



All-island Network Code Stakeholder Forum

31 July 2019

Webinar



Zoom.us Webinar details:

You are invited to a Zoom webinar.
When: Jul 31, 2019 10:30 AM London
Topic: All-island (Network Codes) Forum

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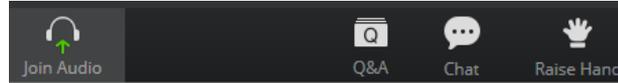
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2. To receive a participant ID (to enable you to talk), join the webinar before dialling in. If you do not see an ID# appear, just press # on the phone when prompted (listen mode only). We will endeavour to enable chat whilst on the call if required.

Practical info on the webinar – please read

- RAs and SOs are sharing content and presenting materials from Dublin & Belfast
- Participants can interact by:
 - Choose ‘Q&A’ and post your question to be answered by the panel
 - Choose ‘chat’ - if you have a question or comment you would like addressed (this may be during webinar or as follow up)
 - Choose ‘Raise hand’ if you would like to speak – we would like to limit this option as various browser versions of seem to work differently. You will need to have a ‘participant ID’ to talk – available when you logon.
 - Providing feedback after the meeting
- Presentation recording (audio only), so all queries and comments are captured
 - Name will be captured as part of chat (not publicly available)
- Participants are welcome to send comments directly to RAs and SOs following the webinar
- Slides will be available on-line after the meeting



Agenda

- **10h30** Introduction and practical info for webinar facility
- **10h40** Network Codes update [*CRU/Utility Regulator*]
- **11h05** TSO update [*EirGrid / SONI*]
 - SOGL, CNC, ER
 - Consultation for Ireland/Northern Ireland – Synchronous Area Operational Agreement (SOGL Art.118) and LFC Block Operational Agreement (SOGL Art.119)
- **11h45** General update and Impact on D codes (IE) [*ESBN*]
- **12h00** Clean Energy Package – status update [*EirGrid / SONI*]
- **12h15** Closing remarks [*CRU/Utility Regulator*]



Regulatory update on EU Network Codes and Guidelines



Why should you be interested?

- **Changes to connection standards** – Generator Connections, Demand connections, HVDC connections (Interconnectors/Offshore etc)
- **Changes to System Operations, Data Exchange requirements, Grid codes, Black start services, Emergency procedures** - System Operation, Emergency Restoration
- **Changes to Market Operations, Harmonised EU Platforms, Interconnector Flows** - Electricity Balancing, CACM, FCA

EU Network Codes and Guidelines

Connections

Requirements for
Generators (RfG)

Demand Connection
(DCC)

High Voltage DC
(HVDC)

Operational

System Operation
(SOG)

Emergency Restoration
(ER)

Markets

CACM- Capacity and
Congestion
Management

Forwards and Liquidity
(FCA)

Balancing (EBGL)

Visibility of work underway



- Stakeholder Fora – number per year- info published on SONI/EirGrid websites



- Consultations and Decision papers - located on TSO/DSO/ RA /EU websites



- Stakeholders welcome to contact Network Operators and Regulators on specific issues

Visibility of work underway

TSOs

SONI [website](#)

EirGrid [website](#)

DSOs

ESBN [website](#)

NIE
[website](#)

Regulatory Authorities

CRU
[website](#)

UR
[website](#)

All-EU Bodies

ENTSO-E [website](#)

CEER [website](#)

ACER [website](#)

Requirements for Generators (RfG)

- Emerging Technology – Decision and monitoring
- Criteria to be used if seeking a derogation published
- RfG technical parameter consultation and decisions published IE and NI
- Operational Notification processes underway
- Integration of new technical standards into Grid Codes and Distribution Codes in process

Demand Connection Code (DCC)

- Criteria to be used if seeking a derogation published
- DCC extension to existing classification (IE) until 7th Sept 2019- published
- DCC Technical Parameters decision – NI decision was a part approval/part request for amendment, IE pending
- Operational notification processes to be established
- Translation of technical standards into Grid Code to be progressed

HVDC

- Criteria to be used if seeking a derogation published
- HVDC technical parameter consulted – Regulatory (IE) decision to follow; NI decision was part approval/part request for amendment
- Operational Notification processes underway
- Integration of new technical standards into Grid Codes and D Codes required once decision issued

System Operation (SOGL)

- KORRR National implementation decision pending (IE)
- ACER decisions issued on the **Coordinated Security Assessment and Relevant Asset Outage Coordination Methodologies** - regional methodology for CSA required to be submitted to CRU/UR/OFGEM by December 2019
- **Synchronous Area Operational Agreement and LFC Block Operational Agreement** - CRU and UR issued Request for Amendments - currently out to consultation and due for submission by the TSOs in August 2019.
- Engaging on automatic Frequency Restoration Process (aFRP) derogation request with TSO

