



Status NC LFC&R

- UG SO
- 7/11/2013

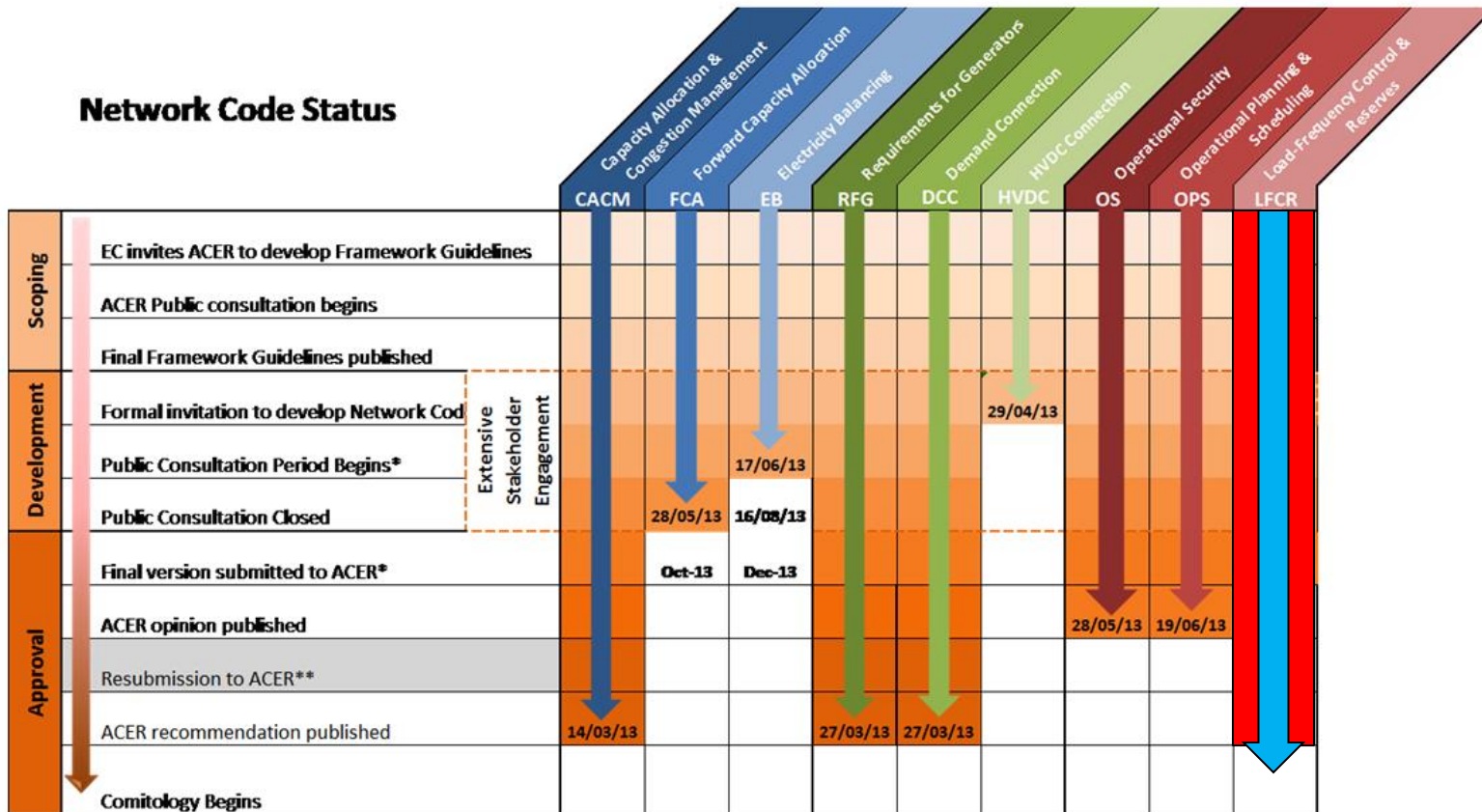
13.11.2013 Auteur changer dans le masque de titre



