

## *Submission Document*

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# Significant Grid Users Ireland

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In accordance with the requirements of  
Articles 11 and 4.2 (c) and (d) of the  
Commission Regulation (EU)  
2017/2196

Establishing a network code on  
electricity emergency and restoration

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30<sup>th</sup> September 2020



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Submission

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# 1. Background

COMMISSION REGULATION (EU) 2017/2196, establishing a Network Code on Electricity Emergency and Restoration (NCER) came into force on the 18<sup>th</sup> of December 2017. This network code details the requirements for each TSO to develop business policies to manage emergency events on the power system. As part of the requirements of NCER, a Significant Grid User (SGU) has been defined in NCER. This document details all SGU's as defined in NCER.

This document is drafted to fulfil the requirements Article 4.2 (c) and (d) and Article 11 of NCER.

All Significant Grid Users listed here are accurate as of 30<sup>th</sup> September 2020. Any grid user connected after that date is not included in this list but will be subject to NCER as stipulated under Article 2.2.

## 2. Significant Grid User

### 2.1 Definition of Significant Grid User

The definition of a Significant Grid User, as detailed in Article 2 of NCER, is defined as;

1. existing and new power generating modules classified as type C and D in accordance with the criteria set out in Article 5 of Commission Regulation (EU) 2016/631 (3);

Synchronous Area	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 <sup>1</sup>
Ireland and Northern Ireland	0.1 MW	5 MW	10 MW

2. existing and new power generating modules classified as type B in accordance with the criteria set out in Article 5 of Regulation (EU) 2016/631, where they are identified as SGUs in accordance with Article 11(4) and Article 23(4);
3. existing and new transmission-connected demand facilities;
4. existing and new transmission connected closed distribution systems;
5. providers of redispatching of power generating modules or demand facilities by means of aggregation and providers of active power reserve in accordance with Title 8 of Regulation (EU) 2017/1485; and
6. existing and new high voltage direct current ('HVDC') systems and direct current-connected power park modules in accordance with the criteria set out in Article 4(1) of Commission Regulation (EU) 2016/1447 (1).

EirGrid has not identified any transmission connected closed distribution systems as a category of SGU on the system.

<sup>1</sup> Note, all power generating modules connected at 110kV and above are Type D at whatever capacity.

EirGrid has not identified any High Priority Significant Grid Users under the requirements of NCER.

## **2.2 List of System Defence Measures to be Implemented by SGUs**

All system defence services provided by SGUs as per Articles 15 to 22 of the NCER are listed in table 1 below. To help with the mapping of SGUs to system defence services the six definitions of SGUs given in section 2.1, have been expanded to eight, where Type C & D generators are three separate categories, namely Type D (transmission connected), Type D (distribution connected) and Type C. Also, for completeness, the system defence measures that impact non-SGUs, such as distributed demand customers, has been included in the mapping table.

NCER Article	NCER Chapter II Section 2 Technical & Organisational Measures	Individual System Defence Measure / Service	SGUs								Non-SGUs
			Type D Generator (T-Connected)	Type D Generator (D-Connected)	Type C Generator	Type B Generator	Aggregators of Gen/ Dem	T-Conn Demand Facility	Interconnector Owners	T-Conn closed Distribution System	DSO Demand Customers
15	Automatic Under Frequency Control Schemes	LFDD (Low Frequency Demand Disconnection)									X*
16	Automatic Over-Frequency Control Schemes	Over Frequency Generator Shedding Scheme	X								
		Step wise linear disconnection	X	X	X	X					
17	Automatic Scheme Against Voltage Collapse	UVLS (Low voltage Demand disconnection)									X**
18	Frequency Deviation Management Procedure	Operational Reserve (FRR) (Inc. Turlough Hill)	X	X	X	X	X				
		Replacement Reserve (RR)	X	X	X	X	X				
		Active power set points when Frequency is outside Alert Limits.	X	X	X	X	X				
		Authority to disconnect SGUs	X	X	X	X	X	X	X		
19	Voltage Deviation Management Procedure	Reactive power set-points	X								
		Other TSO's making Mvars available							X		
20	Power Flow Management Procedure	Active power set points when power flow is outside Alert Limits.	X	X	X	X	X				
		Special Protection Schemes	X	X	X	X					
21	Assistance for Active Power Procedure	Active power set points when system adequacy is lacking.	X	X	X	X	X				
		Interconnectors Emergency Assistance (MWs)							X		
22	Manual Demand Disconnection Procedure	Emergency load shedding (inc. 5m , 10m & Rota)									X*

\* Unless Exempted  
\*\* At locations designated by the TSO

Table 1 - Mapping of SD Services against SGUs/ Non- SGUs

## 2.3 List of System Restoration Measures to be Implemented by SGUs

EirGrid has contracts in place with seven transmission connected power stations including an Interconnector to provide Black Start capability as a system restoration service.

In addition to Black Start capability the only other system restoration service is the 'quick resynchronisation' service where generator units trip to house load following loss of external supply and remain available to resynchronise when the external supply is restored. The requirements are detailed under Grid Code CC.7.3.2.3.



## 2.4 Clarification of Categorization of Distribution Connected Generators

### 1.2.1. Type C and D Generators

All Power Park Modules (PPMs) and Synchronous Power Generating Modules (SPGMs) with a Unit or Wind Farm Maximum Export Capacity greater than 5MW are categorised as either Type C or Type D, under Article 5 of Commission Regulation (EU) 2016/631 (3) and are hence SGUs.

### 1.2.2. Type C and D PPM Generators

With specific regard to extensions and phases of PPMs, many variations exist as to how these are grouped into Units for market purposes by EirGrid, at the PPMs request. Please see the below clarification on how each variation was considered in the development of the following list.

1. Where an original PPM and an extension to it, summing to the total MEC (which is greater than or equal to 5MW) and both comprise one market unit - it is included.



2. Where an original PPM and an extension to it are comprised of two or more separate market units which together sum to the total MEC of the PPM (which is greater than or equal to 5MW) all such units are included in this category, irrespective of the size of the units.



3. Where there is an original PPM and an extension to it and one or the other comprises a controllable market unit, the controllable unit is included in this category; however, if the remaining portion is less than 5MW and not controllable, it is not included in this

category.



### 1.2.3. Type B Generators

All Power Park Modules (PPMs) and Synchronous Power Generating Modules (SPGMs) with a Unit or Wind Farm Maximum Export Capacity greater than 0.1MW and less than 5MW, are categorised as “Type B” under Article 5 of Commission Regulation (EU) 2016/631 (3) and hence may be classed as SGUs.

In accordance with the definition of SGUs in NCER and the mapping of defence measures, which are detailed in chapter 4 of the System Defence Plan for Ireland; the following definitions apply:

- a) Type B PPMs are classed as SGUs if they are controllable.
- b) Type B SPGMs are classed as SGUs if they are centrally dispatched.

At the time of this submission;

- there no Type B PPMs that are controllable PPMs (wind or solar), connected to the Distribution System.
- there no Type B SPGMs that are centrally dispatched, connected to the Distribution System.

### 3. Next Steps

This concludes EirGrid and ESBN's submission to the Commission for the Regulation of Utilities of Significant Grid Users list for Ireland in accordance with the requirements of Articles 11 and 4.2 (c) and (d) of the Commission Regulation (EU) 2017/2196 Establishing a network code on electricity emergency and restoration.

EirGrid and ESBN would now like to request the approval of the CRU for this propose document.

Submission