Emergency & Restoration Code

- RA/TSOs engagement on the submitted documents required by ER:
 - System Defence plan
 - System Restoration plan
 - Terms and conditions to act as a system restoration and/or system defence provider
 - Rules for suspension and restoration of market activities, and imbalance settlement in emergency or blackout states
- CRU to issue a decision very shortly that requests amendments to the documents to facilitate approval.
- Both regulators are ensuring that both methodologies align across the island of Ireland

Electricity Balancing

- All TSOs proposals:
 - Imbalance Netting Implementation Framework- All NRA decision to request 2nd amendment
 - Manual Frequency restoration reserves (MARI) Implementation Framework – referred to ACER for decision
 - Automatic Frequency restoration reserves (PICASSO) Implementation Framework – referred to ACER for decision
 - Imbalance settlement Harmonisation – Request for Amendment to be published shortly
 - Pricing Proposals – Balancing energy – referred to ACER
 - Activation Purposes of Balancing Energy Products – Request for Amendment to be published shortly
 - TSO-TSO settlement – Request for Amendment to be published shortly
- National Implementation
 - Work continuing on development of proposals that will ensure access to the pan EU balancing market platforms can be facilitated for SEM market participants and the TSOs.
 - The central dispatch nature of the SEM and the fact that detailed procedures will be required to convert Integrated Scheduling Process bids into Standard Balancing products means that this work is complex.
 - Information will be shared with industry on the initial concepts developed and the issues that will require further detailed consultations; for example modifications to existing market systems, TSC conditions or policy decisions to ensure compliance with the EBGL Regulation.

EUNC - CACM & FCA

- **The focus for CACM & FCA following approval of the majority of methodologies is monitoring and implementation.**
- **Recent Decisions and Developments:**
 - (CACM) Coordinated Redispatching & Countertrading Methodology and Cost Sharing Methodology
 - This methodology proposes a common approach within the Ireland-United Kingdom (IU) Capacity Calculation Region (CCR) for the economically efficient use of coordinated remedial actions which have the effect of relieving physical congestions within a control area of an IU TSO.
 - The cost sharing methodology proposes cost sharing solutions for actions of cross-border relevance.
 - The IU RAs voted to approve both methodologies on 22 July

EUNC - CACM & FCA

- **(FCA) Capacity Calculation methodology & (FCA) Methodology for splitting long-term cross-zonal capacity**
 - The Common Long Term Capacity Calculation Methodology proposes a common and coordinated approach within the IU CCR to promote effective and optimal calculation of long-term cross-zonal capacity. As per the IU Day-Ahead and Intraday Capacity Calculation Methodology which was approved on 23 July the LT CCM uses the coordinated net transmission capacity approach to calculate cross-border capacity.
 - The methodology for splitting long-term cross-zonal capacity allows for a split of capacity between products so that the market value of different periods and directions is accounted for.
 - The IU RAs voted to request an amendment to the Long Term Capacity Calculation Methodology and to approve the methodology for splitting long-term cross-zonal capacity on 22 July.
- **Other developments**
 - SEM-GB intraday auctions
 - Algorithm consultation

RA Summary

- Questions?
- Please request workshops
- Watch out for consultations
- Engage at Grid Code/Distribution Code
- Please ensure your businesses are informed

Thank you



TSO update



SOGL

- SAOA / LFCBOA heads up
- RAOC update
- CSAm update
- AGC CBA update
- KORRR outcomes
- Other

SAOA and LFCBOA

- SOGL requires TSOs in a Synchronous Area to establish a number of agreements
- [Consultation](#) on the SAOA and LFCBOA currently ongoing – separate section later
- Closes on 14 August 2019. Send comments/responses to gridcode@eirgrid.com or gridcode@soni.ltd.uk
- Documents consist of
 - Title 1: General Provisions
 - Title 2: Methodologies requiring RA approval
 - Title 3: Other methodologies
 - Title 4 of LFCBOA only: other agreements
- TSOs to resubmit Title 2 provisions by end August
- RAs have 2 months to approve
- Agreements come into force 3 months later

CSAm update

CSAm – Coordinated Security Analysis methodology

- SOGL Art. 75 CSAM was approved by ACER on 21 June.
- SOGL Art. 76 CSAM must be submitted by CCRs to RAs by **21 December** (includes a 3 month delay as agreed by the EC).
- Our CCR, IU, is made up of SONI, EirGrid and National Grid, the RSC being CORESO
- Work ongoing to draft methodology. Consultation expected to start 2nd week of October 2019

RAOCm

RAOCm – Relevant Assets Outage Co-ordination

- SOGL Art. 84 RAOCm was approved by ACER on 21 June.

