

WindEurope feedback on NC RfG final draft

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TOPICS

1) Grid forming

2) Co-location of different technologies behind a connection point

3) Significant modernisation of PGMs

1. Grid forming in NC RfG draft

- Inclusion of mandatory grid forming requirements in NC RfG is in direct opposition to Directive (EU) 2019/944.

e.g., [Article 31](#)

7. In performing the tasks referred to in paragraph 6, the distribution system operator shall procure the non-frequency ancillary services needed for its system in accordance with transparent, non-discriminatory and market-based procedures, unless the regulatory authority has assessed that the market-based provision of non-frequency ancillary services is economically not efficient and has granted a derogation. The obligation to procure non-frequency ancillary services does not apply to fully integrated network components.

Grid forming in NC RfG draft

- Grid forming by RES is relatively immature technology proven as a concept but not on scale.
- Even when provided within PPM current and energy limits, implications on hardware and lifetime are unknown.
- Software and/or hardware changes/additions need technology development and increased CAPEX.

Grid forming in NC RfG draft

- Proposed text on grid forming in NC RfG is high level
- Details are to be addressed in Implementation Guidance Document (IGD) and assisted by technical groups under ENTSO-E
- Similar IGD is proposed for details on active power forced oscillations
- However, IGDs are not legal binding and industry stakeholders are not involved in drafting

Grid forming: Our recommendation

- 1) The European Commission, energy regulatory authorities, system operators and the industry need to agree on how to:
 - a) quantify the need for grid-forming contributions and the timeline at EU and national level
 - b) establish market design incentivizing investment for assets with grid forming capabilities
 - c) define and specify exhaustively grid-forming capabilities at European level, considering hardware and mechanical limitations of different technologies;
 - d) set clear technical requirements to verify compliance of the assets that will offer them

Grid forming: Our recommendation

- 2) For drafting the IGD there must be an expert group under ACER or EC, chaired by a system operator as well as a grid user representative
- 3) If drafted and agreed by all relevant stakeholders, the IGD must be legally binding

2. Co-location of different technologies behind same connection point

- Current draft proposes only the same technologies behind a connection point to be aggregated for determination of significance of PPMs
- This mechanism doesn't allow the asset to fully utilize the synergies and complementarities of various technologies
- Unclear how aggregated capacity is defined

Co-location of different technologies behind same connection point

- For some capabilities e.g., reactive power control or grid forming, compliance will be anyway checked at connection point
- ➔ increased resources, costs and prolonged duration for the two kinds of compliance testing

Co-location of different technologies behind same connection point: Our recommendation

- Determination of significance of an asset and all technical requirements should be based on **maximum agreed export capacity**.
- PPMs **of any underlying technology** behind a single connection point must be assessed based on the maximum agreed active power export capacity at the connection point, irrespective of their installed aggregated capacity.
- Asset developer should have flexibility to install **units of any technology and of any capacity** behind single connection point as long as asset is grid codes compliant and exports power as per contract
- Type A units of same underlying technology behind same connection point could be aggregated for determination of significance

3. Significant modernisation of PGMs

- System operator to propose parameters and definition for significant modernisation with subject to public consultation
- Suggested ranges for mentioned parameters in NC RfG are strict
- Having strict limits will impede rather than promote modernisation
- Some examples that could be considered “significant modernisation” –
 - Repowered or partially upgraded turbines
 - Improved active power management capabilities of existing PPMs
 - Improved reactive power capabilities of existing PPMs
 - Installation of new PPM to form a hybrid installation

Significant modernisation: Our recommendation

- The criteria to define modernisation in the proposal to be developed by the system operator should include:
 - an increase above the existing maximum capacity of the power-generating module be 20% and above
 - change of main generating plant of a power generating module or electricity storage module in a percentage of above 70%
- Upgrades related to frequency/active power management capabilities and reactive power capabilities shall not be accounted for significant modernisation of PPM

Significant modernisation: Our recommendation

- System operator proposal shall specify requirements of NC that shall apply to the modernised part of the power generating module (default) or which shall apply **exceptionally** to the entire modernised power generating module.
- In case a TSO proposes stricter criteria/ requirements, the TSO must justify their proposal based on a publicly consulted CBA.

THANK YOU

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