



All-island European Stakeholder Forum

20 June 2018

Dublin



Agenda

Session 1: Network Codes update [10:05 – 11:45]

- TSO update on NC implementation 45 min
 - a. Market (incl NEMO update)
 - b. Connections
 - c. Operations
- DSO views 15 min
- Further information 10 min
 - a. Clean energy package
 - b. REMIT & Transparency
- RA update on regulatory developments 15 min
- Q&A & Break 15 min

Session 2: Consultation topics and additional information [11:45 – 13:30]

- DCC 45 min
- SAOA / LFC 30 min
- Q&A 15 min
- AOB & Close 15 min



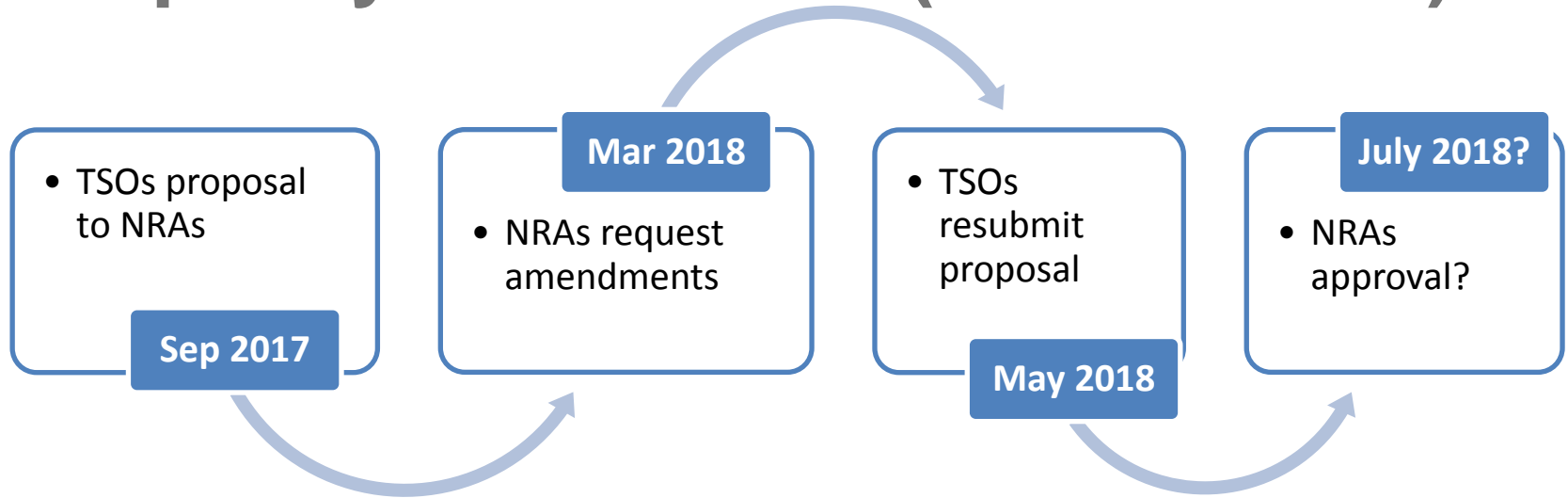
Session 1

Network Codes update

Market codes

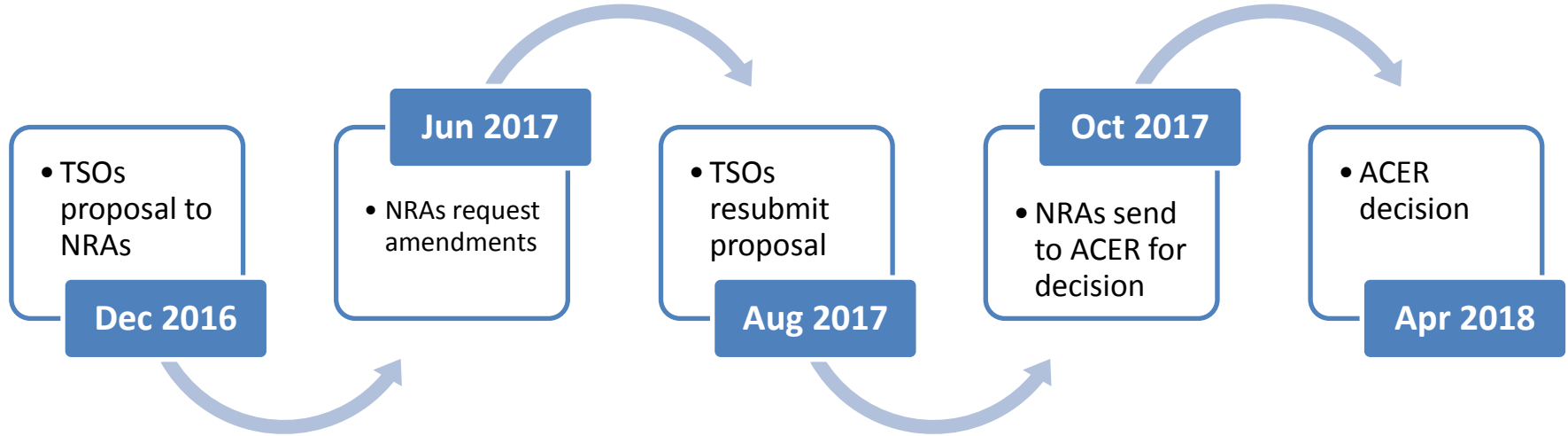


IU Capacity Calculation (incl. RD&CT)



- Full technical capacity made available to the market
- Mar 2018 - Redispatch & Countertrading methodologies submitted to NRAs
- Feb/April – TSO/NRA workshops in Brussels to discuss regional CCR methodologies
- 8 June - EirGrid Group presented IU Methodologies to MESC

Intraday Cross Border Gate Times



ACER decision 24 April

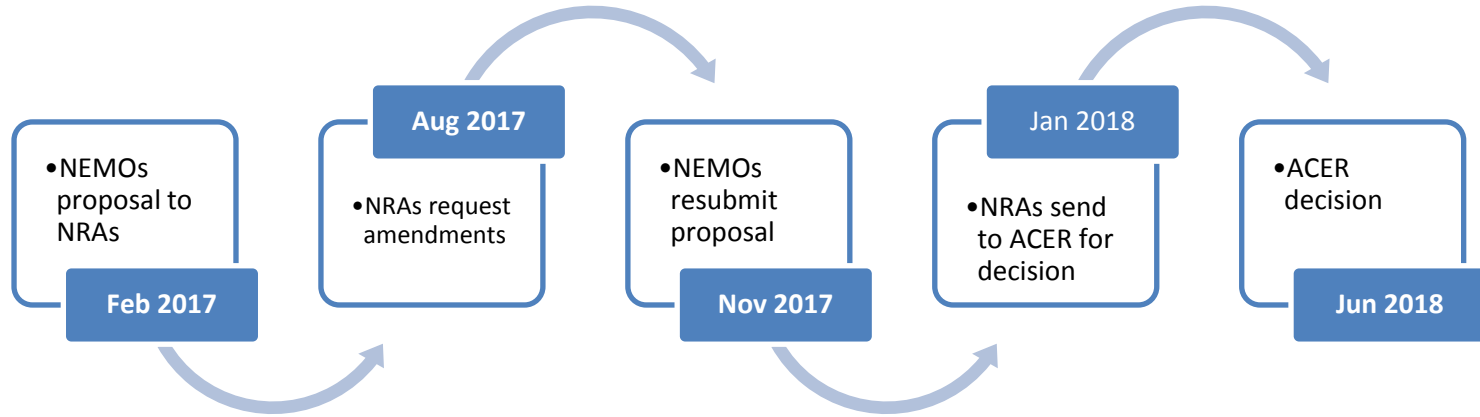
- 3pm harmonised GOT by end 2018
- GCT 60 minutes before real time

