ENTSO-E: Coordination and alignment efforts on amendment proposals

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Reliable Sustainable Connected

On RoCoF withstand capability

- During the recent dedicated meetings with EU Turbines, Eurelectric and VGB, ENTSO-E acknowledges the limitations of certain GW scale SPGMs to comply with the highest segment of the RoCoF requirement (4Hz/s, 250ms).
- Despite the willingness of ENTSO-E to adapt the proposal according to this limitation, the simulations presented by EU Turbines cannot be used to define a threshold, as they are based on scenarios where the SPGM analysed would not be compliant with the current version of the RfG NC.

ENTSO-E proposes an exclusion for the RoCoF withstand capability requirement for highest inertia (H) SPGMs.

1. For PPMs and EVs there is no issue with regard to the RoCoF withstand capability.
2. For highest H SPGMs, ENTSO-E can agree on the boundary conditions:
   - A case that FRT will pass for a given min SCR, PF and the pre-fault terminal voltage (compliance with current RfG)
3. ENTSO-E asks EU Turbines, Eurelectric and VGB, to define the threshold of H (in seconds), that determines from which high H constant, the SPGM it cannot fulfil the RoCoF withstand capability profile including the gradients.
4. ENTSO-E proposes to define the legal text starting for this approach for the largest H SPMGs.

On Grid Forming Capability

- Intense collaboration in EG ACPPM. The progress will lead to a timely conclusion of the report in the coming weeks.
- Bilateral collaboration with EU DSO Entity:
  - ✓ ENTSO-E acknowledge the challenge of increasing occurrence and survival time of unintended islands in the near future.
  - ✓ However, the grid forming proposal is not is root cause and therefore the needed investment for modernizing DSO grids cannot be linked with this proposal. The main drivers leading to this challenge are the increase of distributed energy resources and the requirements to be applied to loads, as electric vehicles among others. The proposal includes an additional transitional period to facilitate the needed adaptations in DSO grids.
  - ✓ ENTSO-E will keep collaborating with EU DSO Entity towards an eventual improvement of the proposal.
- Bilateral collaboration with WindEurope:
  - ✓ ENTSO-E acknowledge the points raised by the wind turbines manufacturers and thanks WindEurope for its conditioned support to the proposal.
  - ✓ ENTSO-E is launching an internal project to explore the possibilities of defining EU-exhaustive parameters regarding the dynamic performance of the grid forming converters. WindEurope and any other interested stakeholder will be invited to participate in this workstream in 2024, aiming to draft an IGD that promotes the requested harmonization.

On Active Power Forced Oscillations

- ENTSO-E has identified relevant gaps between its proposal and WindEurope's
- After several bilateral meetings, it has been identified a possible compromise solution for offshore power parks, which takes into consideration:
  - The physical constraints of offshore wind turbines, caused by the impact of the waves in their tower resulting in oscillations.
  - The need to minimize to the extent possible any forced oscillation in the system, specially in the range of the inter-area oscillations.
- Discussions are still being held regarding the requirement for PPMs onshore.
  - WindEurope states that a certain level of oscillations are unavoidable due to the pass of the blades in front of the tower of the generator.
  - ENTSO-E requests WindEurope to propose a threshold based on quantitative analysis, in order to assess the impact of the requested tolerance.

On other ENTSO-E proposals

- ✓ ENTSO-E is collaborating with ACER, NRAs, EU DSO Entity and other stakeholders, to ease the understanding of the proposals submitted to the public consultation in November 2022, providing, at request, background information and studies leading to these proposed amendments.

Thank you for your attention

Questions?

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