



# **NC for Electricity Balancing**

## **DSO Associations Preliminary views on the draft of 20 February 2013**

**Brussels, 26th February, 2013**



# DSOs need adequate tools to operate networks with high penetration of DER & flexible loads

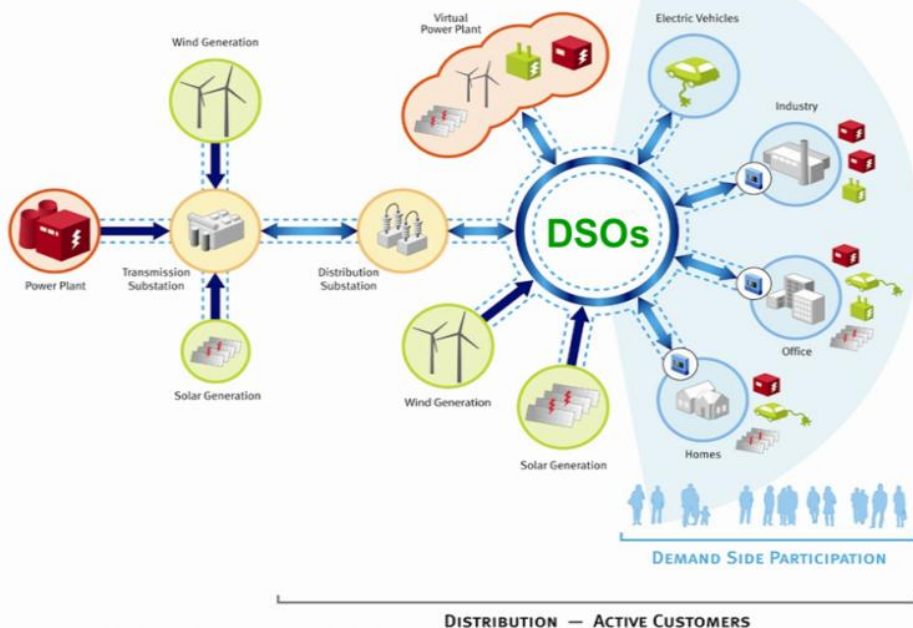
- Most of **new generation** is going to be connected to **distribution networks...**
- Most of the demand side flexibility has been/will be **developed on distribution networks...**

**Network codes for system operation:**

**Requirements for distribution network users for:**

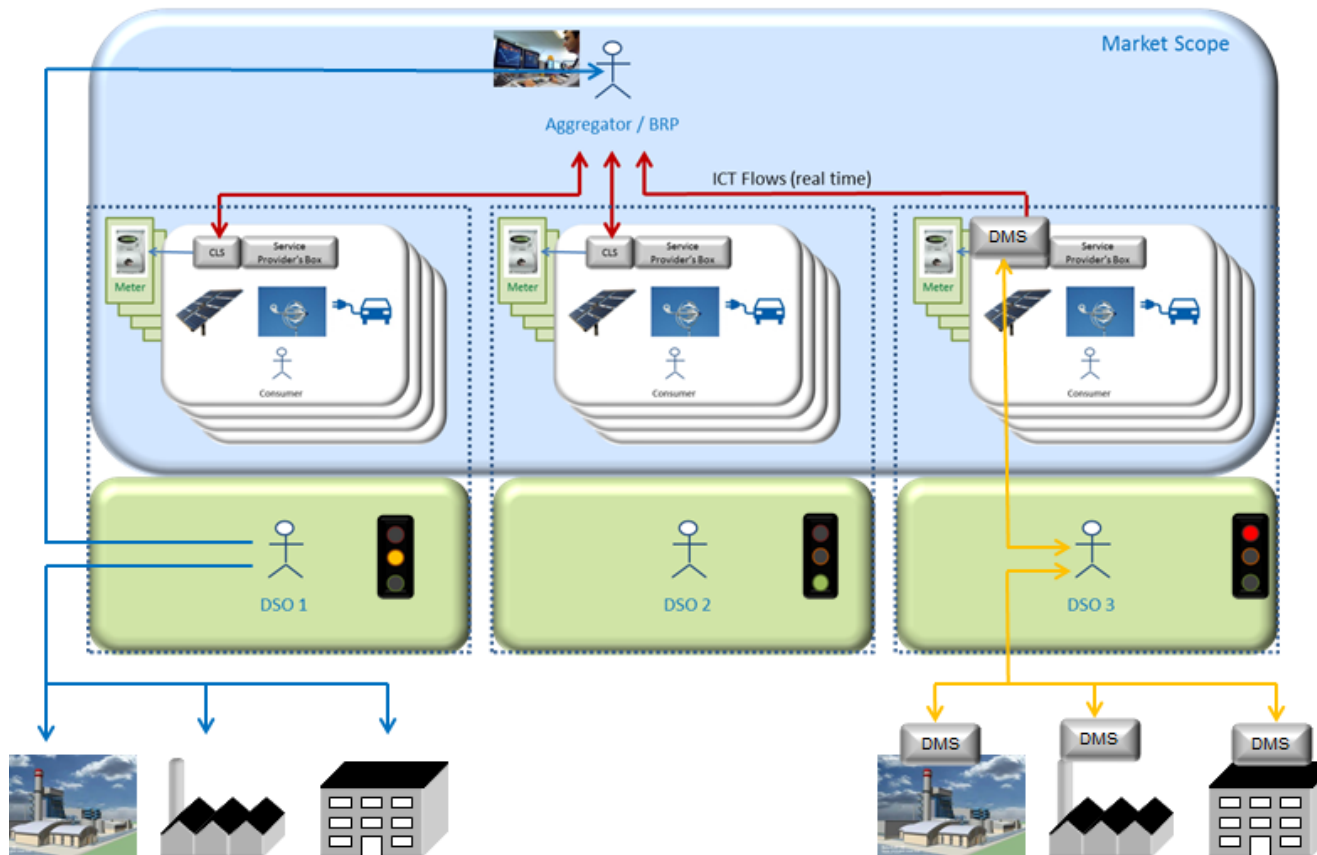
- voltage control
  - congestion management
  - outage management
  - information exchange
- should be agreed with the DSOs.**