Agenda

- **NC LFC&R status**
- **Basic principles**
- **ACER reasoned opinion**
- **Impact**

Network Code Status

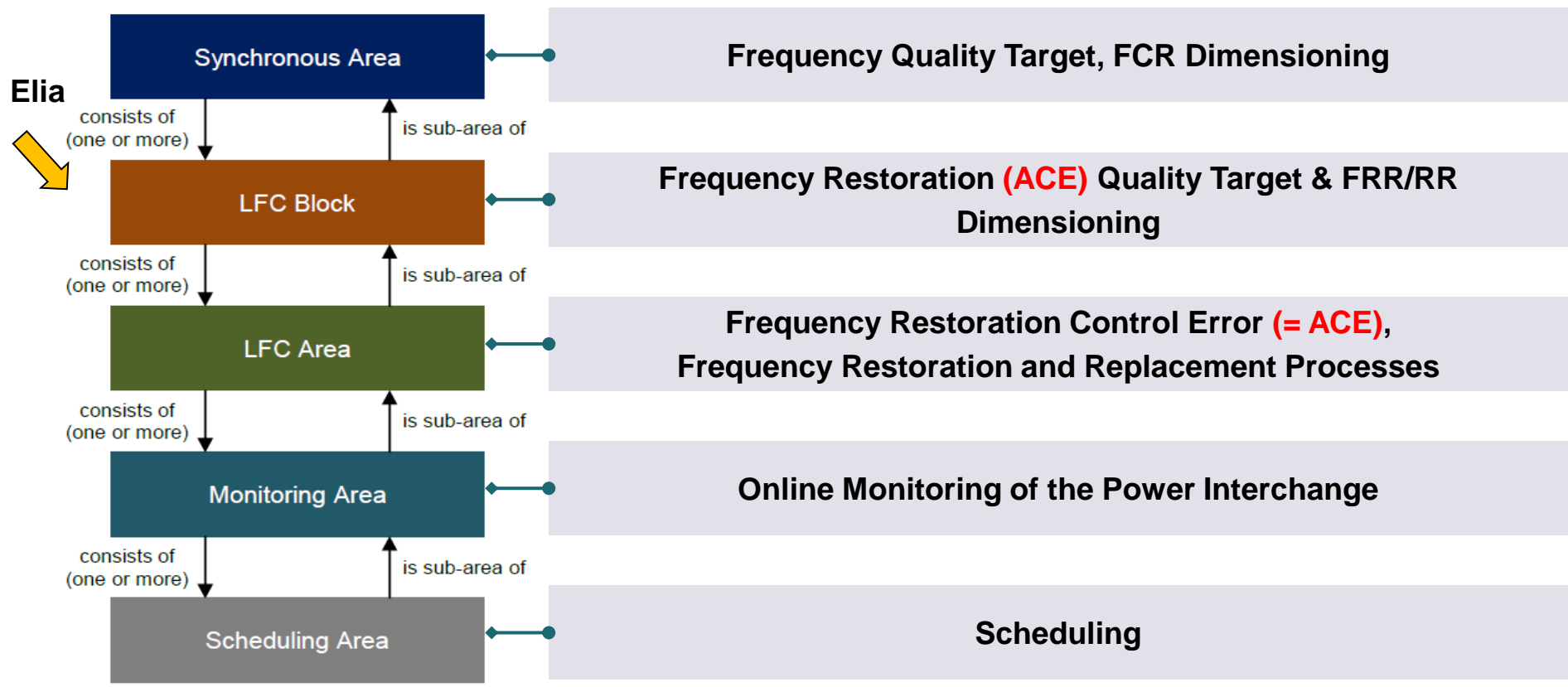


- **ACER issued positive opinion on NC LFC&R on 26/9/2013**
 - NC submitted to European Commission for (pre-)comitology
 - ENTSOe ad-hoc team established to follow-up the NC throughout the rest of the process

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NC LFC&R: Control Structure & Responsibility

