

# Joint Grid Code Review Panel #1 2022

Welcome to all members

08 March 2022

# Joint GCRP Meeting

## Agenda

### Introduction:

- a. Welcome Members;
- b. Minutes and Actions from Previous Meeting (go to 02 November 2021).

### Updates:

- a. Definition of Register Capacity Review;
- b. Low Carbon Sources of Inertia Update;
- c. CRU Update;
- d. Utility Regulator Update;

AOB

# Register Capacity Definition Review



# Registered Capacity Definition Review

- Establishing Registered Capacity definition on an all-island basis;
- Changes will include both Grid Codes and Distribution Codes;
- Launched at July 2021 JGCRP

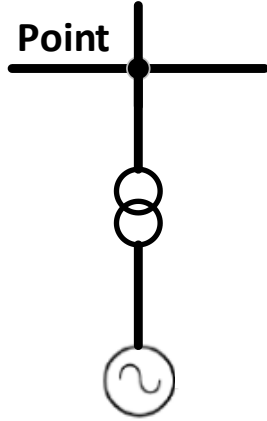
# Update

- Working Group assessing several areas:
  - Connection site configuration – i.e. standalone generation vs generation site with demand
  - Impact of “throttling devices” i.e. inverters
  - Creation of “Installed Capacity” Definition
  - Relationship between Registered Capacity, Installed Capacity and MEC

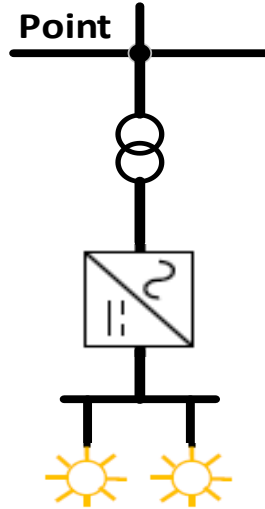
# Connection Site Configuration

Standalone Sites

Connection  
Point



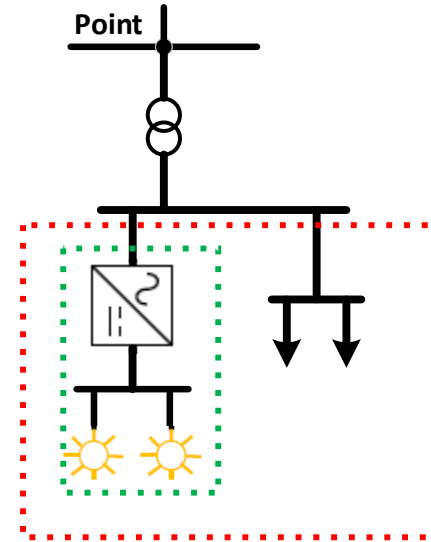
Connection  
Point



and

Site with Demand

Connection  
Point

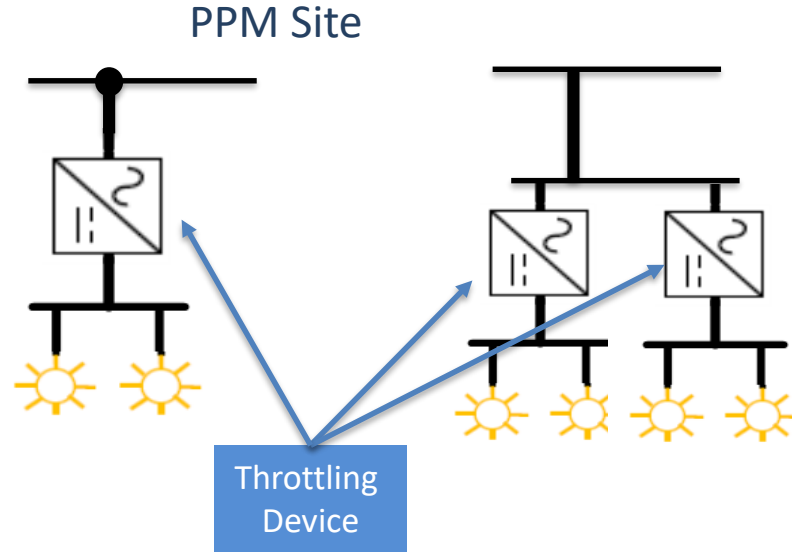
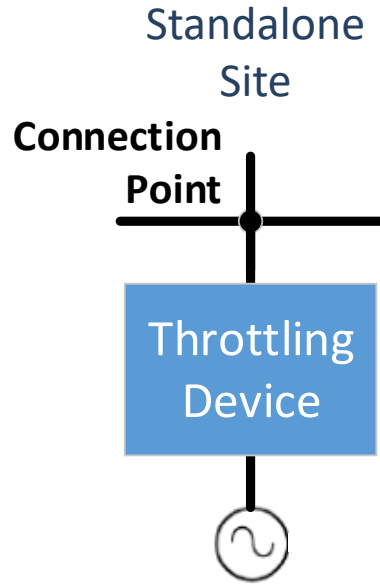


and.....

# Standalone Registered Capacity Definition

- The text shown below is a working draft of the Reg Cap definition:
  - For SPGMs, is the electrical output in MW, that a **Generation Unit** can produce on sustained basis without accelerated loss of life.
  - For PPMs, is the sum of the **Installed Capacities** of one or more **Generation Units** that comprise that PPM.
  - For CDGU's and Controllable PPMs which are affected by ambient conditions, Registered Capacity, shall be the value at 10°C, 70 % relative humidity and 1013 hPa.

