

Overview of the Requirements on Reserves

FCR-Normal

Minimum bid size: 0.1 MW

Activation: Automatically at a frequency deviation within the range 49.90 – 50.10 Hz

Activation time: 63% within 60 sec. and 100 % within 3 min.

Volume requirement:
approx. 200 MW for Sweden

General requirements:

- Approved prequalification
- Real-time measurement
- Electronic communication
- Endurance

Miscellaneous:

- Symmetric product capable of managing upward and downward regulation

FCR-Disturbance

Minimum bid size: 0.1 MW

Activation: Automatically at a frequency deviation below 49.90 Hz

Activation time: 50 % within 5 sec. and up to 100 % within 30 sec.

Volume requirement:
approx. 400 MW for Sweden

General requirements:

- Approved prequalification
- Real-time measurement
- Electronic communication
- Endurance

aFRR (automatic)

Minimum bid size: 5 MW

Activation: Automatically through a central control signal if the frequency deviates from 50.00 Hz.

Activation time: 100 % within 120 sec.

Volume requirement:
approx. 150 MW in Sweden

General requirements:

- Approved prequalification
- Real-time measurement
- Electronic communication
- Endurance

mFRR (manual)

Regulating Power Market

Minimum bid size: 10 MW
(5 MW in SE4)

Activation: Manually at the request of Svenska kraftnät

Activation time: within 15 min¹

General requirements:

- Approved prequalification
- Real-time measurement²
- Electronic communication
- Endurance

See the [Balance Responsibility Agreement and associated regulatory documents](#)³ for detailed information about the requirements in force

1. Prolonged activation time permitted

2. At ≤ 15 min. activation time

3. The Balance Responsible Agreement and associated appendices are only found in Swedish at the moment