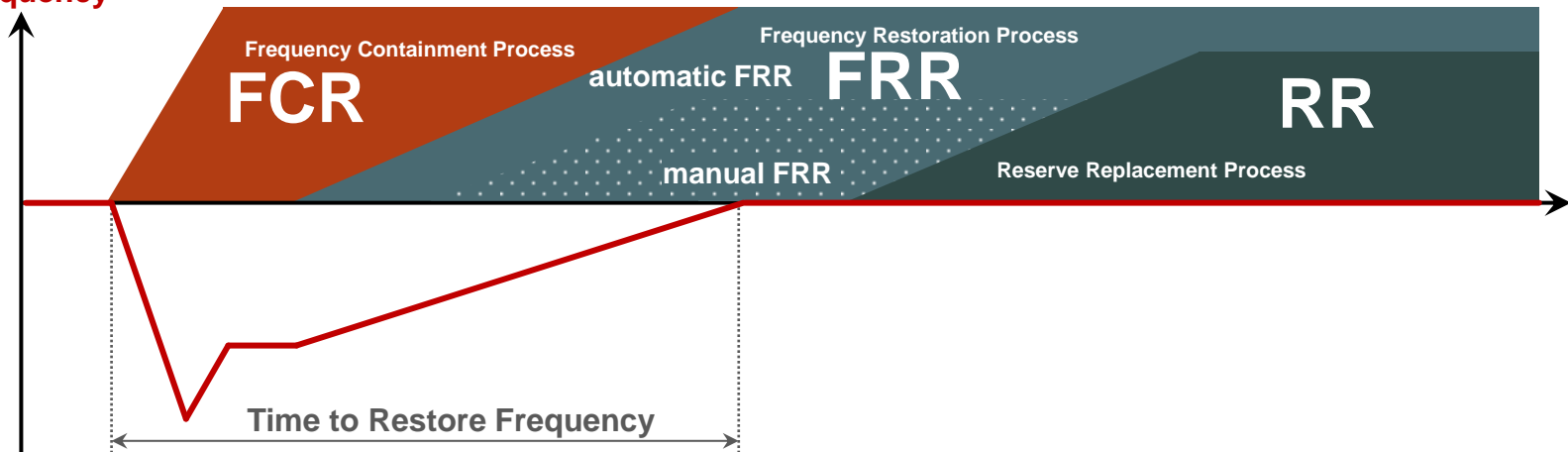


- TSOs within an Area must enter into legally binding contract indicating individual responsibilities

New terminology for Control Processes for the sake of pan-EU harmonization:

- **Frequency Containment:** stabilize frequency after imbalance to value different from 50 Hz
- **Frequency Restoration:** restore the balance of the LFC Area & the frequency of the Synchronous Area within 'Time to restore frequency', being 15 minutes for RG CE
- **Replacement:** free-up FRR to cope with future imbalances/incidents

Reserves /
Frequency



Mapping of current reserves on new terminology

- **FCR:** former R1
- **FRR:** sum of former R2 (FRRa) & direct activated R3 (FRRm)
- **RR:** Optional, covers all 'flexibility' > 15 minutes. This role is left to market parties in the Belgian system

NC LFC&R deals with **TECHNICAL** aspects concerning LFC in order to ensure Operational Security

In scope:

- ✓ Definition of
 - ✓ Control Structure
 - ✓ Control Processes (not products!)
 - ✓ Responsibilities for TSOs
- ✓ Frequency quality targets
- ✓ Minimum technical Rx requirements
- ✓ Dimensioning of reserves (how much)?
- ✓ Distribution of reserves (where)?
- ✓ **Technical** limits for XB exchange / sharing of reserves
- ✓ Obligations to third parties (BSPs,...)



