

# **Ireland Grid Code Review Panel #3 2021**

Welcome to all members

02 November 2021

# Agenda

| Topic  |
|--|
| <b>INTRODUCTION: 15 MINS</b> <ul style="list-style-type: none"><li>a. Welcome to Members</li><li>b. Minutes and Actions from <u>Previous Meeting</u> (20 July 2021)</li></ul>  |
| <b>MODIFICATION PROPOSALS: 60 MINS</b> <ul style="list-style-type: none"><li>a. MPID 293 – DSU Maximum Down Time;</li><li>b. MPID 299 – Reduction of Aggregator Limit to 1MW;</li><li>c. MPID 300 – Solar PV Signal Requirements;</li><li>d. MPID 297 – Correction PPM RfG Non-RfG Frequency Periods;</li><li>e. MPID 294 – Align the Grid Code with the GCRP Constitution;</li><li>f. MPID 298 – Grid Code v9 Housekeeping.</li></ul> |
| <b>DISCUSSION ITEM: 10 MINS</b> <ul style="list-style-type: none"><li>a. How user-friendly is the Grid Code?</li></ul>   |
| <b>UPDATES: 15 MINS</b> <ul style="list-style-type: none"><li>a. Grid Code Derogations Update;</li><li>b. Sync Comp Update;</li><li>c. Offshore PPMs Update;</li><li>d. CRU Update;</li></ul>  |
| <b>AOB 5 MINS</b>  |

## MPID 293 – DSU Maximum Down Time

DRAI

# Next step?

# MPID 299 – Reduction of Aggregator Limit to 1MW

FERA

# Next Step

# MPID 300 – Solar PV Signal Requirements

EirGrid – Anna Corcoran

# Justification

- The Grid Code currently only contains required wind farm meteorological and availability data signals
- Given the proposed increase in large-scale solar development in Ireland it is necessary to include in the Grid Code the required solar farm meteorological and availability data signals
- Modification consistent with current wind-powered PPM requirements
- Engaged with stakeholders from the Solar Industry and received positive feedback



## Solar Farm Meteorological Signal Requirements

- a) Global Horizontal Irradiance (GHI)
- b) Diffused Horizontal Irradiance (DHI)
- c) Direct Normal Irradiance (DNI) (solar tracking panels)
- d) Air temperature
- e) Back panel temperature
- f) Wind speed
- g) Wind direction
- h) Precipitation
- i) Air pressure

## Solar Farm Availability Signal Requirements

- a) Solar-powered Controllable PPM Availability (0-100% signal)

# Grid Code Sections Impacted

## Modified Sections:

PPM1.7.1.2.2;  
PPM1.7.1.2.3;  
PPM1.7.1.2.4;  
PPM1.7.1.3.1;  
PPM1.7.1.3.3; and  
PPM1.7.1.3.4.

## New Sections:

PPM1.7.1.2.2.1;  
PPM1.7.1.2.2.2;  
PPM1.7.1.3.2.1;  
PPM1.7.1.3.2.2.

# Questions?

# MPID 297 – Clarification of PPM Frequency requirements for PPMs (RfG Units)

EirGrid – Niamh Daly

# Justification

- When the RfG was incorporated into the Grid Code, the Generator frequency ranges and durations were included in CC.7.3.1.1.(w).
- Under PPM1.3.2, CC.7.3.1.1(w) is applicable to PPMs which are classed as RfG units.
- The absence of these requirements from the PPM section has been causing some confusion.
- The purpose of this modification is to include these requirements in PPM.1.51. and resolve any confusion.

# Sample Modification to PPM.1.5.1

○

- (e) Remain synchronised to the **Transmission System** and operate within the frequency ranges and time periods specified in *Table PPM1.5.1(e)*.

*Table PPM 1.5.1(e): Minimum Time Periods for Generation Units to Remain Operational without Disconnecting*

| Frequency Range | Time Period |
|-----------------|-------------|
| 47 – 47.5 Hz    | 20 seconds  |
| 47.5 – 48.5 Hz  | 90 minutes  |
| 48.5 – 49 Hz    | 90 minutes  |
| 49 – 51 Hz      | Unlimited   |
| 51 – 51.5 Hz    | 90 minutes  |
| 51.5 – 52 Hz    | 60 minutes  |

# Questions

# **MPID 294 – Changes required to align the Grid Code with the GCRP Constitution**

**EirGrid – Arlene Chawke**



# Background

- Previous meeting we presented:
  - a discussion item on changes to the GCRP Constitution; and
  - changes to the Grid Code.
- No comments were received during the 10 day comment period;
- Today we present:
  - A proposed Grid Code modification; and
  - Changes to the EirGrid GCRP Constitution.