Intraday Capacity Pricing



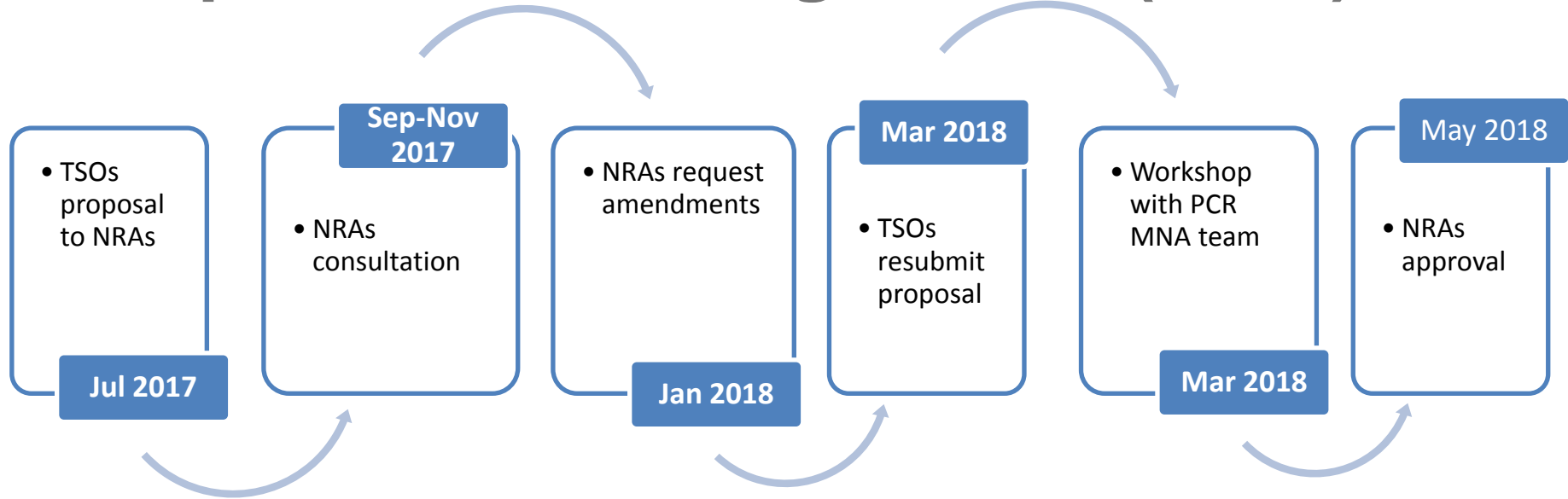
- EC undertaking study on future Intraday Target Model
- NRAs delaying decision by 6 months (was Feb 2018)
- NRA RfA in mid-Jul, issued to TSOs in Aug

NEMO proposals



- MCO plan operational by June 2018
- EC - MCO function – regulated v competitive role of NEMOs
- Algorithm – ACER decision - link to SEC Methodologies (i.e. NTH)

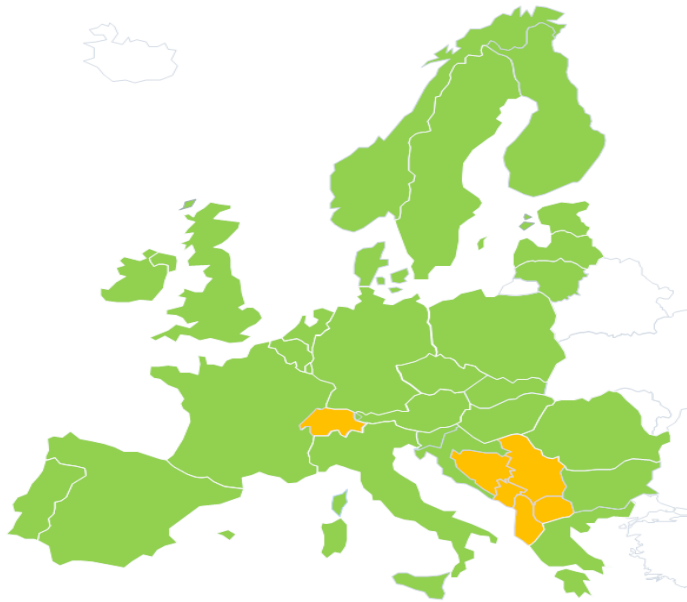
Multiple NEMO Arrangements (MNA)



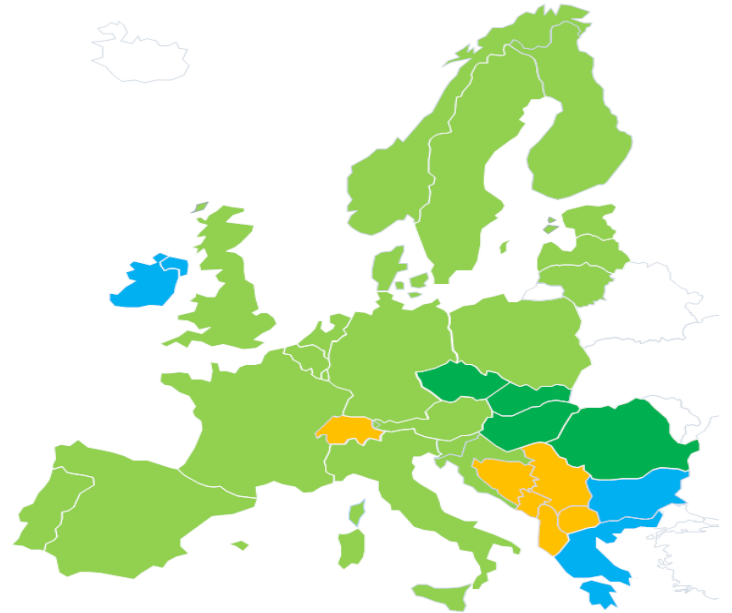
- Feb 2018 - PCR MNA principles agreed by all TSOs and NEMOs
- SEM MNA based on enduring PCR MNA

