



Users group Overview NC LFC&R

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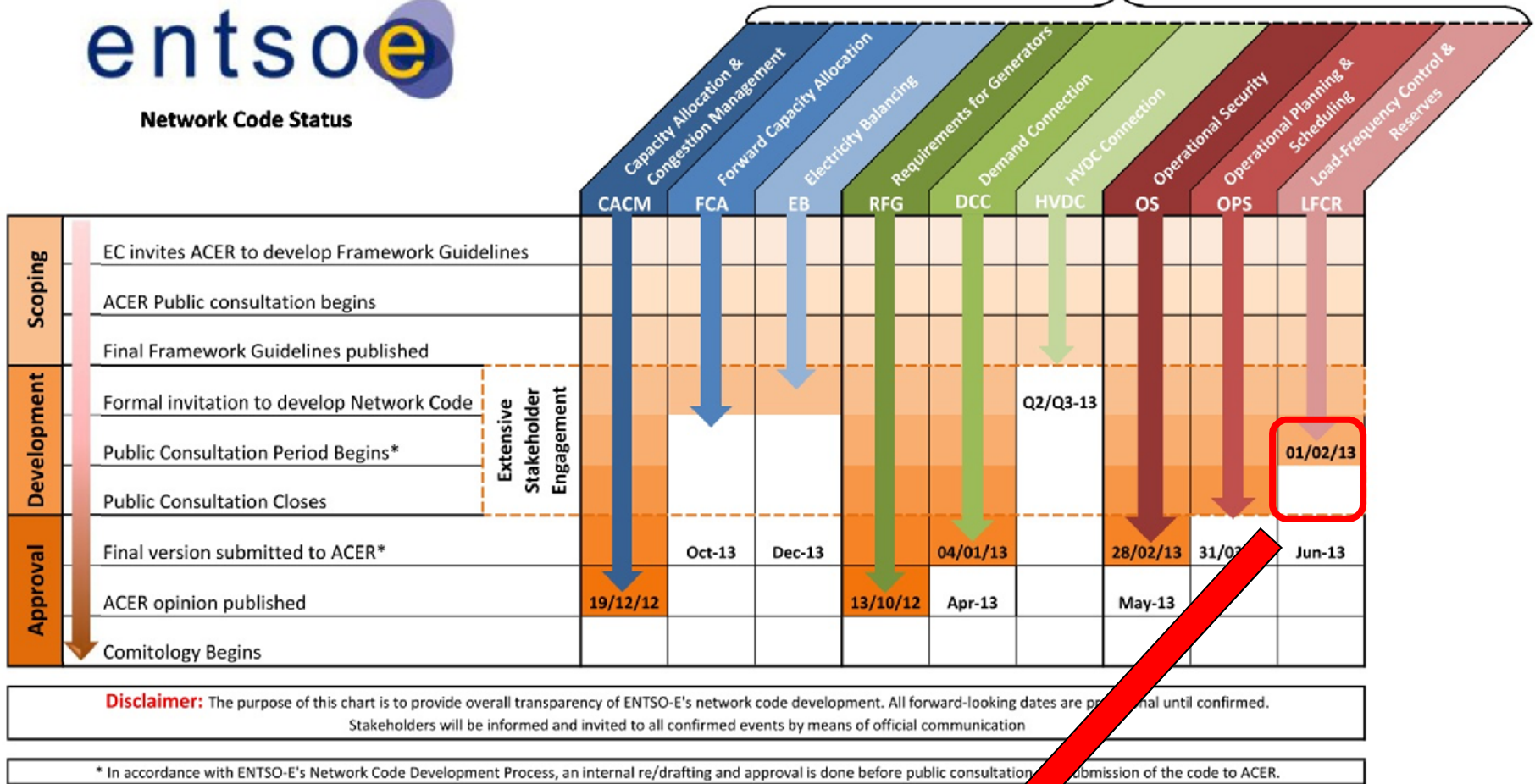
Agenda

- 1. NC LFC&R: timeline**
- 2. Scope of NC LFC&R**
- 3. New Reserve Terminology**
- 4. Requirements for reserve providers**
- 5. FCR / FRR (& RR)**
- 6. Cross-border processes**

NC LFC&R: timeline



Delivery of the Third Package



Public consultation of NC LFC&R during February / March 2012

Scope of NC LFC&R



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

In scope:

- ✓ Definition of:
 - ✓ Control structure & processes
 - ✓ TSO Control Responsibilities
- ✓ Frequency quality targets
- ✓ Minimum technical Rx requirements
- ✓ Technical requirements and obligations to Reserve Providers
- ✓ Dimensioning of reserves (how much)?
- ✓ Distribution of reserves (where)?
- ✓ **Technical** limits for XB exchange / sharing of reserves



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

Out of scope:

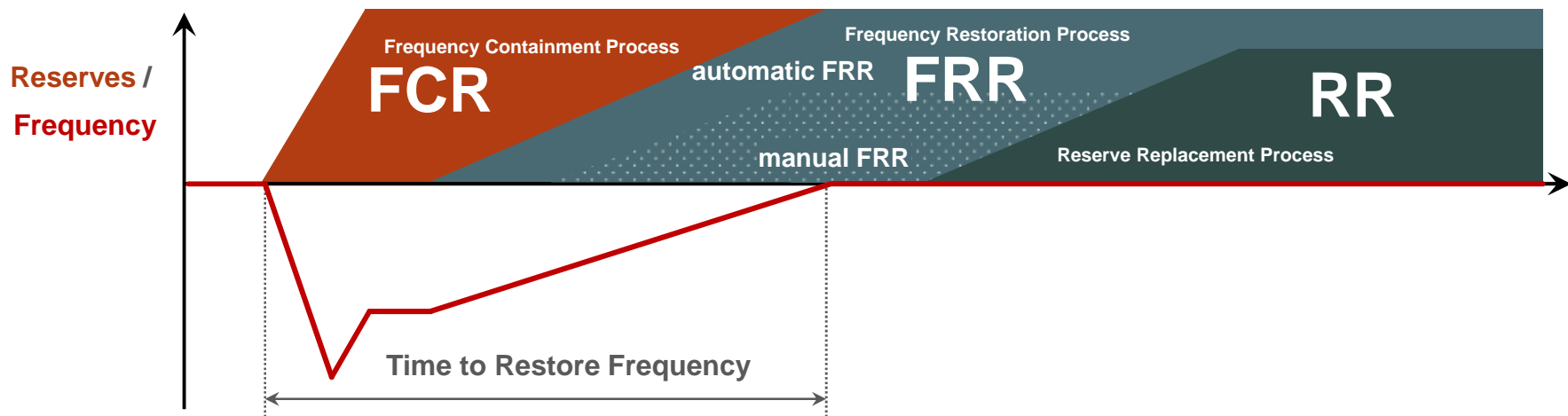
- ✓ Market and €s
- ✓ Definition of (harmonized) Rx products
- ✓ Optimization of the activation (energy) of reserves
- ✓ (XB) procurement of reserves
 - ✓ Capacity & energy
- ✓ Allocation of XB capacity for reserves
- ✓ Commercial aspects of 'sharing' & 'exchange' agreements
- ✓ Imbalance settlement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

NC LFC&R: new terminology



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

Frequency Containment	Stabilize frequency after incident to a value different from 50 Hz
Frequency Restoration	Restore the balance of the LFC Area & the frequency of the SA within 15 minutes (for RG CE)
Replacement	(Partially) free-up FRR to cope with future imbalances/incidents <ul style="list-style-type: none"> • Role performed by market actors in Belgium



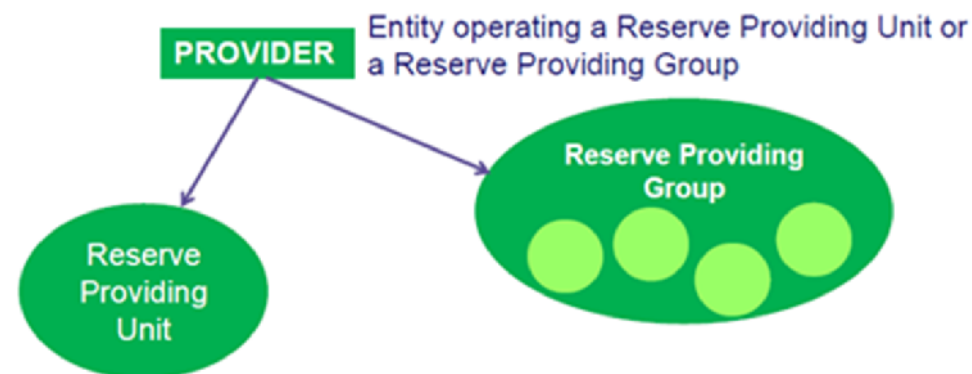
Mapping of current reserves on new terminology

Frequency Containment Reserves (FCR)	Former primary reserves (R1)
Frequency Restoration Reserves (FRR)	<ul style="list-style-type: none"> • Automatic FRR (FRRa): former secondary reserves (R2) • Manual FRR (FRRm): former tertiary reserves
Replacement Reserves (RR)	Optional reserves that cover all slow flexibility (> 15 min) <ul style="list-style-type: none"> • Role left to market parties in Belgium

Requirements for Reserve Providers



- **NC LFC&R applies for TSOs / DSOs / Reserve Providers / Reserve Providing Units & Groups / Operators of HVDC Interconnectors**
- **NC LFC&R sets minimum technical requirements for reserves**
 - Monitoring / activation times & duration / pre-qualification / maximum governor insensitivity /...
 - Minimum requirements set on SA level, additional requirements can be set on LFC Block level
- **NC LFC&R sets obligations for Reserve Providers**
 - Data delivery / activation of reserves / ...
- **Aggregation of demand and generation units to fulfill reserve requirements is allowed**



Cross-border processes



- NC LFC&R sets **technical limits**, required to ensure Operational Security, and defines a robust framework in which cross-border market optimization can take place.
- The technical limits in the NC LFC&R ensure:
 - a **sufficient amount** of reserves within the system
 - an **even distribution** of reserves within the system
- Three different cross-border processes:

