Grid Connection European Stakeholders Committee Stakeholders' webinar on RoCoF related considerations

Workshop on 1st February 2022 / Summary

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Reliable Sustainable Connected

Reflections of the Stakeholders

- Some stakeholders highlighted the need to harmonize the RoCoF measurement requirements (500ms measurement window) and distinguish the RoCoF withstand capability at a connection point of a PGM from the RoCoF of the center of inertia (of remaining island during splits).
- There is a clear difference between what can be measured as RoCoF value of a bus-bar in the system and the RoCoF of the center of inertia (COI).
- Some stakeholders have requested for dynamic simulations to boost confidence of the presented results.
- ENTSO-E responded that this study is a first step to define the potential splits in a way possible to handle huge amount of data. As a follow up step, dynamic simulations will be performed on the critical cases.
- PGM manufactures question whether the auxiliary systems of SPGM could withstand such high RoCoF.
- It is important to consider also the presence of old installations which do not comply with RfG and will have issues to remained connected in cases of high RoCoF.
- The definition of the measurement window is very important and needs to be well understood and defined in the connection codes. Issues may arise from protection failures during high RoCoF.

Reflections of the Stakeholders

- A German study (termed as LoGlo) has presented results
  - Dynamic simulations have been used for the continental European Synchronous Area (CE SA)
  - The model could reproduce the split of the Iberian Peninsula
  - The results of the LoGlo shows that the RoCoF of the COI varies significantly from the RoCoF measured at any node in the transmission system
  - The ratio of locally measured RoCoF to the RoCoF of the COI is around 1.85
  - The study proposed to impose a requirement of 4Hz/s RoCoF withstand capability for 300ms time measurement window
  - This local RoCoF depends on where the PGM is located in the system
- Some stakeholders claimed that FRT requirements cover already up to 150ms RoCoF withstand capability.
- Some stakeholders are against the 300ms measurement window and proposed to converge only to 500ms measurement window for both the local and the COI RoCoF.

Reflections of the Stakeholders

- In past stakeholders have already discussed the option of having a frequency ride through profile to define a given envelop for the PGMs as defined in the IGD on RoCoF.
- Manufacturers of PGMs indicated that compliance demonstration is important. Such frequency ride through curves would support in this direction.
- ENTSO-E members mentioned that PGMs have to improve their capability to withstand the minimum RoCoF withstand capability as defined in the connection codes.
- ENTSO-E members state that the issue of high RoCoF is urgent. Various mitigation measures need to be developed and should be discussed. One such is the RoCoF immunity of PGMs.
- Manufactures of PGMs need to develop solutions to ensure immunity with high RoCoF.
- ENTSO-E members stated that the connection network codes amendment process needs to start as soon as possible in order ensure that the required capabilities are well defined before the huge transition of generation mix takes place.
- EU Turbines members reflected the need to set a target value of RoCoF (for example 1Hz/s for the center of Inertia).

Thank you very much for your attention