

Nordic TSOs are preparing a Nordic aFRR capacity and energy market

Due to the deteriorating frequency quality in the Nordic synchronous system the Nordic TSOs have introduced a new balancing product, aFRR (automatic Frequency Restoration Reserves). Since 2013 aFRR has been procured nationally, and the four Nordic TSOs have now agreed to implement a common Nordic market for aFRR.

Description of the aFRR capacity procurement:

- Daily auction with hourly products.
 - Gate closure D-2 at 8 p.m.
- Total volume and time period for procurement will be decided based on the system needs.
 - Total demand is distributed over all 11 bidding areas of the Nordic synchronous system and forms a local demand in the procurement
- Reservation of transmission capacity for aFRR will be based on:
 - Expected price difference between bidding zones in the day-ahead market
 - Prices of aFRR capacity bids
 - Rules to ensure a conservative reservation of capacity
- No requirement for symmetrical bids. Bids can be linked both in time, up/down and as bid curves.
- Bid size: minimum 5 MW and in multiples of 5 MW.
- Portfolio bidding is allowed per bidding area. In Norway bids are made per Station group.
- Pricing methodology: pay-as-bid.

Cross-border transmission capacity will be reserved for aFRR capacity whenever it is calculated to be socio-economically beneficial. This market principle has been tested in a 2014 pilot involving Statnett and Svenska kraftnät ("The Hasle Pilot").

The necessary IT implementation process will be initiated shortly in parallel with the NRA approval. As a part of the Danish NRA approval process, a public consultation will begin Wednesday 2nd of November. Public consultations will be held in all four Nordic countries. The new aFRR capacity market is expected to start operation during the first half of 2018.

Initially, the activation of the aFRR reserves will be performed "pro-rata", and the activation price will be determined based on the price set by the reserve activation in the mFRR market. At a later stage, the Nordic aFRR capacity market will be expanded with a Nordic *Energy activation market*, including voluntary bids, activation and pricing in accordance with a common merit order list, and real time congestion management. The Nordic aFRR Energy activation market is intended to start operation in the second half of 2018.

For further information, please contact:

Rebecca Nilsson, Svenska kraftnät, +46 10 475 81 88
Eivind Lindeberg, Statnett, +47 996 40 282
Vesa Vänskä, Fingrid, +358 30 395 5185
Henning Parbo, Energinet.dk, +45 23 33 86 21