AGC Update (SOGL Article 145)

Automatic and manual frequency restoration process

1. Each TSO of each LFC area shall implement an automatic frequency restoration process ('aFRP') and a manual frequency restoration process ('mFRP').

2. By 2 years after entry into force of this regulation, the TSOs of GB and IE/NI synchronous areas may each submit a proposal to their competent regulatory authorities requesting not to implement an aFRP. Those proposals shall include a cost-benefit analysis demonstrating that implementation of an aFRP would lead to higher costs than benefits. In case the proposal is approved by the competent regulatory authorities, the respective TSOs and regulatory authorities shall re-evaluate such decision at least every 4 years.

- TSOs currently drafting proposals.
- With high levels of non-synchronous generation AGC offers little or no benefit.
- Costs to establish process on the island would be significant.

KORRR outcomes

- SGU Consultation Closed 25th February 2019 in IE and NI
- KORRR Protocols developed for both IE and NI TSO-DSO agreements
- Progressing submissions for Article 6(4)(b) which concerns applicability and scope of specified data exchanges
- Following approval of Article 6(4)(b) submissions, KORRR SGU Decision Papers will be made available on TSO and DSO websites

Connection Codes

- i. GC8 and what's next
- ii. NI RfG incorporation into Grid Code consultation

Connection Codes

EirGrid

- **Grid Code 8**
 - Incorporation of Articles 13 – 28 of RfG
 - Approved by CRU on 14th of June
 - Notification email sent to info@eirgrid.com mailing list
- **Harmonisation of Grid and Network Code (HoGaN_C) Programme**
 - Incorporation of non-mandatory exhaustive requirements e.g. procedures for derogations, operational notifications, compliance
 - Addressing CRU feedback on HVDC parameter submission
 - Ongoing engagement with CRU in relation to DCC and HVDC non-exhaustive parameter proposals
 - Submitted class derogations for RfG to CRU and preparing derogations for DCC and HVDC

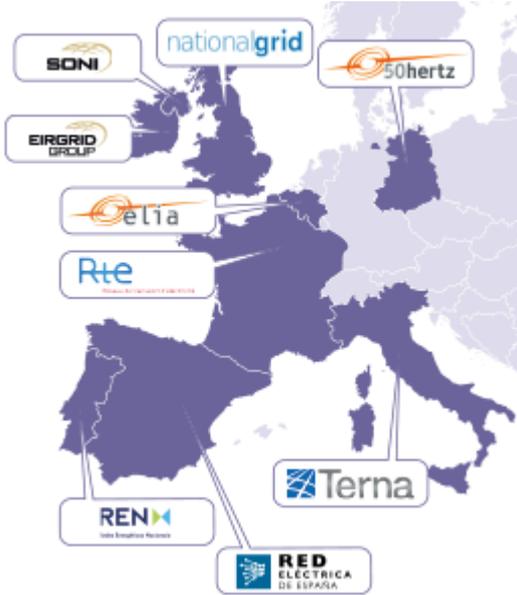
Connection Codes

SONI

- **Harmonisation of Grid and Network Code (HoGaN C) Programme**
 - RfG Grid Code mod consultation (Closing for comments 30 August 2019)
 - Planned submission to UR in October 2019
 - Progressing amendments to DCC proposals as requested by UR
 - Preparing class derogations for RfG and DCC

Emergency and Restoration - OVERVIEW

- The Network code for ER came into effect on 18/12/2017.
 - Objective being the establishment of rules relating to the management of the transmission system, in the event of :
 - Emergency
 - Blackout
 - Restoration
- So that the transmission system can be brought back to the normal, stable state.
- (SRP, SDP [Overview and T&Cs]), List of SGUs, Rules for S&ROMA submitted to RA on 18/12/2018.
 - Awaiting request for amendment from RAs on above submissions.
 - Follow-on submission to CORESO in June 2019, to ensure consistency of ER application across TSOs



- CORESO (**COoR**dination of **E**lectricity **S**ystem **O**perators)
 - EIRGRID & SONI joined in 15/12/2017
- CORESO's mission as an RSC, is the safe and efficient management of the interconnected European systems at regional level , done through:
 - The coordinated security of the electricity system
 - Integration of large-scale renewable energy generation
 - Development of the EU electricity market
- CORESO will report on levels of harmonization of ER measures across TSOs, submitted to Regulating Authorities & ENTSOE by December 2019

ER - FUTURE

- 18th December 2019
 - Developing a test plan for SDP & SRP in consultation with DSO & SGUs, in accordance with NCER Articles 43 & 49
 - Implementation of SDP
 - Implementation of SRP
- 18th June 2020
 - Submission to ENTSOE ; levels of harmonisation of implementing the SRP, SDP, List of SGUs, Rules for S&ROMA
- 18th December 2022
 - Implementation of the requirements of Automatic Under Frequency Control
 - Implementation of Communication Systems
 - Implementation of Tools and Facilities for SDP & SRP
- 18th December 2024
 - Implementation of test plan for inter TSO communication