**Any direct order from TSOs to distribution network connected users will pass through DSOs**





# Flexibility will play an important role to ensure SoS and QoS in distribution networks



*'Traffic lights approach'*



Source: EURELECTRIC



# Consistency with other codes and EU initiatives is necessary

- Other initiatives at the EU level include:
  - TF Smart Grids of the European Commission
  - Standardization (Mandate M490)
  - Energy Efficiency Directive (EED)
- How is this code related to the NC LFC&R?
- Definitions should be consistent throughout the codes



## Major DSO Concerns

- The terms and conditions for the aggregation of small demand and generation units, and demand response will be defined in the terms and conditions which the TSO's will create within x months. (art. 13)

According to the Framework Guidelines on Electricity Balancing (paragraph 2.3) DSO should be involved in the drafting process of these terms and conditions.

- How is the code going to facilitate aggregation and demand response and how will the DSO be involved? (Balancing ACER FG 2.3).



## Major DSO Concerns

- The imbalance settlement period has a strong relation with the metering cycles and metering data handling. Changing the imbalance settlement period has big impact on DSOs and metering companies.

Today, for small units (Type A according to NC RfG) DSO does not have real time measurements. In general, LV networks and supporting IT infrastructure are not prepared for real time information exchange.

How does it fit with requirements of real time information exchange in NC OS?

- Balancing actions can have an impact on the distribution grids. The network constrains of the distribution grids should be taken into account.

The “pre-check” evaluation by the DSO is missing (see FG paragraph 3.1). BSPs shall provide all necessary data and information needed by the TSO and/or DSO to evaluate the balancing service provided, at both the pre-qualification stage and real-time operation of the system.



## DSO – Detailed questions

- What is 'Relevant Area'? Is this the national area or a distribution grid? Can one balancing area consists out of many relevant areas?
- Requirements for standard products (14.4): To avoid (local) congestion, knowing the location of the activation might be also relevant?
- Firmness of products (Art 17): Unexpected unavailable volumes (due to failure) after the Gate Closure Time shall be reported to the Connection Transmission System Operator without delay. Should not DSO be informed?
- CBA (art 58): Should not also the DSO costs (the impact on distribution system operators of additional IT requirements, metering and other technical costs) be taken into account?





**Backup**



## Questions & Suggestions

- **Article 2 – DEFINITIONS**

- Relevant Area Q: This is used in many articles. Is this the national area or a distribution grid? Can one balancing area consists out of many relevant areas?

- **Article 13 TERMS AND CONDITIONS RELATED TO BALANCING**

- 1. No later than x months after the entry into force of this Network Code all Transmission System Operators of a Coordinated Balancing Area shall, in coordination with distribution system operators, develop a methodology for the establishment of the terms and conditions related to Balancing. This methodology shall ensure a sufficient level of coordination between all Transmission System Operators of the Coordinated Balancing Area in order to foster effective competition.
- 2. The terms and conditions related to Balancing shall facilitate the achievement of the objectives of the Balancing Market as defined in Article 9 of this Network Code, and shall:
  - a) allow for the aggregation of, at least, small demand and/or generation units within a Relevant Area to offer Balancing Services;
  - b) allow for load entities, whether through aggregators or not, and generation units from conventional, renewable and intermittent energy sources as well as storage elements to become Balancing Service Providers subject to the fulfilment of the requirements according to paragraph 2(a);
  - c) facilitate the participation of demand, renewable and intermittent energy sources in the Balancing Markets; and
- FWG (paragraph 2.3): TSO's shall coordinate with distribution system operators when elaborating the terms and conditions.