NC LFC&R
provides robust set
of technical limits
in which the market
can freely develop

Out of scope:

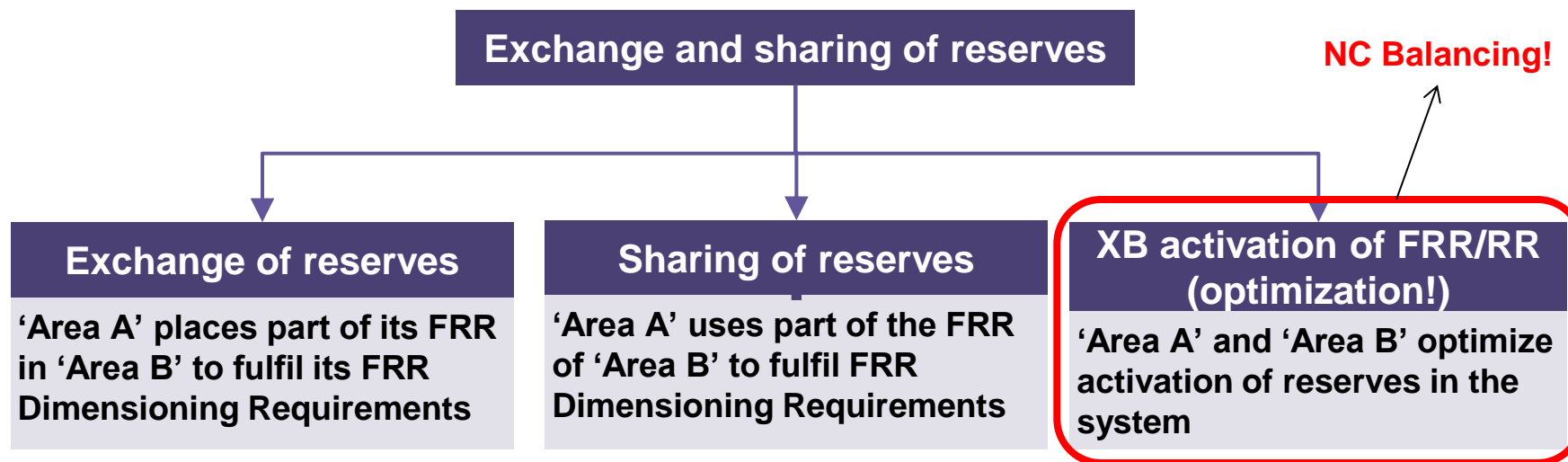
- ✓ Market and €'s
- ✓ Definition of (harmonized) Rx products
- ✓ Optimization of the activation (energy) of reserves
- ✓ (XB) procurement of reserves
 - ✓ Capacity & energy
- ✓ Allocation of XB capacity for reserves
- ✓ Commercial aspects of 'sharing' & 'exchange' agreements
- ✓ Imbalance settlement
- ✓ ...

NC LFC&R: XB exchange/sharing

NC LFC&R sets **technical limits**, required to ensure Operational Security, while leaving a maximum of flexibility to the market for XB cooperation. The NC LFC&R must ensure:

- a sufficient amount of reserves within the system
- an even distribution of reserves within the system

NC Balancing!



FCR*

FRR

RR

- Within a Synchronous Area (RG CE):
 - Rules for exchange and sharing of reserves between LFC Blocks
 - No rules for sharing and exchange within CB (determined by TSOs of CB themselves)
 - * FCR is shared per definition in a Synchronous Area (joint obligation)
- *Between Areas of different Synchronous Areas: sharing and exchange of FCR/FRR/RR*

Requirements only for **technical** aspects!

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ACER reasoned opinion focuses on three points to be looked at by the Commission:

Stipulation on sharing of FCR between Synchronous Areas:

- *“The Agency invites the European Commission to pay particular attention to Article 60(1) of the Network Code, as amended by s letter of 1 0 September 201 3 , related to the sharing of Frequency Containment Reserves (‘FCR’). Too little data was communicated along the Network Code, as amended by s letter of 1 0 September 201 3 , to acknowledge whether this article reflects, on the one hand, the preferred policy option of ENTSO-E and, on the other hand, the best forward-looking approach with regard to FCR.”*
- It is currently stated that, due to the specific situation of GB and IRE, sharing of FCR (=reducing the total volume) is only allowed between GB and IRE.

