CLARIFICATIONS ON NC RFG & NC DCC

Ljubljana, 9 December 2016

EU Regulation 2016/631 (NC RfG)

- Operational notification for mass markets Power Generating Modules (type A and some type B):
  - Use of equipment certificates as enabled by NC RfG (Art. 30-31);
  - Solutions which seem to be the most cost efficient for mass markets;
  - Need to work on how to define these equipment certificates and how PGM manufacturers will acquire them to prove compliance of their products:
    - Who are the authorised certifiers? Which tests should be performed? .....
- For mass markets products, technical standards are used in the power industry;
- CENELEC (TC8X/WG3) has been working for several years on the development of standards on connection of generating units to LV and MV networks;
  - Main purpose, as expressed by several stakeholders: drafting standards for verification of compliance of the generators with the requirements of NC RfG.

Several comments/questions to clarify some of the NC RfG technical requirements for the development of standards

General questions to be discussed at GC ESC

1. Does the EC provide an office for centralized interpretations similar to the existing one for directives?
2. Is it possible to get binding answers from the EC on specific questions?
3. Can requirements for type B units be required for type A units, e.g. LVRT requirements?
4. Can a response time for LFSM-O be required, as it might be considered as a more stringent requirement?

Examples of clarification needed
provided by CENELEC

1. Other active power setpoints during LFSM-O;
2. Response time of LFSM-O;
3. Relationship between Article 13 §4 and §5;
4. LFSM-O operation with hysteresis;
5. Minimum requirements.

1. Other active power setpoints during LFSM-O

Article 13(2)g:

"The power-generating module shall be capable of operating stably during LFSM-O operation. When LFSM-O is active, the LFSM-O setpoint will prevail over any other active power setpoints."

- Situation: P_{out} might need to be reduced in the distribution grid due to local grid congestions or V stability issues.
- But NC RfG states: LFSM-O setpoint will prevail over any other setpoint, and poses the question if a further reduction of output power for example due to local congestion issues is admitted.
- During overfrequency situations a DSO needs to have the right to react on congestion situations.

→ We therefore expect that also during LFSM-O operation a setpoint provided by the DSO below the LFSM-O setpoint shall be complied with.

We understand Article 13(2)g as follows:

"When LFSM-O is active, the LFSM-O setpoint will prevail over any other active power setpoints which would result in an increase of power above the LFSM-O setpoint."

- Is this correct?

2. Response time of LFSM-O

- How to deal with this technical issue?
  - Article 13(2) does not state a required response time, but only an initial delay what we understand as a dead time.
  - ENTSO-E's publication *"Frequency Stability Evaluation Criteria for Synchronous Zone of Central Europe"* states that a response time of 1s is an appropriate requirement.
    - Only PV is capable of such a rapid response.*
  - TS 50549: A response time of 2s with the allowance of staged disconnections, in case a generating unit is not capable to reduce output power with the required dynamic response.
  - NC RfG EU 2016/631 explicitly forbids this solution for units above Type A but most generating plants will not be capable to response to LFSM-O within 1 or 2s.
  - **To avoid excluding most generating technologies (Wind, Internal combustion, Gas Turbines) from being compliant with planned EN 50549 we need to increase the response time up to 15 to 30s, but propose to define a dead time (in the range of 1 to 2s).**
  - **This however would be in direct conflict with the ENTSO-E publication cited above.**

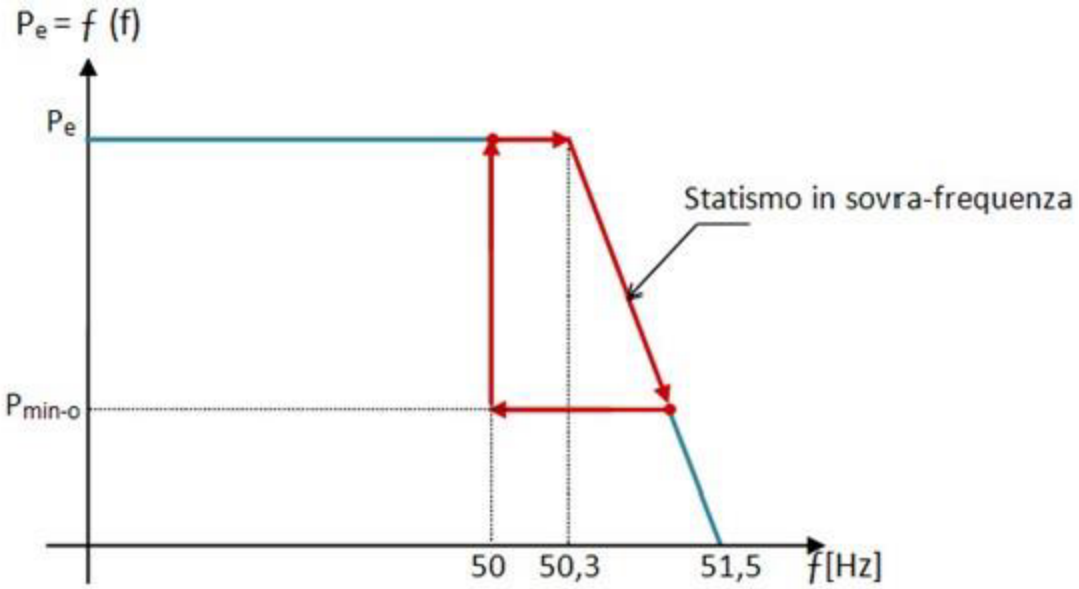
**TC8X_WG03/FR/20150430/INF file: Meeting TC8X WG3 ENTSOE - 2015-04-30 - EDF.pdf*

3. Relationship between Article 13 §4 and §5

- May the taking into account of technical capabilities according to 13(5)b result in a higher power reduction than described in Article 13(4)b?

4. LFSM-O operation with hysteresis

- Is a LFSM-O implementation including a hysteresis as proposed below in conflict with Article 13.2?



5. Minimum requirements

- **May a European Standards national implementation impose more stringent requirements than imposed by EU2016/631 (NC RfG) and may member states use such a standard?**

- **How do the following statements correlate?**
  - Statement by ACER regarding the purpose of the network codes in the FWGL 2011, and
  - EC at the GC ESC September 8th 2016 to the question "can member states impose more stringent requirements.."

ACER
Agency for the Cooperation of Energy Regulators

2 Minimum standards and requirements for connections

2.1 Standards and requirements applicable to all *significant grid users*

The network code(s) developed according to these Framework Guidelines shall define appropriate minimum standards and requirements applicable to all *significant grid users*.

Implementation Questions

European Commission

1. Can a Member State impose more stringent requirements by a separate legislation than imposed by the network code Requirements for Generators (RfG NC)?

In general, no – not outside of the values provided for in the code.

EU Regulation 2016/1388 (NC DCC)

- Are the smart charging solutions for Electric Vehicles considered as DSR according to article 27?

"Demand response services provided to system operators shall be distinguished based on the following categories:

(a) remotely controlled:

(i) …

(ii) …

(iii) demand response transmission constraint management. "

Thank you for your attention

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