OS NC Supporting Document

4th Workshop

20. December 2012

entsoe

Reliable Sustainable Connected

New Sections in the Document resulting from Public Consultation

- Section 6**: Necessary data & information for safeguarding OS**
- Section 7**: Compliance, testing & investigation in the framework of the OS NC**
- Section 8**: Fundamental concepts & processes of the OS NC**
- Section 10**: Summary of changes to the draft NC**
- Section 11**: Next steps**
- Annex 1**: Definitions in the framework of the OS NC**

Tasks of the TSOs

Risks or disturbances to be handled by TSOs to maintain the security and reliability of the electric power system:

- Continued power supply of the customers connected to the transmission system
- Power flow control to avoid congestion
- Frequency stability
- Voltage stability
- System stability
- Grid restoration

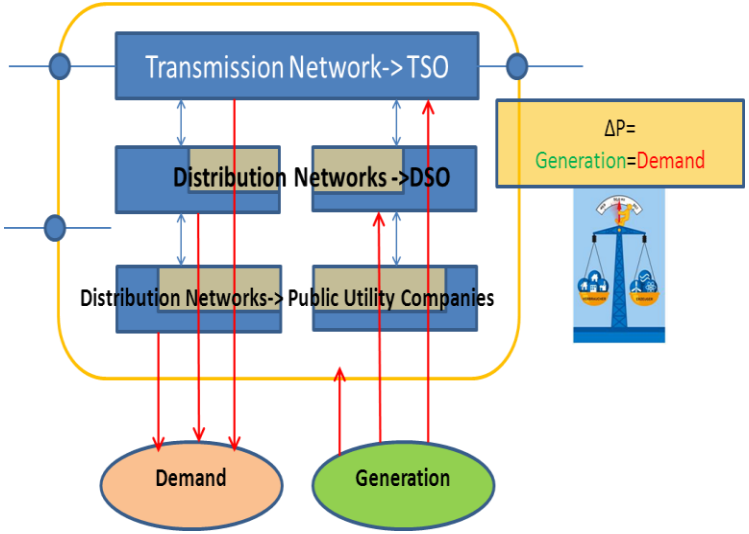
– TSO´s responsibility for system security & liability for its own actions.

Detection and prevention of short-term risks & disturbances:
importance of Operational Planning & System Operational processes.

– Task of maintaining the frequency stability =>LFC area as a “whole” (transmission network + underlying network)

Section 6: Necessary data & information for safeguarding OS

TSOs work closely together on a horizontal level: each TSO has to ensure in its LFC Area that effects with negative consequences on system stability -due to the close interconnection of EU transmission systems- do not lead to impacts on supra-regional or even European scale.



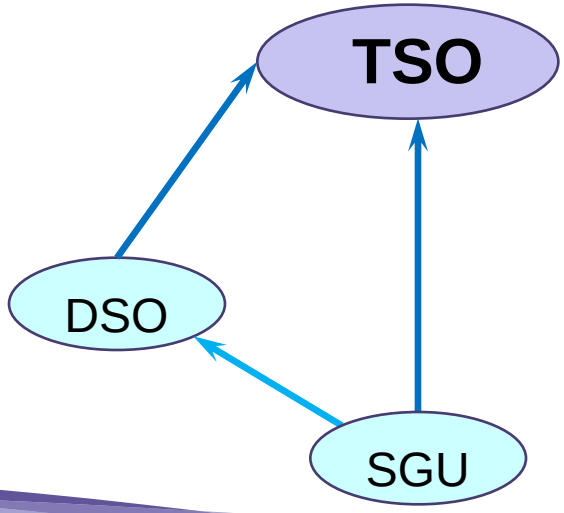
OS NC: placeholder of the topic Data Exchange for operational purpose;

- Structural data
- Scheduling and forecast data
- Real-time data
- Individual instructions by TSOs or DSOs

THE TWO WAYS OF EXCHANGING DATA WITH THE TSO SET BY THE OS NC

Two possibilities for the TSO to receive data from Significant Grid Users (SGUs) connected to the Distribution Network:

- 1) SGU sends the data directly to the TSO
- 2) SGU sends the data to the DSO who, at the same time, will forward them to the respective TSO.



- **Significant Grid User**
- **LFC Area, Responsibility Area, Observability Area**
- **European Awareness System**

Significant Grid User (SGU)

- While respecting the provisions of Article 24(2) and Article 27(2), the following shall be considered SGUs:

a) New Power Generating Modules type A, B , C and D according to [NC RfG].

b) Existing Power Generating Modules whose Connection Point or Maximum Capacity is at or above the Thresholds defined in [NC RfG].

Existing Power Generating Modules shall be also classified as type A, B, C and D following the same criteria defined in [NC RfG] for New Power Generating Modules;