Day-ahead Coupling – current status

Contractual

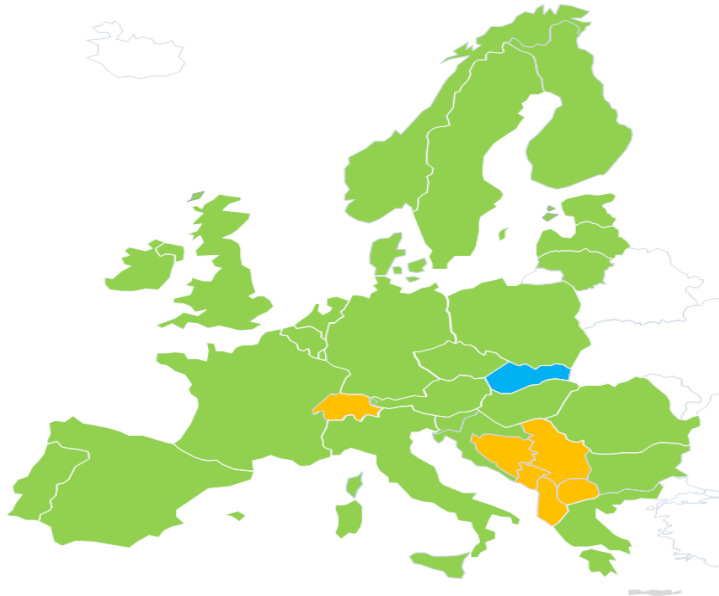


Operational

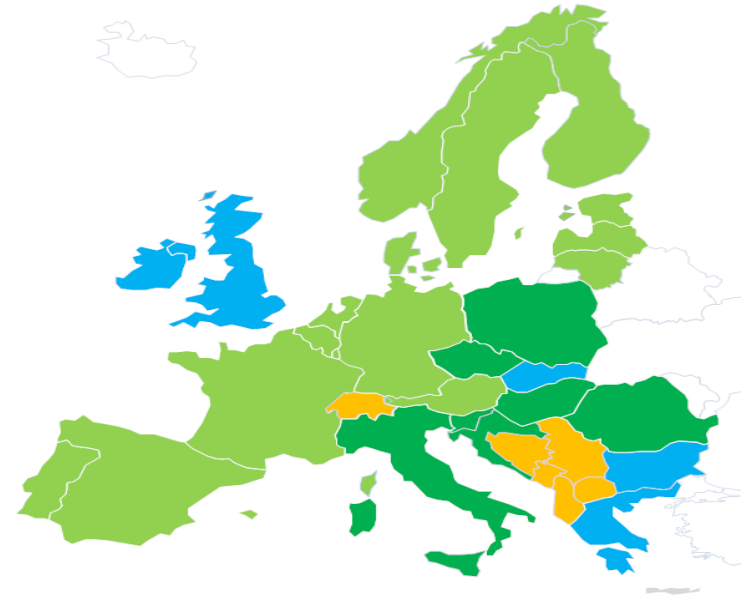


Intraday Coupling – current status

Contractual



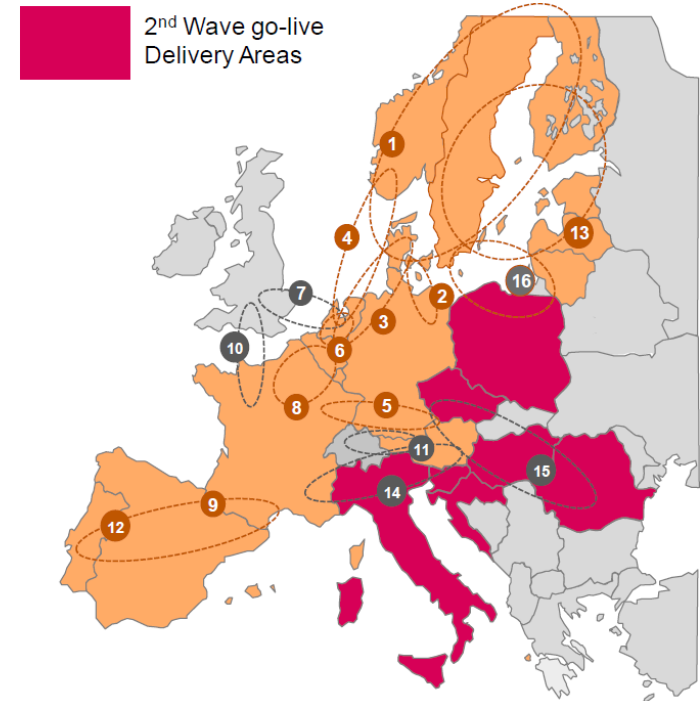
Operational



Intraday Market - XBID

































- **XBID went live on 12/13 June as planned**
- 2nd Wave planned for summer 2019
- **3rd Wave (with SEM and GB?)**
- Extension v CACM compliance
- **SEM involvement:**
 - Accession Stream
 - IDOA

Delivery Areas to be launched at second go-live
Croatia
Czech Republic
Hungary
Italy (NORD, CNOR, CSUD, SUD, SARD, SICI, ROSN, FOGN, BRNN, PRGP, COAC, CODC, MALTA)
Poland (PL)
Polish Virtual Area (PLA)
Romania
Slovenia



Balancing

- Ireland & Northern Ireland derogation from Electricity Balancing until end 2019
- EirGrid & SONI became observers of MARI project in June

MARI members (25 TSOs)		MARI observers (7 TSOs + ENTSO-E)	
Austria		Lithuania	
Belgium		Norway	
Czech Republic		Netherlands	
Denmark		Portugal	
Estonia		Poland	
Finland		Romania	
France		Slovenia	
Germany		Spain	
		Sweden	
		Switzerland	
		United Kingdom	
Greece			
Italy			
Latvia			
		Bulgaria	
		Croatia	
		Hungary	
		Ireland & N. Ireland	
		Serbia	
		Slovak Republic	
		ENTSO-E	



Connection Codes

Requirements for Generators

- Two proposal documents issued to the RAs May 17th
 - Proposal for general application of requirements – [Northern Ireland](#) & [Ireland](#)
 - Proposal for banding thresholds – [Northern Ireland](#) & [Ireland](#)
 - RA's to decide on proposals after 6 months
- Responses to Consultation
 - 13 in Ireland & 5 in Northern Ireland
 - Key topics:
 - harmonisation of requirements,
 - dx network voltage at connection point (Ireland only)
- Changes from consultation to proposal document
 - Admissible reduction from maximum output with falling frequency: static & transient states
 - FSM: Active power range (derogation)
 - FSM: PPM frequency response capability (derogation)
 - Voltage withstand & associated reactive power maximum voltage (derogation) *Ireland only*

Demand Connection Code & High Voltage Direct Current Code

- DCC
 - Consultation paper on parameters being finalised
 - Session 2 leading into consultation to be launched in July
 - Proposals to be submitted to RAs in September
- HVDC
 - Implementation plan under consideration
 - EirGrid will assess potential impact on stakeholders before deciding on approach

Operational Codes

Emergency and Restoration Code

SCOPE & OBJECTIVES

Main addressees

TSOs, DSOs, SGUs, HP SGUs, NEMO

- safeguarding operational security,
- prevent propagation of an incident to allow for the efficient and rapid restoration of the electricity system from the emergency or blackout states,
 - the management of the emergency, blackout and restoration states;
 - the coordination of system operation across the Union
 - the simulations and tests
 - the tools and facilities
- developing lists of significant grid users and high priority significant grid users.
- setting terms and conditions for defence/restoration service providers

Emergency and Restoration

System Restoration Plan

Technical and organisational measures for the restoration of the system back to normal state

General

Conditions for activating the system restoration plan
Instructions to be issued by TSO
Measures subject to real time coordination
List of measures and implementation deadlines

Technical & Organisational Measures

Re-energisation procedure
Frequency Management Procedure
Resynchronisation procedure

Emergency and Restoration

System Defence Plan

Technical and organisational measures to prevent the propagation or deterioration of a disturbance in order to avoid a wide area disturbance or blackout state

General

Conditions for activating the system defence plan
Instructions to be issued by TSO
Measures subject to real time coordination
List of measures and implementation deadlines

System Protection Schemes

Automatic under-frequency schemes
Automatic over-frequency schemes

System Defence Plan Procedures

Frequency Deviation Management
Voltage Deviation Management
Power Flow Management
Assistance for active power
Manual Demand disconnection

Emergency and Restoration

Market Interactions

Market Suspension
Market Restoration

When / Why?