## Questions & Suggestions

- **Article 13 TERMS AND CONDITIONS RELATED TO BALANCING (continued)**
- 4. No later than six months after the approval of the methodology for the establishment of the terms and conditions related to Balancing in a Coordinated Balancing Area, each Transmission System Operator shall define the terms and conditions related to Balancing based on this methodology. **The Transmission System Operators will agree with the Distribution System Operators about the technical requirements and information provisions.** These terms and conditions related to Balancing shall consist of reasonable and justified requirements and shall at least contain:
  - a) **technical** and contractual requirements for Balancing Service Providers;
  - b) **technical** and contractual requirements for Balancing Responsible Parties;
  - e) the requirement that **Balancing Responsible Parties** and Balancing Service Providers **shall provide all necessary data and information** needed by the Connection Transmission System Operator **and/or Distribution System Operator** to evaluate provided Balancing Services, Balancing service needs and calculate Imbalance Volumes;
  - f) the conditions for the aggregation of small demand and/or generation units within a Relevant Area to become a Balancing Service Provider;
  - g) **data and information required** by the Connection Transmission System Operator **and/or Distribution System Operator** to be provided by Balancing Service Providers at both Pre-qualification Stage and real-time operation;



## Questions & Suggestions

- **Article 13 TERMS AND CONDITIONS RELATED TO BALANCING (continued)**
- 6. Each Balancing Service Provider and all the Balancing Responsible Parties to which this Balancing Service Provider is associated shall belong to the same Relevant Area where the Imbalance Volume is calculated.
- Question: What is meant with: “shall belong to the same Relevant Area”?.
- **Article 14 REQUIREMENTS FOR STANDARD AND SPECIFIC PRODUCTS**
- 4. The standard Balancing Reserve and Energy products shall consist of at least the following standard characteristics:
  - a) Full Activation Time;
  - b) minimum and maximum quantity;
  - c) Deactivation Time;
  - d) Price of the bid;
  - e) divisibility;
  - f) delivery period; and
  - g) Mode of Activation.
- Question: To avoid (local) congestion it might be relevant to know the location of the activation ?



# Questions & Suggestions

- **Article 17 FIRMNESS OF PRODUCTS**

- 1. Volumes of Balancing product bids given by a Balancing Service Provider shall be firm after the Gate Closure Time defined for the relevant Balancing product. Unexpected unavailable volumes (due to failure) of a Balancing Service Provider unit after the Gate Closure Time shall be reported to the Connection Transmission System Operator without delay. Connection Transmission System Operators shall have the right to qualify such bids as invalid within the relevant Common Merit Order List.
- Question: what happens if the generator is connected to the distribution grid?
- It would be logical that the TSO also informs the DSO if relevant.

- **Article 32 GENERAL SETTLEMENT PRINCIPLES**

- 2. Each Transmission System Operator shall in coordination with the concerned DSO's define Settlement mechanisms within the terms and conditions related to Balancing as defined in Article 13.
- FWG (paragraph 2.3) :TSO's shall coordinate with distribution system operators when elaborating the terms and conditions.
- 6. All injections and withdrawals within a Relevant Area other than those mentioned in paragraph 4 and paragraph 5 shall be subject to Imbalance Settlement.
- Question: What kind of **other** Relevant Areas are there?



## Questions & Suggestions

- **Article 53 BALANCING ALGORITHM DEVELOPMENT**
- 1. All Transmission System Operators shall, **in coordination with distribution system operators**, develop principles for the development of Balancing Algorithms, applied for the optimised operation of common procurements of Balancing Reserves and activation of Balancing Energy, compliant with the requirements specified in this Network Code.
- **FWG (paragraph 2.3) TSO's shall coordinate with distribution system operators when elaborating the terms and conditions.**
- **Article 58 COST-BENEFIT ANALYSIS**
- 5. The Cost-Benefit Analysis shall at least consider the objectives of this Network Code set forth in Article 9, and :
  - a) a Social Welfare quantification in accordance with the Network Code on Capacity Allocation and Congestion Management;
  - b) the cost of implementation of a new Balancing mechanism or platform;
  - c) the impact on European, regional and national Balancing costs;
  - d) the potential impact on regional energy market prices; and
  - e) the impact on market parties in terms of additional technical or IT requirements.
- **Should not also the DSO costs (the impact on distribution system operators of additional IT requirements, metering and other technical costs) be taken into account?**



## Questions & Suggestions

- **Article 60 EXEMPTIONS**
- In the Micro Isolated Systems and small isolated systems and in the isolated systems which do not present any cross-border network issues or market integration issues, the provisions of this Network Code shall not apply.
- Question: It is not clear when this rule is allowed to be applied and by whom. Is it up to the NRA to decide or not ?