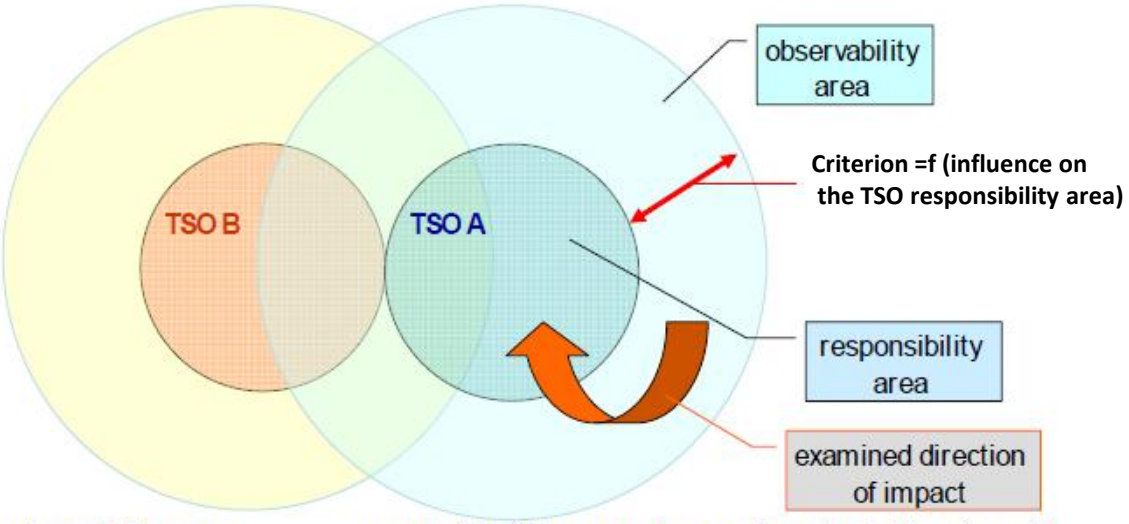
c) Existing and New Demand Facilities with the Connection Point to the transmission system;

d) Existing and New Demand Facilities providing Demand Side Response whose Maximum Capacity is equal or above 1 MW.

- While respecting the provisions of Article 3(3), each TSO may define different thresholds of significance for Grid Users depending on the characteristics of the electric power system.

Responsibility Area versus Observability Area

While performing the security assessment, the TSO has to take into account the influence of the surrounding grid on its responsibility area by analysing the external transmission network which has influence on its responsibility area : the so-called observability area.



observability area: own grid + interconnectors + relevant neighbouring grid, taking into account effect of loss of related grid elements

responsibility area: own grid + interconnectors
assessment of impact of losses in the observability area

Load Frequency Control Area (LFC Area)

- LFC Area is a term related to load frequency control, which aims to balance the LFC area in terms of frequency, including loads and generation.

- LFC Area fulfils the functions:

  - Continuously monitor and calculate the Frequency Restoration Control Error (FRCE) of the LFC Area.
  - Implement and operate a Frequency Restoration Process for the LFC Area.
  - Fulfil the FRCE Target Parameters of the LFC Area.

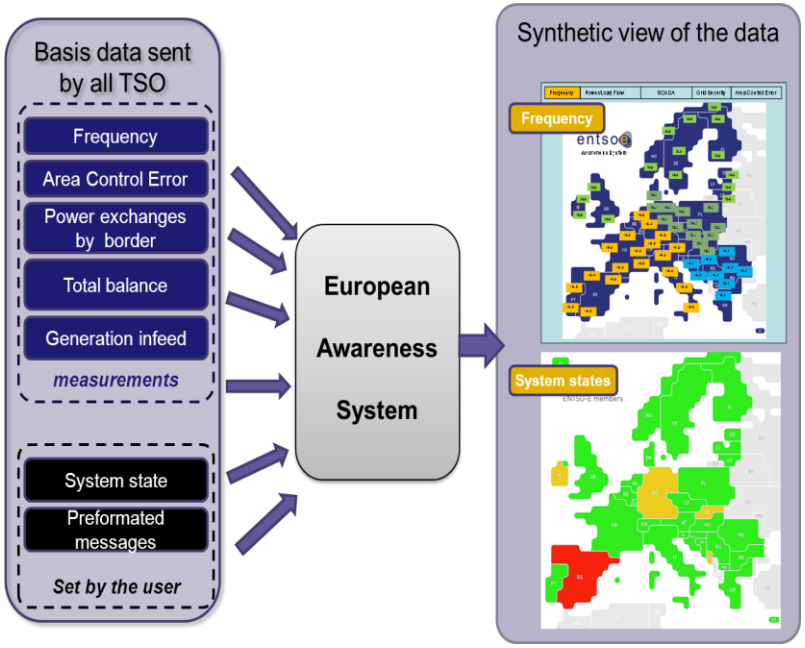
- LFC NC, LFC Area is defined:

"A part of the Synchronous Area physically demarcated by points of measurement of Tie-Lines to other LFC Areas fulfilling the Area Process Obligations of a LFC Area;"

What is an Awareness System?

An Awareness System is a tool whose objectives are:

- In case of a stressed situation: to provide automatic or manual information shared to enable the TSOs to apprehend globally an endangered situation,
- In case of disturbance: to provide information to the TSOs to help them to identify its origin and its borders.



Section 10: Summary of changes to the draft NC

- **Summary of comments**
- **Structural changes in light of comments**
- **Enhancing consistency**
- **Most significant content related changes to the NC**

ENHANCING CONSISTENCY

- Use of **frequency and voltage limits** defined in RfG NC and DCC NC in system operation and consistent with load frequency control in LFC NC.
- **Involvement of NRAs** coherent through all SO NCs.
- **Significant grid users**: consistent with the significant users defined by RfG and DCC and including thresholds for existing users.
- Description of **CGM**: consistent with requirements of CACM and OPS NCs.
- **Definitions** reviewed: importance of consistency.

Most Significant Content Related Changes to the Network Code

Regulatory Aspects **– provision harmonized among system operation codes**

Frequency Control Management and Voltage Control and Reactive Power Management **– adding frequency and voltage operational limits**

Data Exchange **– Reviewed all articles to optimize the data exchange, avoiding duplication of data provision and to be consistent with the other NCs.**

Points „under construction“ in the OS NC Supporting Document

- Mapping with the Framework Guidelines
- Analysis of Responses
- Explanation of fundamental concepts & processes of the OS NC
- Frequently Asked Questions

Thank you for your attention!

entsoe

Reliable Sustainable Connected