Consultations

[Consultation for Ireland/Northern Ireland – Synchronous Area Operational Agreement \(SOGL Art.118\) and LFC Block Operational Agreement \(SOGL Art.119\)](#)

Synchronous Area Operational Agreement

- Serves the objective of ensuring the conditions for maintaining a frequency quality level for the synchronous area IE/NI
- For determining common load-frequency control processes and control structures within IE/NI
- Ensuring conditions for maintaining operational security
- Common language of SOGL promotes transparency

Synchronous Area Operational Agreement (SAOA) for Synchronous Area IE/NI

12 July 2019
Revised draft for Consultation

Notice

This document, provided by EirGrid and SONI, is a revised draft of the SAOA, following the Regulatory Authorities Request for Amendment which was published on 24 June 2019 on the CRU¹ and Utility Regulator² websites. This draft is published for consultation prior to the submission of the proposal for the IE/NI Synchronous Area Operational Agreement in accordance with Article 118 of Commission Regulation (EU) 2017/1485 of 2 August 2017 establishing a guideline on electricity transmission system

Synchronous Area Operational Agreement

- Common language of SOGL promotes transparency

We look to map our products to Network Codes terminology

DS3 balancing Service	Existing Scheduled and Dispatched products	SOGL	EBGL specific product	EBGL standard product balancing capacity	EBGL standard product balancing energy
SIR	Inertia	N/A	N/A	N/A	N/A
FRR	MMS Reports On	N/A	N/A	N/A	N/A
POR (5-15sec)	POR (5-15sec)	FCR	N/A	FCR	N/A
SOR (15-90sec)	SOR (15-90sec)	FCR	N/A	FCR	N/A
TOR1 (90sec-5min)	TOR (90sec-5min)	FRR*	N/A	N/A	N/A
TOR2 (5-20min)	TOR (5-20min)	FRR*	aFRR (7.5 min FAT)		
RRS (20min-1hr)	RR (20min-4hrs)	RR	mFRR (12.5 min FAT) RR (30min FAT)		
RRD (20min-1hr)	RR (20min-4hrs)	RR	mFRR (12.5 min FAT) RR (30min FAT)		
RM1	MMS Reports On	N/A			N/A
RM3	MMS Reports On	N/A			N/A
RM8	MMS Reports On	N/A			N/A

* Note: following comments these items now clarified and updated

Synchronous Area Operational Agreement

- We explain our structure

Article 14 Load frequency control structure in accordance with SOGL Article 139

1. The process responsibility structure for synchronous area IE/NI, in accordance with the CRU decision, dated 19th November 2018, and the Utility Regulator decision, dated 5th November 2018, shall be:
 - a. 1 synchronous area,
 - b. 1 load frequency control block,
 - c. 1 load frequency control area, and
 - d. 2 monitoring areas (1 monitoring area for IE and 1 monitoring area for NI).

Synchronous Area Operational Agreement

- and what we will do to maintain frequency quality....

