

# TOP.4 - RoCoF withstand capability of Type D SPGMs

9 December – GC ESC in Brussels



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## ENTSO-E's Key Considerations for the Amendment of the EU Connection Network Codes

- i. **RoCoF withstand capability of type D synchronous power generating modules**
- ii. Three-year implementation period
- iii. New loads of significant capacity
- iv. Low Frequency Demand Disconnection (LFDD) in DSO connected demand facilities of significant size
- v. Legal basis of requirements and use of standards



ENTSO-E welcomed the amendments recommended by ACER, as important to support the stability, robustness, and reliability of the future EU power systems. Related considerations and disagreements had already been raised with the EC on specific topics in a letter sent by ENTSO-E in March 2024.

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## NC RfG 2.0 ACER's recommendation

RoCoF immunity for type D SPGMs of more than 140 MW is 1Hz/s for 500ms

## ENTSO-E position

- ❖ In Article 19 (4) of the NC RfG 2.0 as given in the ACER recommendation, ENTSO-E proposes to **delete** the paragraph 19 (4) (a) and 19 (4) (b).
- ❖ Instead, ENTSO-E proposed that all types of SPGMs from type A to type D **shall** apply Art. 13 (2)(b)(i) of NC RfG 2.0 as follows:
  - a synchronous power-generating module shall be capable of remaining connected to the network and operate at rates-of-change-of-frequency up to the following values:
    - $\pm 2,0$  Hz/s over a period of 0,5 s,
    - $\pm 1,5$  Hz/s over a period of 1 s, and
    - $\pm 1,25$  Hz/s over a period of 2 s;
- ❖ ENTSO-E proposed to replace NC RfG 2.0 Art. 19 (4)(c) by the following legal text:
  - if the rate-of-change-of-frequency is used for loss of mains protection, the minimum threshold setting shall be  $\pm 2,5$  Hz/s over a minimum period of 500ms. If technically justified, the power-generating facility owner and the relevant system operator, in coordination with the relevant TSO, may agree on a deviating project-specific threshold value.

**Note: The NC RfG Art. 13 (2)(b)(i) is up to date implemented in 20 members states, based on the relevant IGD of ENTSO-E. No derogation is filed in any of these Member states so far.**