Transmission System is in Blackout state
Continuation of market activities could hinder restoration
Tools for market activities are not available

Elements

Market Suspension Rules
Market Restoration Rules
Market Imbalance Settlement & Balancing Energy Settlement Rules

SOGL - All TSO activity since March

- CGM update
 - IGM's solving, CORESO receiving data satisfactorily from EirGrid,
 - awaiting outcome of Channel IT WG before commencing auxiliary business application
 - CGM alignment progressing smoothly
- KORRR update
 - All TSO's submitted in 14 March 2018, RA's to revert with amendments
 - Affects SGUs (as covered in GC and CA's), TSO-TSO (SONI-EG-NGET), and
 - TSO-DSO, 3 classes of data
 - Structural
 - Scheduling
 - Real time
- CSA / RAOC out to consultation
 - Mainly around coordination WRT to I/C availability

SOGL – pending activities specific to SONI & EirGrid

- Synchronous Area Operational Agreement (SAOA)
 - to be submitted to RA's in Sept
 - aims at the standardisation of the Policy of Load Frequency Control and Reserves
 - consultation launch in July
 - session on proposals under consideration later today
- Other SOGL requirements due in December (requiring consultation)
 - methodology for the *coordination* of regional *operational security analysis*
 - methodology to determine the *relevance of assets* for regional *outage coordination* across the IE/NI/GB
 - Further updates will on these requirements be provided at next Stakeholder Forum

DSO views

DSO views

DCC

- There is ongoing interaction between the system operators on the draft Demand Connection Code Parameters Consultation document, which is currently undergoing ESNB review.

SOGL

- For data exchange, we look to build and innovate upon processes and technologies that we already utilise.
- We welcome a proportionate and balanced approach to relevant assets.
- We continue to engage with TSO to enable optimised implementation of the SOGL and its methodologies on the DSO system.

DSO views

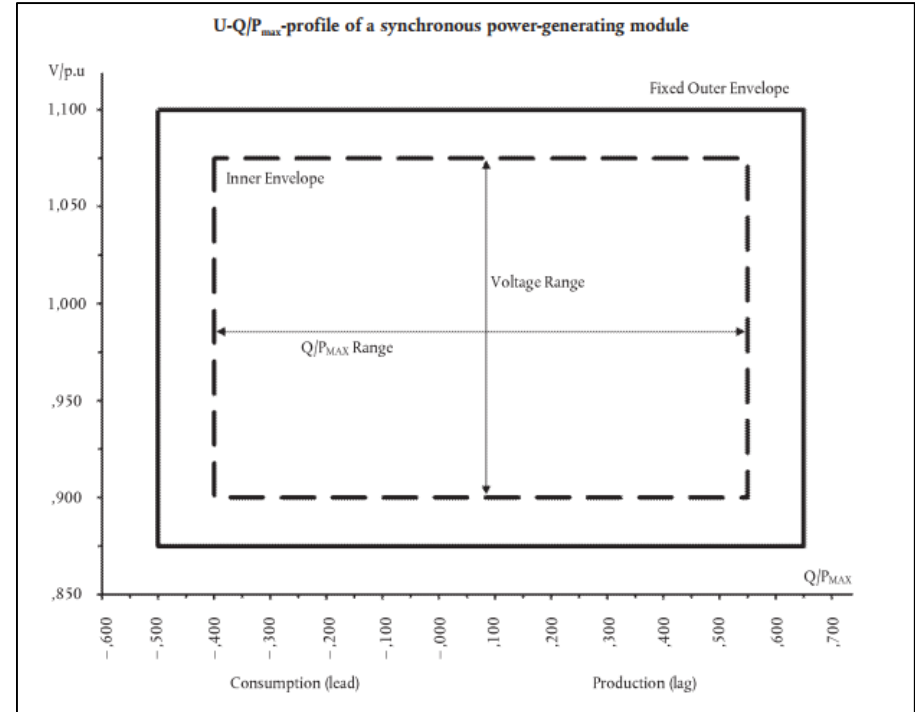
ERNC

- Engaging internally within ESB Networks Asset Management Groups to gather details and implement improvements on critical backup generation facilities.
- Engaging internally within ESB Networks Telecom Services and Operations on data backup facilities and extending current capabilities to align with future requirements.
- For data exchange, we look to build and innovate upon processes and technologies that we already utilise

Resolution of the 1.1 pu issue on RoI

What was the issue again?

- Origin of issue is the “outer Box” for U-Q performance in RfG
- Absolute upper bound of 1.1 pu
- Reactive power performance cannot be mandated by an RSO above these values
- So what?



Rol voltages

- Historically drifted away from original nominals over time
- Many Generator connections based on voltages >1.1 pu
- Could not have enforced necessary P-Q or U-Q performance
- ESNB would have had to adopt more stringent voltage-rise limits for generator connections going forward

Existing Nominal	Max	Min	% of nominal at Max
38kV	43.8	35.6	115.3
20kV	22.5	19	112.5
10kV	11.3	10.1	113.0

Outcome

- Many legal avenues considered and pursued but discarded for now
- Suggested re-alignment of nominals also considered at length by ESNB
- Mod proposed at next D-Code meeting to:
 - Add a new parameter of “Declared Supply Voltage”
 - Values chosen such that existing Min/Max is within +/- 10% of these
 - State that all voltages in EUNCs are with reference to these values
- Efforts will be made to correct this anomaly in the next review of RfG