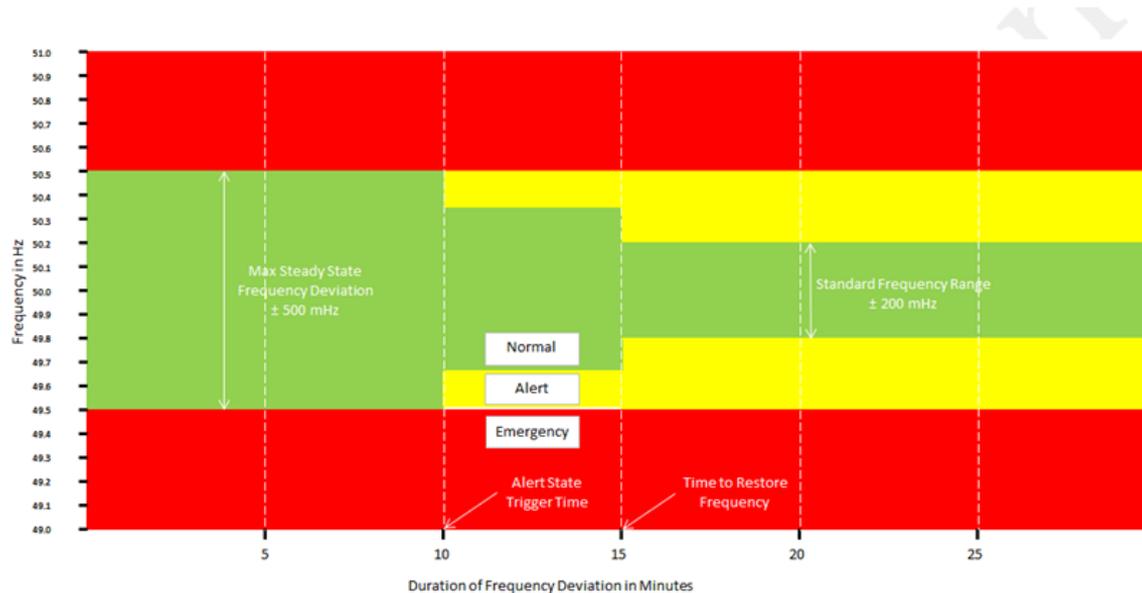


Figure 1 System Alert States

LFC Block Operational Agreement

- Compliments SAOA
- Specific information on ramp rates
- Centrally Dispatched system

- Thus – please review and pass back comments.

LFC Block Operational Agreement (LFCBOA) Ireland and Northern Ireland (also incorporating LFC and Monitoring area operational agreements)

Revised Draft for Consultation
12 July 2019

Notice

This document, provided by EirGrid and SONI, is a revised draft of the LFCBOA, following the Regulatory Authorities Request for Amendment which was published on 24 June 2019 on the CRU¹ and Utility Regulator² websites. This draft LFCBOA is published for consultation prior to the submission of the proposal for the IE/NI LFC Block Operational Agreement in accordance with Article 119 of Commission Regulation (EU) 2017/1485 of 2 August 2017 establishing a guideline on electricity transmission system operation. Title 4 of this document also contains the proposed LFC area operational agreement in accordance with Article 120 and the proposed Monitoring area operational agreement in accordance with Article 121.

Consultation

- Consultation on the SAOA and LFCBOA currently ongoing
- Available on [ENTSOE](#), [SONI](#) and [EirGrid](#) websites
- Closes on 14 August 2019. Send comments/responses to gridcode@eirgrid.com or gridcode@soni.ltd.uk
- Documents consist of
 - Title 1: General Provisions
 - Title 2: Methodologies requiring RA approval
 - Title 3: Other methodologies
 - Title 4 of LFCBOA only: other agreements
- TSOs to resubmit Title 2 provisions by end August
- RAs have 2 months to approve
- Agreements come into force 3 months later
- Final SAOA will be published on the ENTSO-E Transparency Platform



DSO update

Tony Hearne



Rol Distribution Code updates

- Version 6
- Version 7
- DCC content

Why Version 6 and 7?

- Some mods were pre-RfG but considered urgent enough at the time to warrant progression ahead of RfG
- Some mods were not driven by RfG
- These have been delayed for various reasons and will find themselves being incorporated at around the same timeframe as RfG driven content
- So a two step approach is now considered appropriate
- A Version 6.0 – to incorporate all approved non-RfG mods
- A Version 7.0 - to incorporate fully all the pure RfG content and structural changes as per Mod #43

What's in Version 6?

- Mod #36: Two main changes:
 1. Introduction of the wider Power Park Modules to allow for the inclusion of Solar Farm Power Stations as well as Windfarm Power Stations
 2. Reduction of threshold for MW controllability for PPMs from 5 MW to 1 MW, with partial retrospection through Class Derogation #36
- Mod#41: Class Derogation
- Mod#42: Clarity on implementation of Power factor at low wind levels
- Mod #44: Introduction of new parameter “Declared Voltage”

This was necessary to enable the reactive power requirements of RfG to be enforced for voltages within the existing operating ranges.
- Mod#45: Change to Met Mast wording to align with Grid Code

Mod #36:

- DCC 11 Re-named: Additional Requirements for Power Park Modules [PPMs]
- Additional Table 6x Applicability Matrix for >1MW
- Global replacement of “WFPS” with “PPM” except very small number of clauses that are wind or solar specific
- Replacement of “Wind Following Mode” with “Resource following Mode”
- Partial retrospection through Class Derogation

What's Version 7 then?

- Contains any content purely driven by RfG
- Structural changes per Mod #43
- Sections for;
 - General Requirements
 - PPM Requirements
 - SGPM Requirements
- New or changed content called out through use of symbols and boxes
- Similar format to Grid Code

Table 1

Symbol	Applicable to	Comment
	All Users	Changed content from previous Version
	RfG Generation Units	New content from previous Version
	Non-RfG Generation Units	
	RfG Generation Units	
	Non-DCC Demand Units	
	DCC Demand Units	

Types to Topologies

- Old “Types” changed to Topologies
- Opportunity taken to clean up diagrams and descriptions
- New Topology 2A added as placeholder

Connection Topology 2
PPMs are classed as being connection topology 2 when connected at a Distribution System voltage (i.e. 38 kV) to a dedicated PPM(s) 110kV or 38kV station.
There are no load Customers connected to the USU operated 38/20/10kV busbar(s).

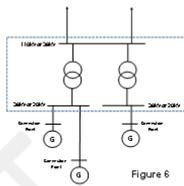


Figure 6

Connection Topology 2A
PPMs are classed as being connection topology 2A when connected at a Distribution System voltage (i.e. 38 kV) to a dedicated transformer in an existing 110kV station. There are no load Customers connected to the lower voltage busbar or bus section of the dedicated transformer.

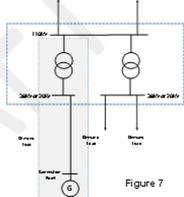


Figure 7

Connection Topology 3
PPMs are classed as being connection topology 3 when connected to the lower voltage busbar of an existing 110kV station or feed onto an existing 38kV-line.
There is demand load connected to the same lower voltage busbar or 38kV-line.

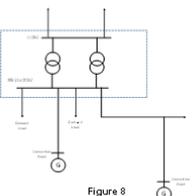


Figure 8

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Connection Topology 4
PPMs are classed as being connection topology 4 when connected to the Distribution System via a dedicated 38kV, 20kV or 10kV feeder into an existing 38kV distribution station.

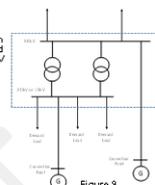


Figure 9

Connection Topology 5
PPMs are classed as being connection topology 5 when connected to an existing distribution line (20kV or 10kV) emanating from a Distribution demand sub-station which has other loads connected to it.

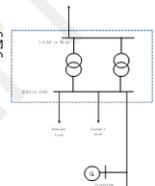


Figure 10

Table indicates how the various requirements outlined in DCC11, will apply to the connection topology described above. In addition, centrally dispatched PPMs must comply with DCC10.5.1a. For avoidance of doubt, the MW shown in Table refer to:

1. The MW of generation of an individual PPM; or
2. The sum of the MW of generation of Contiguous PPM Site that are not deemed to be independent.

DCC11.1.3.2 Generator Types
Requirements for Cohort 1 PPMs will be considered based on Maximum Capacity as categorised in Table 6.

Table 8- APPLICABILITY MATRIX

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New FS modes

- New Frequency Sensitive Modes

- FSM

- LFSM – O

- LFSM - U

Figure 16: Limited Frequency Sensitive Mode – Over-frequency

DCC11.3.7 Limited Frequency Sensitive Mode – Under-frequency
The following shall apply for Cohort 1 type C & D PPMs operating in Limited Frequency Sensitive Mode – Under-frequency:
DCC11.3.7.1 Type C & D PPMs shall be capable of providing Active Power frequency response when the Frequency falls to or below 49.5 Hz.
DCC11.3.7.2 The Active Power frequency response shall be capable of having a Governor Droop between 2% and 12%. The default Governor Droop setting shall be 4%.
Where the required level of response is not being achieved appropriate action should be taken by the PPM without delay and without receipt of instruction from the TSO to achieve the required level of response, provided the PPM's local security and safety conditions permit.
DCC11.3.7.3 Type C & D PPMs shall take into account the:
i) Ambient conditions when the response is triggered;
ii) Operating conditions of each PPM and Available Active Power
DCC11.3.7.4 Type C & D PPMs shall be capable of providing a power increase up to Available Active Power. Stable operation shall be ensured.
DCC11.3.7.5 Type C & D PPMs capable of acting as a load shall be capable of disconnecting their load. This requirement does not extend to auxiliary supplies.

DCC11.3.7
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Figure 17

DCC11.3.8 Frequency Sensitive Mode
The following shall apply to Cohort 3 type C & D PPMs for Frequency Sensitive Mode operation:
DCC11.3.8.1 A frequency deadband of no greater than ± 15 mHz may be applied. The design, implementation and operation of the frequency deadband shall be agreed with the TSO prior to the Commissioning.
DCC11.3.8.2 Type C & D PPMs shall be capable of setting Governor Droop between 2% and 12%. The default Governor Droop setting shall be 4%.
DCC11.3.8.3 Type C & D PPMs shall be capable of providing Active Power frequency response in accordance with the parameters specified in Table 16.

Table 16	
Parameters	Value
Frequency Response Insensitivity (Hz)	15mHz
Frequency Response Insensitivity (MW)	0.03%

Upon request from the TSO, the frequency response deadband and governor droop must be able to be reconfigured operatively.
The maximum combined effect of frequency response insensitivity and frequency deadband cannot exceed a value of ± 15 mHz.
DCC11.3.8.4 In response to low frequency events, type C & D PPMs shall be capable of providing a power increase up to Available Active Power. Stable operation in response to low frequency events shall be ensured.
Type C & D PPMs capable of acting as a load, shall be capable of disconnecting their load in the case of a low frequency event. This requirement does not extend to auxiliary supplies.