# Impact of “Throttling Devices”





# Installed Capacity Definition

- Used widely by Industry but not currently defined as a Code or contract term;
- Assessing the need for a new term, and if needed will be brought forward with the Reg Cap definition.

# Registered Capacity, Installed Capacity and MEC

- Need to define relationship between the 3 terms and their interaction.

# Next Steps

- Seeking feedback from members on draft wording as shown on Slide 5.
- Please forward on any comments by Friday, 8 April 2022 to:
  - [DistCodePanel@esb.ie](mailto:DistCodePanel@esb.ie);
  - [Dcode@nienetworks.co.uk](mailto:Dcode@nienetworks.co.uk);
  - [Gridcode@soni.ltd.co.uk](mailto:Gridcode@soni.ltd.co.uk); and
  - [Gridcode@eirgrid.com](mailto:Gridcode@eirgrid.com);

# Questions

# Low Carbon Sources of Inertia Update

EirGrid – Oscar Carty

# What is LCSi?

The term Low Carbon Sources of Inertia (LCSi) refers to devices such as:

- Synchronous Condensers
- Synchronous Compensators
- Fly wheels

At present, there are no specific Grid Code requirements for Low Carbon Sources of Inertia.

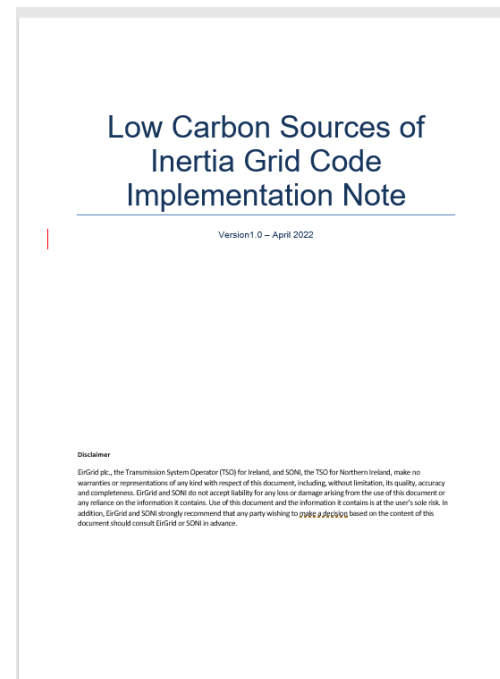
# Objective of LCSI Implementation Project

- **Consider the Operational Requirements for LCSI on the Transmission System**
  - ⇒ Impact on Signal Lists Within NCC
  - ⇒ System Services
  - ⇒ Grid Codes – Implementation Note
  - ⇒ Trading & Settlement Codes
  - ⇒ Scheduling & Dispatch Codes
- **Alignment of the above to facilitate LCSI Connections onto the Grid**

# Implementation Note

## Implementation Note outlines:

- Which elements of current Grid Code we propose will apply to LCSi
- Which elements we propose will not apply to LCSi
- Which elements we believe that apply to LCSi in a modified or varied form
- Any new concepts or requirements which have not existed to date but are required for LCSi





# Grid Codes Reviewed

- EirGrid Grid Code Connection Conditions
- EirGrid Grid Code Operating Conditions
- SONI Grid Code General Connection Conditions
- SONI Grid Code Connection Conditions Schedule 1 Part 1

**Table A1: SONI Grid Code General Connection Conditions**

Code	Theme	Applicability to LCS1
CC1	Introduction	Applies
CC2	Objectives	Applies
CC3	Scope	Applies
CC4	Connection Principles	Applies
CC5	Supply Standards	Applies
CC6	Technical Criteria	Applies
CC7	Technical Criteria	Applies
CC8	Technical Criteria	Applies
CC9	Site Related Conditions	Applies
CC10	Approval To Connect	Applies
CC11	Distribution Connections	Does not apply. Distribution connections only
CC12	Generator Aggregators	Does not apply. Aggregators only
CC13	Demand Side Units	Does not apply. Demand Side Units only
CC14	Fuel Security Code	Applies

**Table A4: EirGrid Grid Code Operating Conditions**

Grid Code	Subject/Topic	Applicability to LCS1
OC.1	Demand Forecasts	Does not apply. Demand units only
OC.2	Operational Planning	Applies
OC.3	Not Used	Not Used
OC.4	System Services	Applies
		Variation Applies
		Does not apply. Blackstart only
OC.5	Demand Control	Does not apply. Demand units only
OC.6	Small Scale Generator Conditions	Does not apply. SSG units only
OC.7	Information Exchange	Applies
OC.8	Operational Testing	Applies
OC.9	Emergency Control and Power System Restoration	Applies
OC.10	Monitoring, Testing and Investigations	Applies
		Variation Applies
OC.11	Safety Co-ordination	Applies

# Implementation Note Timeline

Task	Start	Finish
Development of Arrangements	Q4 2021	Q2 2023
Grid Code Implementation Note V1 Published	Mon - 04/10/21	Thu - 31/03/22
Industry consultation	Thu - 31/03/22	Fri - 29/04/22
Learnings & analysis from operational experience	Mon - 02/05/22	Fri - 30/12/22
Update to GCRP post closing of industry consultation	June GCRP	
Grid Code Implementation Note V2 Development	Thu - 05/01/23	Tue - 14/02/23

# Questions

# Update Items

# Updates

1. CRU Update;
2. Utility Regulator Update.

# Questions

# AOB