National scrutiny (aligned with NC OS and NC OP&S):

- *“The NC does not preclude Member States from providing for the approval or fixing by NRAs of other relevant terms and conditions or actions necessary to ensure operational security or their methodologies...”*

Minimum time period of 30 minutes for the full activation of continuous FCR by FCR Providing Unit of Group with a finite energy reservoir:

- *ACER requests to replace the ‘FCR Providing Unit or Group’ with ‘FCR Provider’ for clarity reasons*

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Pre-qualification process for all reserves:

- More 'formal' than before (e.g. art. 44.5 for FCR)

Minimum technical requirements for reserves (to respect process obligations):

- In line with current requirements;
- However NC on EB will define 'standard' products which may differ from current products

Aggregation of demand/generation units to deliver reserves is explicitly allowed

- However the connecting TSO can set limits to aggregation based on technical requirements (location,...)

Monitoring requirements for reserves:

- Almost completely in line with current BE requirements
- Droop for FCR Providing Units / Groups
- TSO can request individual data for different units within a Reserve Providing Group (>1,5 MW)

XB exchange and sharing of reserves:

- NC LFC&R sets technical limits / operational requirements

Market aspects (contracting, remuneration, exchange, product design...) will be set by NC on EB

NC LFC&R (2): FCR delivery

Requirements for FCR Delivery:

A FCR Provider ~~FCR Providing Unit or FCR Providing Group:~~

- a) with an energy reservoir that does not limit the FCR providing capability shall activate its FCR as long as the Frequency Deviation persists or, for the Synchronous Areas GB and IRE, until it activates its FRR.*
- b) with an energy reservoir that limits the FCR providing capability shall activate its FCR as long as the Frequency Deviation persists unless its energy reservoir is exhausted in either direction or, for the Synchronous Areas GB and IRE, until it activates its FRR.*

For the Synchronous Area CE and NE, a FCR Providing Unit or FCR Providing Group with an energy reservoir that limits the FCR providing capability shall be able to fully activate its FCR continuously for a time period of not less than 30 minutes and for an equivalent longer time period in case of Frequency Deviations smaller than the FCR Full Activation Frequency Deviation and shall specify the limitations of the energy reservoir in the Prequalification.

An FCR Provider using FCR Providing Units or FCR Providing Group with an energy reservoir that limits the FCR providing capability shall take appropriate measures to ensure recovery of energy reservoirs in any of the two directions

- i. for GB and IRE: according to the methods that shall be defined in the Synchronous Area Operational Agreement by the TSOs of the Synchronous Area*
- ii. for all other Synchronous Areas: as soon as possible but at the latest within 2 hours.*

Ramp rate limitations:

Article 28 RAMPING RESTRICTIONS FOR ACTIVE POWER OUTPUT ON LFC BLOCK LEVEL

1. *In accordance with Article 9(14) of NC OS, all Connecting TSOs of an HVDC Interconnector in the same or in different Synchronous Areas shall have the right to define in the LFC Block Operational Agreement common restrictions for the Active Power output of this HVDC Interconnector to limit their influence on the fulfillment of the FRCE Target Parameter of the connected LFC Blocks by agreeing on Ramping Periods and/or maximum Ramping Rates for this HVDC Interconnector while respecting the provisions of Article 27. The restrictions shall not apply for Active Power Reserves or Imbalance Netting Power Interchange.*
2. *In accordance with Article 9(14) of NC OS, all TSOs of an LFC Block shall have the right to define in the LFC Block Operational Agreement and apply the following measures to support the fulfillment of the FRCE Target Parameter of the LFC Block:*
 1. *a) definition of Ramping Periods and/or maximum Ramping Rates on Power Generating Modules and / or Demand Units;*
 2. *b) individual ramping starting times for Power Generating Modules and / or Demand Units within the LFC Block; and*
 3. *c) coordination of the ramping between Power Generating Modules, Demand Units and Active Power consumption within the LFC Block.*
3. *The TSOs of a Synchronous Area shall co-ordinate the measures defined in Article 28(2) within the Synchronous Area.*