DCC11.3.8
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FRT

- Some changes to FRT curves
- New graphs and tables

DCC11.2.2 **RIG** Generation Units

DCC11.2.2.1 That capability shall be in accordance with the voltage-against-time profile measured at the Connection Point for fault conditions as shown in Figure 11 and the relevant table below. Phase requires the disconnection of the power-generating module from the network.

DCC11.2.2.2 Under-voltage protection (either fault-ride-through capability or minimum voltage speicd at the technical capability of the WFO or SG, unless the protection scheme for internal electrical faults requires the disconnection of the power-generating module from the network.

DCC11.2.2.3 Connected at ≥110kV

Figure 11

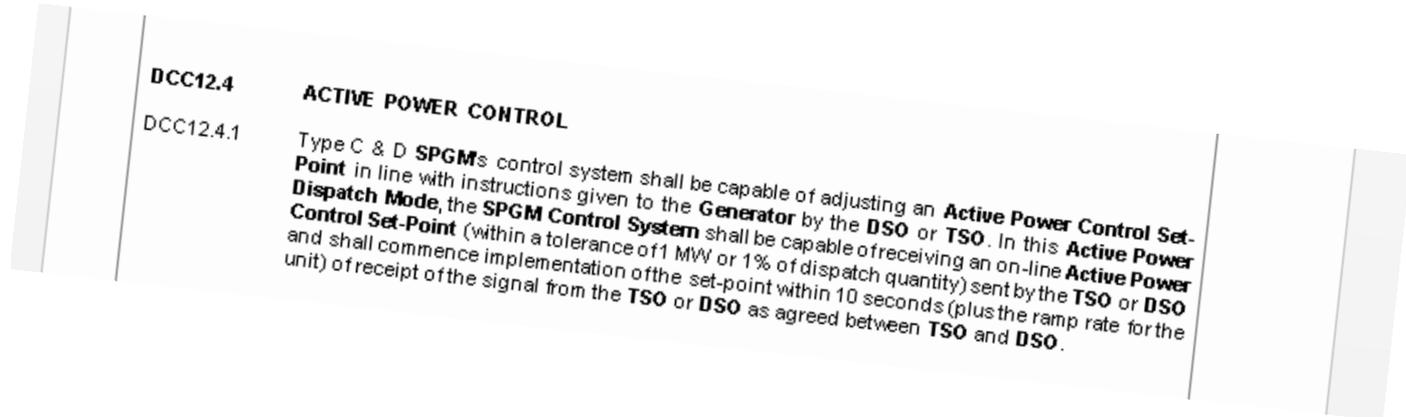
Table 11

No. on Graph	Minimiser	Value	Applicability
1	U _{min}	U _{min}	Type D PPMs (Connected at ≥110kV)
2	U _{min}	U _{min}	
3	U _{min}	150/ms	
4	U _{min}	U _{min}	
5	U _{min}	U _{min}	
6	U _{min}	U _{min}	

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New Controllability requirement for Type C & D SPGMS

- New Requirement
- Note for SPGMs – thresholds applied at each machine
- Will apply to Machines >5MW



Next Steps

- Version 6 with CRU for approval
- Draft Version 7 to be sent to DCRP members for comment
- Intent to vote to recommend V7 for approval by CRU at next DCRP meeting in September
- Intent to present draft DCC content at next DCRP meeting in September



Clean Energy Package

Status update



What will the CEP deliver?

Energy Performance in Buildings

New *Energy Performance of Buildings Directive* will accelerate rate of building renovations and smarter / greener buildings

Energy Efficiency

32.5% energy efficiency by 2030, with a possible upwards revision by 2023

Renewable Energy

32% renewable energy by 2030, with a possible upwards revision by 2023

Electricity Market Design

More interconnected, flexible and consumer-centred; improved cross-border cooperation; new principles for Capacity remuneration mechanisms

Security Of Supply

New Regulation on risk-preparedness to support crisis situations; better regional coordination

Governance Regulation

Overhaul of the role and functioning of ACER; new DSO roles + EU-DSO group; Member States required to draft National Energy & Climate Plans for 2021-30

Impact (holistic view)

- Greater transparency
- More consumer power / rights (e.g. billing, metering, switching)
- Increased TSO-DSO co-ordination
- More flexible generation + demand



- Increased regional co-operation (e.g. on adequacy forecasting, security & restoration, risk preparedness)
- Refinements to existing Network Codes + new codes on e.g. non-frequency ancillary services; DSR & storage; cyber security & data; Regional Control Centres (RCCs)

Impact (Market)

Market Operations

- All* participants to be balance responsible
(*except demonstration projects & RES <400 kW (<200kW from 2026), existing feed-in tariff recipients)
- Balancing capacity procured on a regional basis
- 15-minute imbalance settlement period by 2021 (possible derogation to 2025)
- Capacity markets open to cross-border participation
- Emission limits for capacity market payments for new generation from 2020 & for existing units from 2025

.....will require changes in market design, market rules, systems, processes etc.

