

Questions regarding RfG
(EU2016/631) to be presented to
the ACER Grid Connection
European Stakeholder
Committee

Active Power Setpoints during LFSM-O

Article 13(2)g states: “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.”

During technical meeting it has been considered a request of DSO for further reducing the active power setpoint in case of congestion situation.

CENELEC text proposal: 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 in line with RfG art 13(2)?

Response Time to LFSM-O

Article 13 (2) does not state a required response time, but only state an initial delay, interpreted as a dead time.

CENELEC conducted a survey among manufacturer in 2015.

Typical response time up to 1s is acceptable for PV technology. For other technology a longer response time is expected up to 15-30 sec depending on technology.

Response time within TS 50549 is 2s with allowance of of staged disconnection (not permitted for generating of type B, C&D)

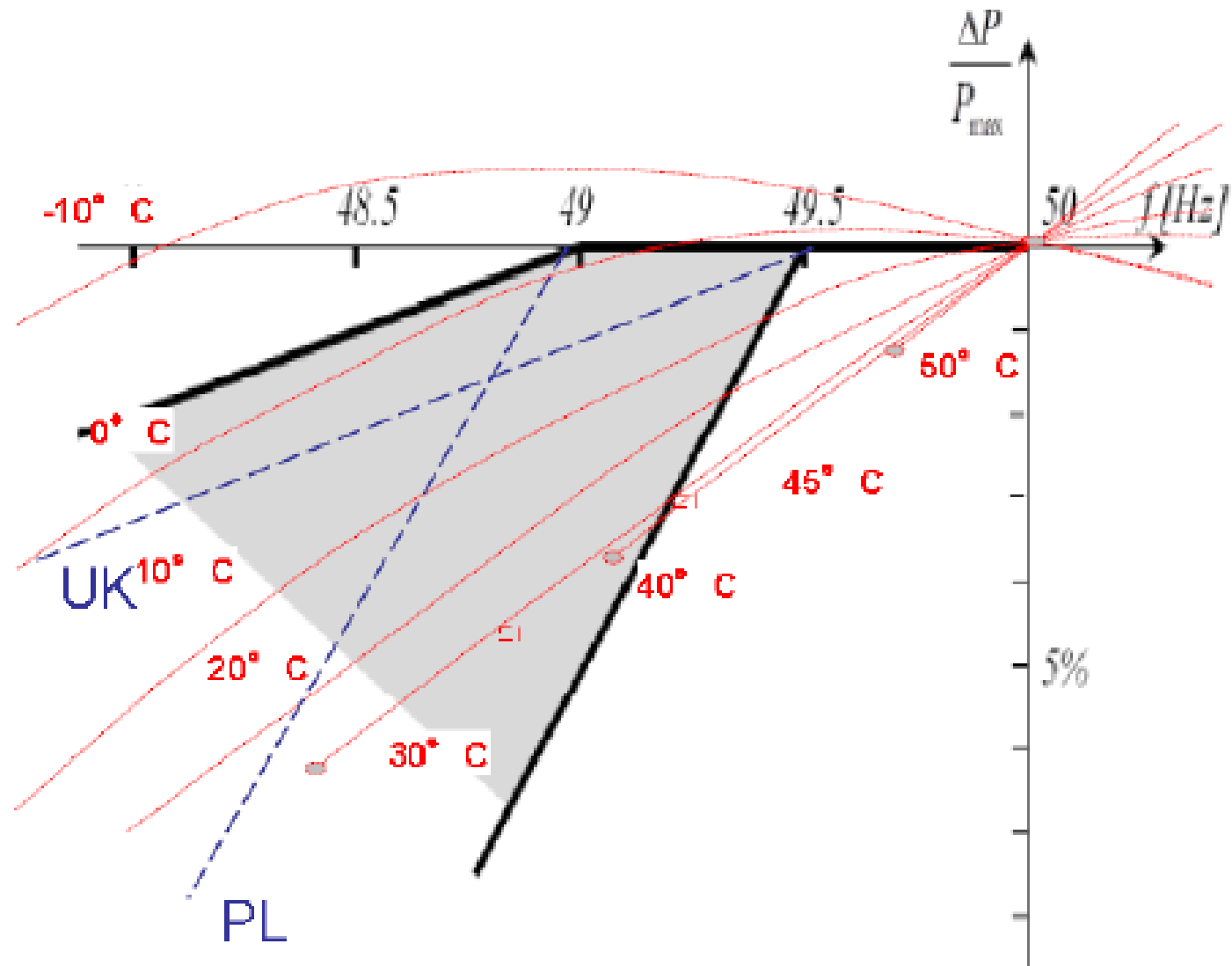
CENELEC: Based on CENELEC survey to include all technologies a response time between 15s and 30s shall be considered. To be confirmed if this is feasible according to RfG.