# Proposed Modification

- No changes since it was presented as a discussion item;
- The purpose is to align the Grid Code with the Constitution;
- Proposal:

| Clause            | Proposed Changes <sup>18</sup>  |
|-------------------|---|
| GC.5.1 and GC.6.1 | <ul style="list-style-type: none"><li>• Change the term 'amendments' to 'modifications';</li></ul>  |
| GC.7.1            | <ul style="list-style-type: none"><li>• Sets out the notice required for the issue of the agenda and proposed modifications;</li><li>• Align clause to section 13.3 of the constitution;</li><li>• Include the reference to 'Business Days' in keeping with the Constitution and to what we do in practice;</li><li>• Include the 'exclusion' of the day the notice is issued and the day of the meeting. This is what we do in practice;</li></ul> |

# Questions

# EirGrid Constitution

- One further inclusion since we presented this as a discussion item;
- As per Peter King's recommendation we have included a separate solar representative:
  - *1 person appointed by Grid Connected Solar Generators, and representing Solar Generators;*

# Next Steps

- The TSO will issue the amended Constitution to the CRU for their signature and EirGrid will countersign.

# Questions

# MPID 298 – Grid Code v9 Housekeeping

EirGrid – Arlene Chawke

# Proposal

- Several 'typo' style errors have come to our attention.
- The TSO propose a fix to those errors that span various clauses.



# Proposed

| CLAUSE                           | ERROR  | RED LINE   | GREEN LINE                                    |
|----------------------------------|--|--|---|
| Definition – Pumped Storage Mode | Grid Code version 1 and every other version of the Grid Code since then has included a definition for Pumped Storage Mode as set out in the Red Line Version column. We propose removing the word ‘including’. | A mode of operation of a Pumped Storage Unit including | A mode of operation of a Pumped Storage Unit. |

# Proposed

| Clauses                             | Proposed Change                         |
|-------------------------------------|---|
| CC.10.9.5 and<br>CC.10.9.6          | Removal of stranded bulletin points.    |
| OC.8.1.2<br>OC.9.4.1<br>OC.10.7.3.3 | Bolding of defined terms.               |
| CC.7.2.1.3                          | Correction of a spelling 'disconnects'. |

# Questions

# Discussion on User-friendliness of Grid Code

EirGrid – Niamh Daly

# Background

- Usability trial on Grid Code was carried out
  - 5 EirGrid employees, no Grid Code experience
  - Acted as a User searching for their Grid Code requirements
  - Focused solely on user-friendliness, not on technical requirements or demarcation

# Sample Questionnaire

## User Trial:

### User Profile:

- You are a new “wind farm”
- **Registered Capacity** of 35MW
- Can be controlled from the NCC
- Connected to the **Transmission System** at 110kV

### Questions to be answered using the Grid Code:

#### Question 1:

How long must your wind farm stay connected to the **Transmission System** if the **Transmission System Frequencies** are between 47.5Hz and 52.0Hz?

#### Question 2:

What **Transmission System Voltage** range must your wind farm remain connected to the **Transmission System** for an unlimited period?

#### Question 3:

What weather data do you need to send to the NCC?

# Results of Trial

## Problems

|  |            |
|--|------------|
| Issues with Table of Contents – found it too long, couldn't work out what section was relevant | <u>3/5</u> |
| Unable to find table of acronyms and definitions   | <u>3/5</u> |
| Used the search function (would make using a hardcopy very difficult)                          | <u>5/5</u> |

## Suggestions

|  |            |
|--|------------|
| Move acronyms and definitions to the front | <u>4/5</u> |
| Group according to user                    | <u>4/5</u> |
| Make Table of Contents more user friendly  | <u>5/5</u> |

## Table of Contents



## Acronyms and Definitions



# Suggested Improvements

1. Move Definitions and Acronyms to front
2. Re-format the Table of Contents
3. Write an Introduction- Include one sentence description of each section



# Next Steps

- Collect GCRP feedback
  - Now by discussion, by email or by survey?
- Circulate draft Grid Code changes with suggested improvements
- Possible Grid Code modification proposal at next GCRP

# Questions

# Grid Code Derogations Update

EirGrid – Anne Trotter

# Grid Code Derogations Update

- Total:
  - Under TSO Assessment 140
  - With CRU for review 60
- Since July 2021:
  - Approved by CRU 1
  - Recommendations sent to CRU 21
  - Submitted to TSO 15

# Questions

# Sync Comp Update

EirGrid – Miriam Ryan

# Questions

# Offshore PPM Update

Miriam Ryan



# Offshore PPM update

- Additional resources to assist with the implementation of offshore development policy;
- Developing a “minded to” position on key decisions, including ownership and operational boundaries;
- Engaging with key stakeholders;
- An industry engagement policy and has been communicated to Phase 1 projects.

# Questions

# Dylan Ashe – CRU Update

# Questions

# AOB

Draft Minutes will be issued by COB 16 November 2021