LFC BLOCK SHB' proposal for the dimensioning rules for FRR in accordance with Article 157(1) of the Commission Regulation (EU) 2017/1485 of 2 August 2017 establishing a guideline on electricity transmission system operation

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1. All TSOs of a LFC block SHB determine the required reserve capacity of FRR of the LFC block SHB is based on consecutive historical records comprising at least the historical LFC block imbalance values. For this purpose 15-minute average data in time period between 1 July of the preceding year and 30 June of the current year are used, but if all Parties agree different time period could be used. The LFC block monitor is obliged to collect those data.

2. All TSOs of a LFC block SHB determine the reserve capacity on FRR of the LFC block SHB is sufficient to respect the current FRCE target parameters according to „All CE TSOs' agreement on frequency restoration control error target parameters in accordance with Article 128 and Article 131 of the Commission Regulation (EU) 2017/1485 of 2 August establishing a guideline on electricity transmission system operation" for the time period referred to in first paragraph based at least on a probabilistic methodology. In addition to probabilistic methodology, it is defined that required reserve capacity of FRR cannot be less than reference incident for respective direction.

3. The positive dimensioning incident for FRR dimensioning of LFC Block SHB is equal to tripping of a largest single power generating module in the LFC Block SHB, according to SO GL article 157(2.d).

4. The negative dimensioning incident for FRR dimensioning of LFC Block SHB is equal to tripping of largest single demand facility in the LFC Block SHB, according to SO GL article 157(2.d).

5. The positive dimensioning incident for FRR dimensioning of each TSO is equal to tripping of a largest single power generating module in that TSO, according to SO GL article 157(2.d).

6. The negative dimensioning incident for FRR dimensioning of each TSO is equal to tripping of largest single demand facility in that TSO, according to SO GL article 157(2.d).

7. All TSOs of a LFC block SHB shall ensure that the positive reserve capacity on FRR is sufficient to cover the positive LFC block SHB imbalances for at least 99 % of the time, based on the historical records referred to in first paragraph.

8. All TSOs of a LFC block SHB shall ensure that the negative reserve capacity on FRR is sufficient to cover the negative LFC block SHB imbalances for at least 99 % of the time, based on the historical records referred to in first paragraph.

9. The shares of the reserve capacity on FRR in positive direction required for each TSO P_i as FRR obligation for a considered calendar year t shall be based on the following expression for all TSOs in LFC Block SHB:

$$P_{i,t+} = FRR_{+dimensioning} \cdot \left(\frac{\max(+FRR_{i\det\_need}, +FRR_{i,prob\_need})}{\sum(\max(+FRR_{i,\det\_need}, +FRR_{i,prob\_need}))} \right)$$

With:

- $P_{i,t+}$ being the inital FRR obligation for TSO i for the calendar year t ;
- $FRR_{+dimensioning}$ being the FRR dimensioning value calculated for LFC Block SHB;
- $+FRR_{i\det\_need}$ being the reserve capacity in the control area i during the period reffered to first paragraph calculated according deterministic methodology, i.e. equal to positive dimensioning incident for that TSO;
- $+FRR_{i,prob\_need}$ being reserve capacity in the control area during the period reffered to in first paragraph calculated according probabilistic methodology, i.e. the positive reserve capacity on FRR is sufficient to cover the positive TSO imbalances for at least 99 % of the time t;

10. The shares of the reserve capacity on FRR in negative direction required for each TSO P_i as FRR obligation for a considered calendar year t shall be based on the following expression for all TSOs in LFC Block SHB:

$$P_{i,t-} = FRR_{-dimensioning} \cdot \left(\frac{\max(-FRR_{i\det\_need}, -FRR_{i,prob\_need})}{\sum(\max(-FRR_{i,\det\_need}, -FRR_{i,prob\_need}))} \right)$$

With:

- $P_{i,t-}$ being the inital FRR obligation for TSO i for the calendar year t ;
- $FRR_{-dimensioning}$ being the FRR dimensioning value calculated for LFC Block SHB;
- $-FRR_{i\det\_need}$ being the reserve capacity in the control area i during the period reffered to in first paragraph calculated according deterministic methodology, i.e. equal to negative dimensioning incident for that TSO;
- $-FRR_{i,prob\_need}$ being reserve capacity in the control area during the period reffered to in first paragraph calculated according probabilistic methodology, i.e. the negative reserve capacity on FRR is sufficient to cover the negative TSO imbalances for at least 99 % of the time t;

11. Every year but not later than July 15th, TSOs of the LFC Block SHB shall provide to each other the data needed for abovementioned calculation.

12. Each TSO of a LFC block SHB determines independently the ratio of automatic FRR, manual FRR, the automatic FRR full activation time and manual FRR full activation time in order to comply with the FRCE target parameters.