TABLE 1 – DISTRIBUTION NOMINAL VOLTAGES

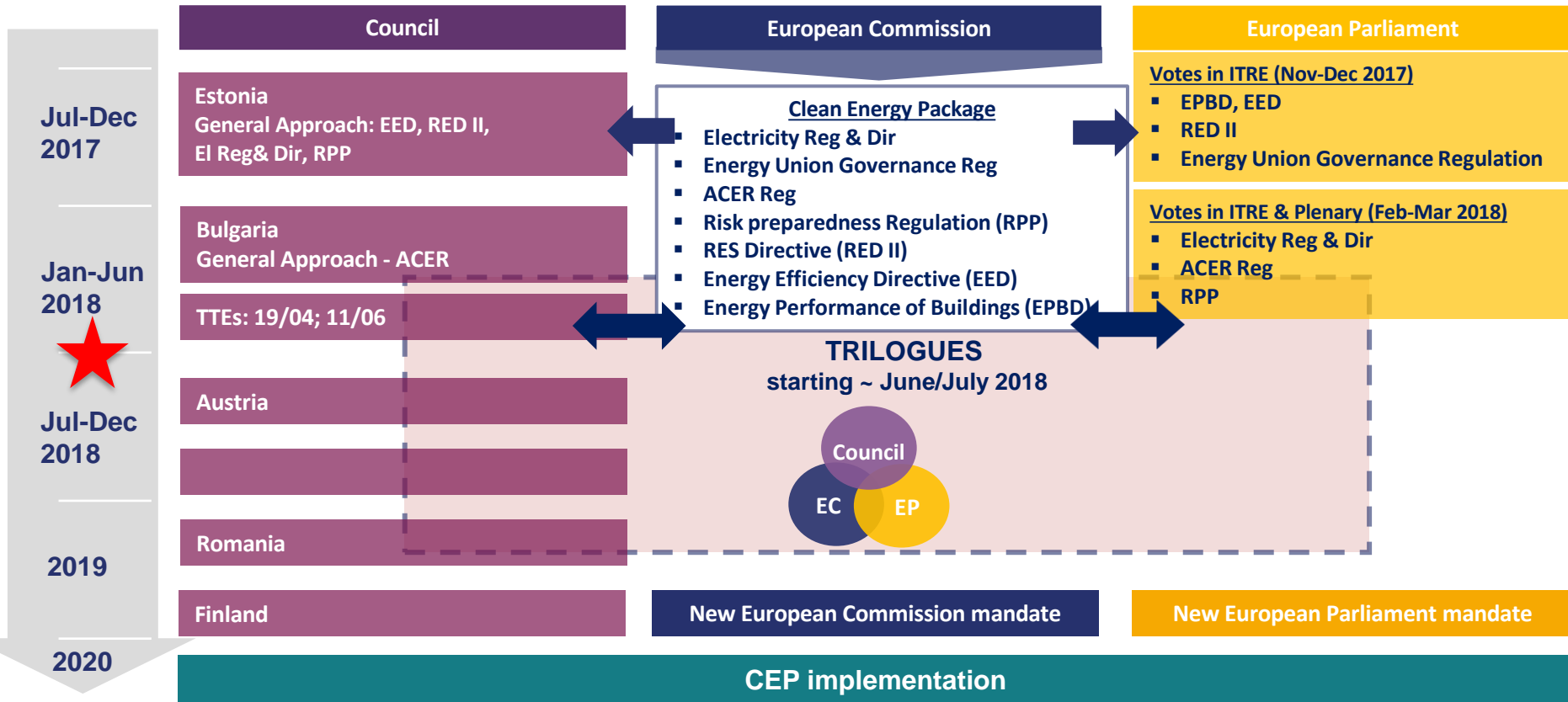
	Nominal Voltages	Declared Supply Voltages
Low Voltage (LV)	230 volts – phase to neutral 400 volts – phase to phase	<u>230 volts – phase to neutral</u> <u>400 volts – phase to phase</u>
Medium Voltage (MV)	10,000 volts (10kV) 20,000 volts (20kV)	<u>11,000 Volts (11kV)</u> <u>21,000 Volts (21kV)</u>
High Voltage (HV)	38,000 volts (38kV) 110,000 volts (110kV)	<u>40,000 Volts (40kV)</u> <u>110,000 volts (110kV)</u>

Existing Nominal	Max	Min	Declared Supply Voltage	% at Max	% at Min
38kV	43.8	35.6	40	1.095	0.890
20kV	22.5	19	21	1.071	0.905
10kV	11.3	10.1	11	1.027	0.918

Further information

- Clean Energy Package
- REMIT & Transparency

Clean Energy Package



Clean Energy Package - update

- 3 out of 8 legislative proposals in the CEP have been agreed.
- Energy Performance in Buildings directive adopted on **14 May/ EiF 9 July** .
- REDII agreed on **14 June** – binding **32%** RES target for 2030 (clause for upward revision in 2023);
 - Improves the design and stability of support schemes for renewables
 - Text to be formally agreed before publishing in the official journal and transposed into national law (+18 months after EiF)
- Energy Efficiency Directive (EED) agreed on **19 June** - binding energy efficiency target for the EU for 2030 of 32.5% (with an upwards revision clause by 2023).

Triilogue schedule

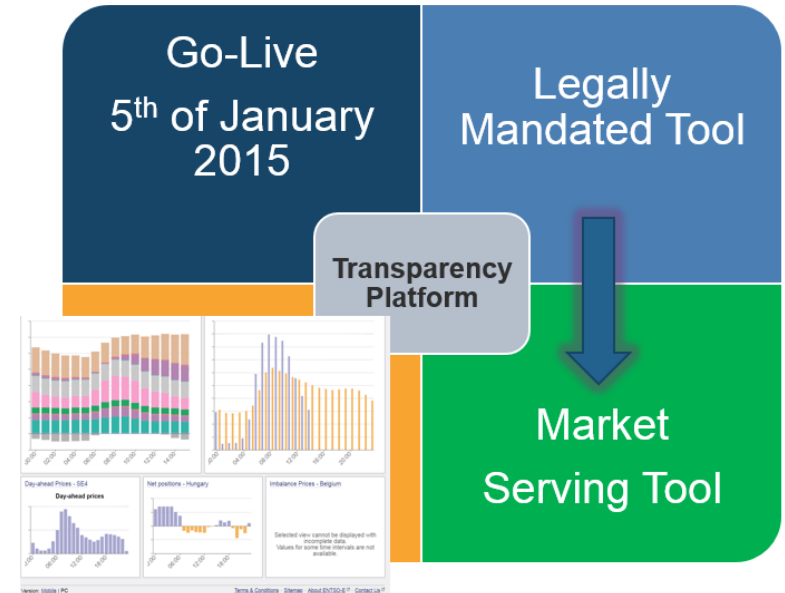
- 27 June (scoping)
- 11 September
- 18 October
- 13 November (tbc)
- 5 December evening / 6 December - package deal, Regulation and Directive will be looked at together

Clean Energy Package – update

1	Electricity Regulation	○	Sept
2	Electricity Directive	○	Sept
3	Energy Union Governance Regulation	●	Mid-July
4	ACER Regulation	●	Mid-July
5	Risk preparedness Regulation (RPP)	○	Sept
6	Renewable Energy Directive (RED II)	●	Agreement – 14 June
7	Energy Efficiency Directive (EED)	●	Discussion this week
8	Energy Performance of Buildings (EPBD)	●	Adopted – 14 May

REMIT & Transparency

- European TSOs to sign an MoU to improve data quality and provide consent for an open TSO data license;
- ENTSO-E transparency platform project – “TP Vision” - new GUI and services from Dec 2018.
 - Data Completeness Report
 - Data Processing Report
 - Warnings Report
 - Gate Closure Report
 - ACER Data Exchange Report
 - Incidents Report
- Updated Detailed Data Descriptions (CACM, Balancing, SOGL)
- Discussions on Inside Information Platforms



RA update

Regulatory developments related to the Connection & Operational Network Codes and Guidelines & EBGL

Recent approvals

RfG: Requirements for generators
DCC: Demand connection code
HVDC: High Voltage Direct Current

- **RfG**

- ✓ Generator Classification as Emerging Technology (CRU June 2017, UR December 2016)
- ✓ Derogation Criteria (CRU April 2017, UR February 2017)

- **DCC**

- ✓ Derogation Criteria (CRU June 2017, UR February 2017)

- **HVDC**

- ✓ Derogation Criteria (CRU October 2017, UR February 2017)

Upcoming approvals

RfG: Requirements for generators
DCC: Demand connection code
HVDC: High Voltage Direct Current

- **RfG**

- ✓ Proposal for General Application of RfG Requirements (by November 2018)
- ✓ Proposal for RfG Banding Thresholds (by November 2018)

- **DCC**

- ✓ Proposal for General Application of DCC Requirements

- **HVDC**

- ✓ Proposal for General Application of HVDC Requirements

Upcoming approvals

- **SOGL**

- ✓ LFC Blocks Proposal (June 2018) – synchronous area level
- ✓ KORRR (tbc) – EU level
- ✓ CGMM v3 (tbc) – EU level
- ✓ RAOC (by March) – EU level
- ✓ CSAM (by March) – EU level
- ✓ Operational Agreements (by March 2019) – synchronous area level