Active Power Output for falling frequency

Art 13 (4) and art 13 (5) describe the expected active power behavior when frequency drop.

Art 13(5) states that technical capabilities for specific technology has to be taken in consideration. However they can cross the limit of the power curve shown in fig 2. For example power reduction of Gas Turbine technology is subject to many factors and not easy to be predicted or controlled.

CENELEC: we need confirmation of the understanding that power reduction logic shall take into account technical capabilities of PGU along all frequency range and can foresee higher power reduction than the specified curve



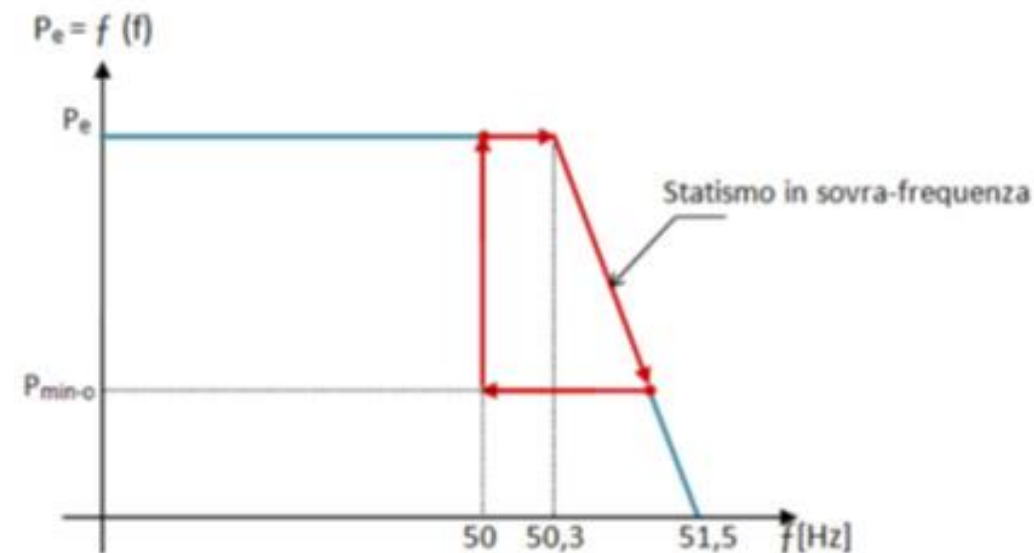
--- Typical GT power output (Unit specific)

LFSM-O logic with Hysteresis

Art 13 (2) describes LFSM-O as a monotonic function.

However in some countries characteristics with “hysteresis” has been considered. The aim of this characteristics is to limit the risk of undetected island.

CENELEC: we would like to know if such characteristics are in line with the RfG requirements, since the characteristics serve well reducing the power.



Minimum Requirements or ...

Within CENELEC members there had been a long debate on if the RfG code requirements (exhaustive and non-exhaustive) shall be considered «minimum» and therefore more stringent requirements eventually considered.

CENELEC: we need to understand how to consider the RfG requirements to properly align the text of the standards under drafts. The aim of the standards under draft is documents that can be useful for an extended audience. Therefore clarification is needed if more stringent requirements shall be considered and/or additional requirements can be introduced.

Minimum Requirements or ...

Non exhaustive example of document that has been debated and on which a feedback is needed.



Implementation Questions



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.

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*.

THANK YOU