with the Emergency and Restoration Network Code and the System Operation Guidelines becomes apparent this will be taken into consideration in the final proposal to the Regulatory Authority.

2.3. Maximum Capacity

One comment related to the definitional change between Maximum Capacity under the RfG and the current basis of Maximum Export Capacity or Registered Capacity. Concern

⁵ [http://www.acer.europa.eu/Media/News/Documents/120626%20-%20NC%20RfG%20-%20Frequently%20Asked%20Questions%20\(2\).pdf](http://www.acer.europa.eu/Media/News/Documents/120626%20-%20NC%20RfG%20-%20Frequently%20Asked%20Questions%20(2).pdf)

was raised that the adoption of the Maximum Capacity definition under the RfG could result in existing generators, who had previously been outside the remit of the Grid Code, being incorporated into the requirements under the Emergency and Restoration Network Code and the System Operation Guidelines.

It is the case that this may occur, however please note that Significant Grid Users under the Emergency and Restoration Network Code and the System Operation Guidelines do not include Type A generators. Furthermore note that the proposed thresholds are the least onerous that can be proposed.

2.4. Distribution Code Types

Two responses commented on the issue of the Distribution Code 'Types' and the proposal to rebadge the existing types as Type 1-5 to avoid confusion with the new RfG Types A-D. One response supported the retention of topology types and their rebadging as Types 1-5. The other response requested that the replacement Table 6 in the ESNB Distribution Code be accompanied with a definition of the RfG banding for each generator.

ESBN has indicated that this suggestion would be considered as it is in line with the current thinking on the intended structure of how the RfG provisions would be incorporated into the Distribution Code. As indicated at various public fora, ESNB is minded, to the extent that is feasible, to make the flow of content as easy as possible for the reader to understand. With this in mind, where the primary RfG text provides a context to what follows and is not too wordy, ESNB is minded to include in the body of the Distribution Code, with some means of denoting that it is primary RfG text.

2.5. Type Testing

One response dealt with Type Testing. The respondent was fully in support of the ESNB proposal to extend the threshold for the use of type-test certification to 50 kW and noted that this approach has been adopted in other jurisdictions in Europe. A request was made for ESNB to consider taking the further step of extending the thresholds for the inform-and-fit process from the current levels up to 50 kW.

ESBN has indicated that they are not minded to adopt this approach. A change of this magnitude is sufficiently significant and material that some form of study and/or design would be needed to establish any impacts before such a connection is made to the network. Such an approach would be irresponsible at domestic level.

2.6. Stakeholder Fora

One response dealt with Stakeholder Fora. The respondent acknowledged that EirGrid hosted an all-island Stakeholder Forum to present the Banding Proposals in advance of the consultation. The respondent encourages EirGrid to continue to sponsor such fora in the future.

The Regulatory Authorities in conjunction with EirGrid and SONI intend on hosting regular Stakeholder Fora going forward.

3. Conclusion

The TSO's minded-to position is to adopt the proposals as set out in the Consultation Paper dated 7 April 2017 and summarised in Section 1 above and shown in Appendix 3 below.

During the consideration and preparation and consultation of the non-exhaustive requirements for the RfG, the TSO will reassess the appropriateness of this minded-to position and make a final proposal to the Regulatory Authority for approval. The TSO will also reconsider the minded-to position for the thresholds if any significant changes are made to the current drafts of the Emergency and Restoration Network Code and the System Operation Guidelines.

ESBN will progress to modifying the Distribution Code to rebadge the existing topology Types A to E to Types 1-5.

ESBN 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.

If you require any further information please email EirGrid at gridcode@eirgrid.com or ESB Networks at DistCodePanel@esb.ie.

Appendix 1 - Article 5

Article 5, sections 2, 3 and 4 state⁶:

“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.

Synchronous areas	Limit for maximum capacity threshold from which a power generating module is of type B	Limit for maximum capacity threshold from which a power generating module is of type C	Limit for maximum capacity threshold from which a power generating module is of type D
<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.

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

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

Appendix 2 – Article 10

Article 10 states⁷

“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.”*

⁷ <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32016R0631&from=EN>

Appendix 3 – Minded-to Position Diagram