Upcoming approvals

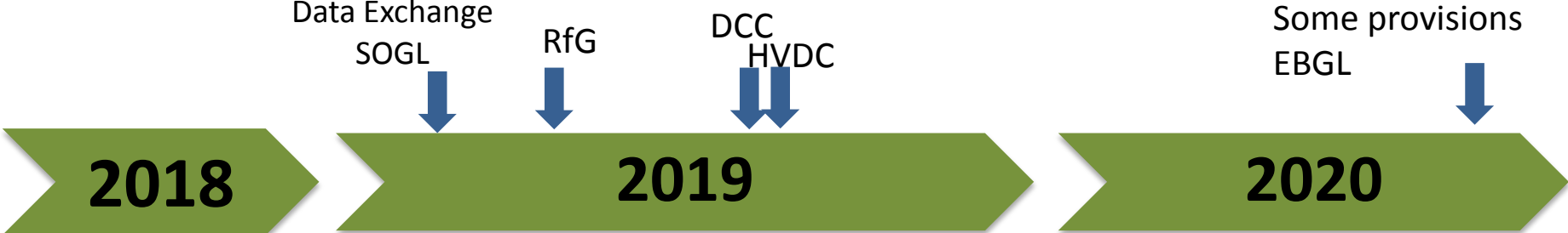
- **ER**
 - Terms and conditions (T&C) to act as defence service providers
 - T&C to act as restoration service providers
 - List of Significant Grid Users- SGU
 - List of high priority significant grid users
 - Rules for suspension and restoration of market activities
- All required by mid-2019

Upcoming approvals


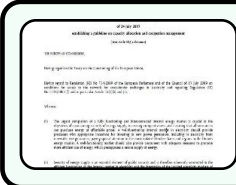
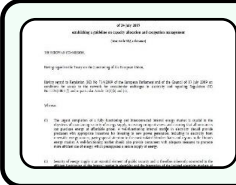
- **EBGL**

- Implementation Framework for an EU platform for the exchange of balancing energy from Frequency Restoration Reserves with manual activation (consultation opened until 16 July)
- Implementation Framework for an EU platform for the exchange of balancing energy from Frequency Restoration Reserves with automatic activation (consultation opened until 29 June)
- Implementation Framework for an EU platform for the exchange of balancing energy from Replacement Reserves (consultation closed on 4 April)
- Engagement TSOs/RAs ongoing
- RAs are currently reviewing whether there is a need for a consultation on the assignment of TSO Roles and Responsibilities

Implementation Timelines



RAs update – regulatory developments related to the Market Guidelines

	<h2>Forward Capacity Allocation (FCA)</h2>
	<h2>Capacity Allocation and Congestion Management (CACM)</h2>
	<h2>Electricity Balancing</h2>

FCA Network Code: Proposals and Methodologies

Terms and Conditions or Methodology	Proposal by	Status
Capacity Calculation Methodology	Relevant TSOs	In Development with TSOs
Methodology for Splitting Long-Term Cross-Zonal Capacity	Relevant TSOs	In Development with TSOs
Generation and Load Data Provision (GLDP)	All TSOs	Approved by NRAs
Common Grid Model (CGM)	All TSOs	NRAs decision process
Operational Rules for LT Merging of Individual Grid Models	Relevant TSOs	In Development with TSOs
Operational Rules for LT Operation of the Coordinated Capacity Calculators	Relevant TSOs	In Development with TSOs
Regional Design of Long-Term Transmission Rights (LTTRs)	Relevant TSOs	Approved by NRAs
Nomination Rules for Electricity Exchange Schedules between BZs	Relevant TSOs	N/A
Set of Requirements and for the Establishment of the Single Allocation Platform (SAP)	All TSOs	Approved by NRAs
HAR for LTTRs	All TSOs	Decision made by ACER
Congestion Income Distribution Methodology	All TSOs	NRAs decision process
Methodology for Sharing Costs Related to the Establishment and Operation of SAP	All TSOs	Approved by NRAs
Methodology for Sharing Costs Incurred to Ensure Firmness and Remuneration of LTTRs	All TSOs	In Development with TSOs

FCA Network Code: Common Grid Model Methodology

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Decision to request an amendment to the (FCA) proposal for Common Grid Model Methodology

[Home](#) » [Publications](#) » Decision to request an amendment to the (FCA) proposal for Common Grid Model Methodology

06 March 2018

The Utility Regulator has today, 6 March 2018, published its decision on the Common Grid Model Methodology (CGMM) which was submitted in accordance with Article 18 of Commission Regulation (EU) 2016/1719, establishing a guideline on Forward Capacity Allocation (FCA). In line with the Regulatory Authorities' agreement and, in line with Article 4 of the FCA, the Utility Regulator requests amendment to the Common Grid Model Methodology.

[UR Decision Letter CGMM \(PDF 48 KB\)](#)

[UR all RA agreement to request amendment of the CGMM \(PDF 295 KB\)](#)

-
- 06 March 2018:** RAs requested amendment of the Common Grid Model Methodology
 - 25 April 2018:** TSOs resubmitted amended version on 25 April 2018
- Decision Imminent



CACM Network Code: Proposals and Methodologies

Terms and Conditions or Methodology	Proposal by	Status
Algorithm (DA+ID)	All NEMOs	Awaiting decision from ACER
Back-up Methodology (DA+ID)	All NEMOs	Approved by NRAs
Calculation of Scheduled Exchanges (DA)	Relevant TSOs	NRAs decision process
Calculation of Scheduled Exchanges (ID)	Relevant TSOs	NRAs decision process
Common Capacity Calculation Methodology	Relevant TSOs	NRAs decision process
Common Grid Model	All TSOs	Approved by NRAs
Complementary Regional Auctions	Relevant TSOs & NEMOs	N/A
Congestion Income Distribution	All TSOs	Decision made by ACER
Coordinated Redispatching and Countertrading	Relevant TSOs	NRAs decision process
DA Fallback Procedures	Relevant TSOs	Approved by NRAs
DA Firmness Deadline	All TSOs	Approved by NRAs
Determination of Capacity Calculation Regions	All TSOs	NRAs decision process (relating to the 2nd amendment of proposal)
Generation and Load Data Provision	All TSOs	Approved by NRAs
ID Cross-Zonal Gate Opening/Closure Time	All TSOs	Decision made by ACER
Maximum and Minimum Prices (DA)	All NEMOs	Decision made by ACER
Maximum and Minimum Prices (ID)	All NEMOs	Decision made by ACER
MCO Plan	All NEMOs	Approved by NRAs
Pricing of Intraday Capacity	All TSOs	NRAs decision process - ACER extended deadline
Products (DA)	All NEMOs	Approved by NRAs
Products (ID)	All NEMOs	Approved by NRAs
Redispatching and Countertrading Cost Sharing	Relevant TSOs	NRAs decision process

CACM Network Code: Common Capacity Calculation Methodology

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Request for Amendment by the IU Regulatory Authorities of the IU TSO Proposal for the Common Capacity Calculation Methodology

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20 March 2018

The Utility Regulator has today, 20 March 2018, published its decision on the Common Capacity Calculation Methodology (IU CC Methodology Proposal) which was submitted in accordance with Article 20 of Commission Regulation (EU) 2015/1222, establishing a guideline on Capacity Allocation and Congestion Management (the CACM Regulation). In line with the Ireland-United Kingdom Regulatory Authorities' agreement and, in line with Article 9 of the CACM Regulation, the Utility Regulator requests amendment to the Common Capacity Calculation Methodology.