Impact (System Operation)

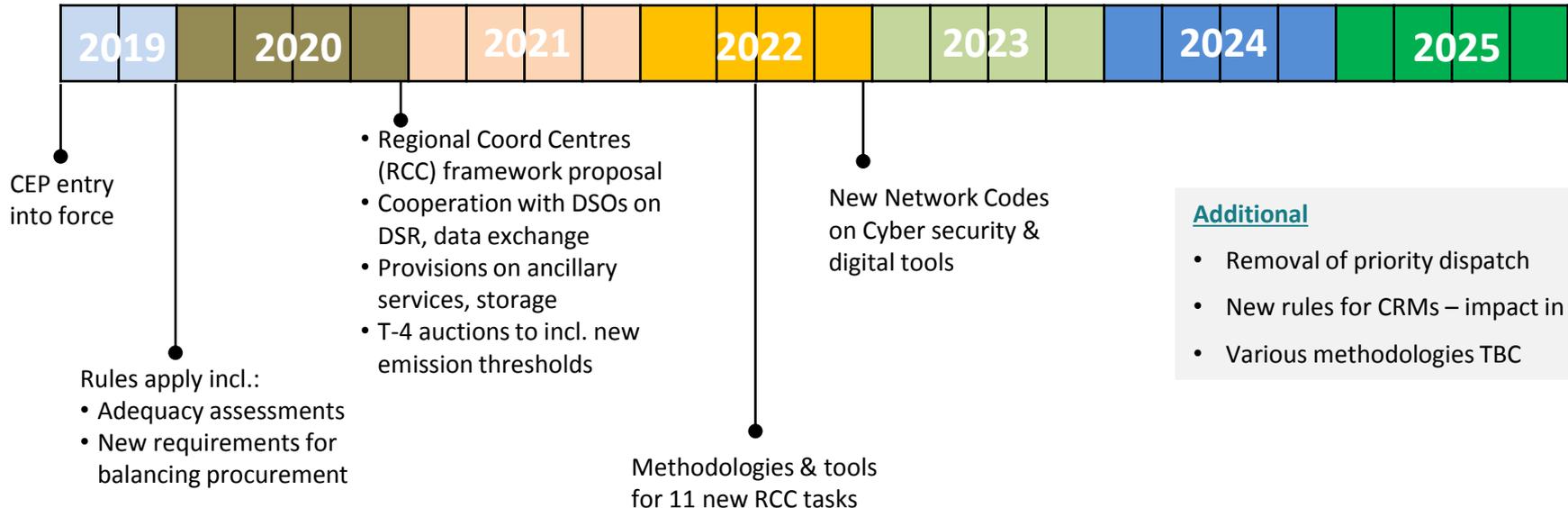
- Priority dispatch only for demonstration projects, RES & HeCHP <400 kW (<200kW from 2026) and existing RES until plant modified/capacity increased
- *Regional Coordination Centres (RCC)* created by July 2022
 - to coordinate capacity calculation, adequacy forecasting, balancing capacity procurement, risk preparedness
 - will replace current *Regional Security Coordinators (RSCs)* e.g. Coreso
 - definition of *Region* required by end 2019
- Co-ordination with DSOs (likely delivered under DS30)
.....requiring changes to Network Codes, methodologies, processes, Grid Codes etc.

Implementation Timetable

Existing Network Codes (excl EBGL)

Electricity Balancing Guideline (EBGL)

Clean Energy Package (CEP)





Closing remarks

- Meeting material publication
- Comments and queries on the session
- Feedback and planning for future sessions
- Thanks for your time & participation!

Abbreviations

- SAOA – Synchronous Area Operational Agreement
- LFCBOA – Load Frequency Block Operational Agreement
- RA – Regulatory Authorities
- CSAm – Coordinated Security Analysis Methodology
- RAOAm – Relevant Assets Outage Coordination
- IU CCR – Ireland United Kingdom Capacity Calculation Region

- ER – Emergency and Restoration
- NCER – Network Code for Emergency and Restoration
- SRP – System Restoration Plan
- SDP – System Defence Plan
- SGU – Significant Grid User
- S&ROMA – Suspension and Restoration Of Market Activities
- RSC – Regional Security Coordinator
- ENTSOE – European Network of Transmission System Operators for Electricity

- RCC – Regional Control Centre
- SOR – System Operation Region