- [UR Decision to Request Amendment to IU TSOs proposal for Common Capacity Calculation Methodology \(PDF 51 KB\)](#)
- [UR IU_RAs Agreement on Common Capacity Calculation Methodology \(PDF 476 KB\)](#)

20 March 2018: RAs requested amendment of the Common Capacity Calculation Methodology
23 May 2018: TSOs resubmitted amended proposal; RAs currently reviewing amended proposal

CACM Network Code: Multi-NEMO Arrangements

 Search

Approval of the amended proposal for Day-ahead and Intraday Arrangements concerning more than one NEMO in the SEM Bidding Zone

[Home](#) » [Publications](#) » Approval of the amended proposal for Day-ahead and Intraday Arrangements concerning more than one NEMO in the SEM Bidding Zone

17 May 2018

The UR has today, 17 May 2018, published its decision to approve the amended TSO proposal for day ahead and intraday arrangements concerning more than one Nominated Electricity Market Operator (NEMO) in the SEM Bidding Zone in accordance with Article 45 and 57 of Commission Regulation (EU) 2015/1222 of 24 July 2015 establishing a Guideline on Capacity Allocation and Congestion Management.

17 May 2018: RAs approved the amended proposal for Multi-NEMO Arrangements



Q&A



Session 2

Consultation topics and additional information

DCC

DCC

- Introduction
- Approach
- Example of mandatory parameters
- Example of non-mandatory parameters
- Next steps

DCC – Introduction

- What is DCC and who does it apply to?
 - The DCC defines the requirements for the grid connection of:
 - Transmission-connected demand facilities;
 - Transmission-connected distribution facilities
 - Distribution systems, including closed distribution systems; and
 - Demand units which are providing certain system services
 - The DCC applies to new demand facilities only and will not be retrospectively applied to existing demand facilities. Please note that A demand unit, distribution system or closed distribution system is defined in Article 4 as existing if:
 - It is already connected to either the transmission or distribution network in Ireland by two years after entry into force of the DCC (17 August 2018); or
 - The Demand facility owner has concluded a final and binding contract for the purchase of the main Demand plant by two years after entry into force of the DCC (17 August 2018).

DCC – Approach

- How have we approach the selection of parameters for the DCC?
 - Our aim is been to minimise any deviation from the existing Grid Code requirements or current practices.
 - Where an existing Grid Code parameter is within the range stated in the DCC, the existing parameter has been selected.
 - Where the existing Grid Code parameter is outside of the range allowable under the DCC, the nearest allowable value to the existing Grid Code parameter has been selected.
 - Where a new parameter must selected which is not defined in the current Grid Code, where possible the proposed parameters is in line with current practices, such as DS3.

DCC – Examples (1)

- **Frequency ranges:**

Article 12.1 – Mandatory non-exhaustive parameter selection

Applies to:

- Transmission-connected demand facilities;
- Transmission-connected distribution facilities; and
- Distribution systems.

Requirement:

- *Transmission-connected demand facilities, transmission-connected distribution facilities and distribution systems shall be capable of remaining connected to the network and operating at the frequency ranges and time periods specified in the table below.*

DCC – Examples (1)

Parameter	Parameter in DCC	Consultation Proposal	Article Number	Type Applicability	Justification Code
Frequency Ranges	47,5 Hz-48,5 Hz for 90 minutes	Mandatory	12.1	TCDF, TC distribution facilities, and TCDS	N/A
Frequency Ranges	48,5 Hz-49,0 Hz for a time to be specified by each TSO, but not less than 90 minutes	90 Minutes	12.1	TCDF, TC distribution facilities, and TCDS	2
Frequency Ranges	49,0 Hz-51,0 Hz for an unlimited time	Mandatory	12.1	TCDF, TC distribution facilities, and TCDS	N/A
Frequency Ranges	51,0 Hz-51,5 Hz for 90 minutes	Mandatory	12.1	TCDF, TC distribution facilities, and TCDS	N/A

DCC – Examples (1)

- **Justification:**

- The DCC states that the operation time in the frequency range of 48.5 – 49.0 Hz shall be specified by the TSO but not less than 90 minutes. The current Grid Code requirement in this frequency range is 60 minutes. The proposed parameter of 90 minutes is the closest allowable to the current Grid Code requirement.
- Please note the Grid Code also requires demand side units to remain connected to the network as follows:
 - between 47- 47.5 Hz for 20 seconds
 - and between 51.5 - 52 Hz for 60 minutes
- These requirements will remain in the Grid Code in addition to the DCC requirements in the table above.

DCC – Examples (2)

Demand units with demand response very fast active power control

Article 30.2

Non-mandatory non-exhaustive parameter

Applies to:

- Demand facility owners or CDSO on contract to deliver demand response very fast active power control.

Requirement:

- *If the agreement referred to in paragraph 1 takes place, the contract referred to in paragraph 1 shall specify:*
 - *a change of active power related to a measure such as the rate-of-change-of-frequency for that portion of its demand;*
 - *the operating principle of this control system and the associated performance parameters;*
 - *the response time for very fast active power control, which shall not be longer than 2 seconds.*
 - *the response time for very fast active power control, which shall not be greater than 2 seconds.*

DCC – Examples (2)

Parameter	Parameter in DCC	Consultation Proposal	Article Number	Type Applicability	Justification Code
Provision of Demand response very fast active power control		To be agreed on an individual contract basis	30.1	DFO, CDSO	1
Change of active power	Not specified	To be agreed on an individual contract basis	30.2(a)	DFO, CDSO	1
Operating principle of control	Not specified	To be agreed on an individual contract basis	30.2(b)	DFO, CDSO	1
Respond time	Less than 2 sec	2 seconds or less	30.2(c)	DFO, CDSO	1

DCC – Examples (2)

- **Justification:**

- *Under DS3, a transmission-connection demand facility owner or a closed distribution system owner can contract to provide very fast active power response as a system service.*
- *The details of the very fast active power response, including the change of active power and operating principle of control, are agreed between the TSO and the demand facility owner or a closed distribution system owner and documented in the subsequent system services contract.*
- The proposal is to continue to this individual contractual based specification going forward, as it allows the maximum flexibility for the contracting of Demand Response Very Fast Active Power Control.

DCC – Next steps

- **6 July 2018** - Publish consultation papers to EirGrid Group and SONI websites.
- **10 August 2018** – Consultation closes
- **4 September 2018** – Submission of final proposal documents to the RAs.

DCC – Next steps

- If needed, EirGrid and SONI are happy to host workshops during the week starting the 16 July 2018.
- Please advise of your interest in attending such a workshop by 30 June 2018.

SAOA

SAOA Update

- The IE/NI SAOA effectively establishes the basis on which TSOs cooperate when operating the system.
- Describes requirements for allocation of TSO roles and responsibilities.
- Specifies certain operational methodologies.

Context

- Builds on existing practices in CE (Red Book)
- Uses many of their existing constructs
- CE Terminology
- CE SAFA under development
- GB have already consulted on their SAOA

SAOA Content – Two Main Elements

SAOA

- Details the methodologies impacting the SA
 - E.g. reserve dimensioning rules
 - Some require NRA approval
- Since IE/NI is likely to be 1 LFC block, the SAOA and LFC Block Agreement have been drafted as a single document.
- Effectively the SAOA overlaps operational aspects of the SOA.

LFC Block Agreement

- Details methodologies impacting the LFC Block
 - E.g. Roles and responsibilities of TSOs sending or receiving reserves
 - Some require NRA Approval

Suggested Approach for SAOA

- Draw on the GB approach,
- Operational roles & responsibilities are largely discharged in cooperation, per the TSO licences,
- Signpost to existing methodologies, policies, procedures and terminology
 - Grid Codes, DS3, Operational Constraints Update, etc.
 - E.g. SOGL refers to FCR, we use POR/SOR/TOR
- May be appropriate to include key methodologies as annexes.

Next Steps

- SAOA to be submitted for public consultation early July 2018.

LFC



Proposed LFC Structure

- Submitted to RAs on 14 December 2017
- RAs are considering the TSO proposal
- RA decision expected soon
- RAs may request amendment
- TSOs have 2 months to respond

Original Joint Proposal for SA IE/NI

- The original joint LFC proposal submitted to both IE and NI NRAs:
 - 1 Synchronous Area
 - 1 LFC Block
 - 1 Monitoring Area
- One respondent to the public consultation expressed a preference for two monitoring areas.
- Both NRAs have queried the proposal for a single monitoring area.

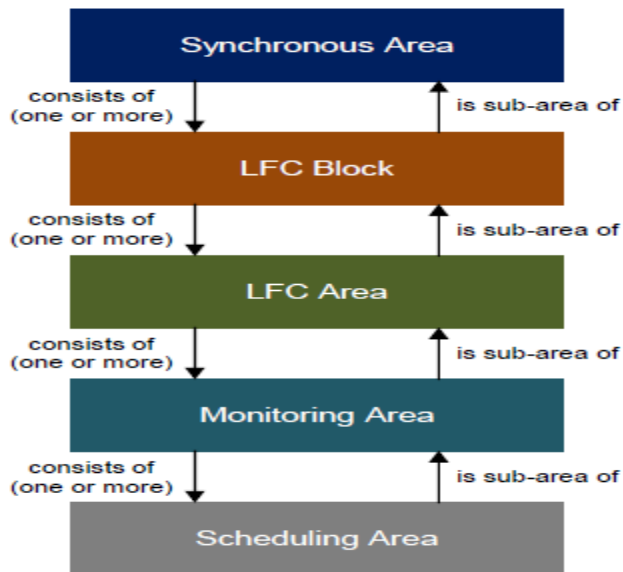
Why did the TSOs propose one monitoring area?

- SOGL Article 3 (145) states:
‘monitoring area’ means a part of the synchronous area or the entire synchronous area, physically demarcated by points of measurement at **interconnectors** to other monitoring areas, operated by one or more TSOs fulfilling the obligations of a monitoring area;
- Earlier versions used the term “Tie-Lines”

Is the N-S Tie Line an Interconnector?

- Since SEM Go-Live in 2007, N-S has not been treated as an interconnector;
- Currently treated as an internal constraint that is managed in accordance with the Operational Constraints Update;
- For this reason, the TSOs' proposed one monitoring area;

LFC Hierarchy



Obligations	Scheduling Area	Monitoring Area	LFC Area	LFC Block	Synchronous Area
Scheduling	MANDATORY	MANDATORY	MANDATORY	MANDATORY	MANDATORY
online calculation and monitoring of actual power interchange	NA	MANDATORY	MANDATORY	MANDATORY	MANDATORY
calculation and monitoring of the Frequency Restoration Error	NA	NA	MANDATORY	MANDATORY	MANDATORY
Frequency Restoration Process	NA	NA	MANDATORY	MANDATORY	MANDATORY
Frequency Restoration Quality Target Parameters			MANDATORY	MANDATORY	MANDATORY
FRR/RR Dimensioning	NA	NA	NA	MANDATORY	MANDATORY
Frequency Containment Process	NA	NA	NA	NA	MANDATORY
Frequency Quality Target and FCR Dimensioning	NA	NA	NA	NA	MANDATORY
Reserve Replacement Process	NA	NA	OPTIONAL	NA	NA
Imbalance Netting Process	NA	NA	OPTIONAL	NA	NA
Cross-Border FRR Activation Process	NA	NA	OPTIONAL	NA	NA
Cross-Border RR Activation Process	NA	NA	OPTIONAL	NA	NA
Time Control Process	NA	NA	NA	NA	OPTIONAL
Mandatory cooperation to fulfil obligations of	Monitoring Area	LFC Area	LFC Block	Synchronous Area	NA

Interpretation

- Scheduling for IE/NI is conducted as a single process for SEM generation.
- This exercise respects the N-S constraints.
- RCUC calculates the resultant N-S schedule, based on the generation scheduled in each jurisdiction to meet demand in each jurisdiction.

Interpretation cont'd

- This schedule is used to indicate the real time Area Control Error (ACE) between IE and NI.
- This is displayed on the loading engineers' workstations in both control centres.
- Based on this, both EirGrid and SONI already fulfil the requirements for two monitoring areas on the assumption that N-S is viewed as an interconnector for operational purposes.

TSO Position

- TSOs are comfortable to facilitate either 1 or 2 monitoring areas.
- A structure with 2 monitoring areas would require a clear indication directing the TSOs to consider N-S as an interconnector for operational purposes.



Q&A

- Feedback
- More information

Glossary of terms

• ACE	Area Control Error	• LFC	Load Frequency Control
• ACER	Agency for the Cooperation of Energy Regulators	• MARI	Manually Activated Reserves Initiative (Project)
• CACM	Capacity Calculation and Congestion Management	• MCO	Market Coupling Operator
• CCR	Capacity Calculation Region	• MESC	Market European Stakeholder Committee
• CGM	Common Grid Model	• MNA	Multi-NEMO Arrangements
• CGMM	Common Grid Model Methodology	• MoU	Memorandum of Understanding
• CSA	Coordinated Security Analysis	• NEMO	Nominated Electricity Market Operator
• CSAM	Coordinated Security Analysis Methodology	• NRA	National Regulation Authority
• DCC	Demand Connection Code	• PCR	Price Coupling Region
• DSO	Distribution System Operator	• RAOC	Relevant Asset Outage Coordination
• EBGL	Electricity Balancing Guideline	• RCUC	Reserve Constraint Unit Commitment
• EC	European Commission	• RfA	Request for Amendment
• EiF	Entry into Force	• RfG	Requirements for Generators
• ERNC	Emergency & Restoration Network Code	• RoI	Republic of Ireland
• FCA	Forward Capacity Allocation	• RSO	Regional System Operator
• FSM	Frequency Sensitive Mode	• SAFA	Synchronous Area Framework Agreement
• GCT	Gate Closure Time	• SAOA	Synchronous Area Operational Agreement
• GOT	Gate Opening Time	• SEM	Single Electricity Market
• GUI	Graphical User Interface	• SGU	Significant Grid User
• HVDC	High-Voltage Direct Current	• SOGL	System Operation Guideline
• IGM	Individual Grid Model	• TSO	Transmission System Operator
• KORRR	Key Organisational, Requirements, Roles and Responsibilities	• XBID	Cross Border Intraday (Project)