
**Energinet and Svenska kraftnät proposal for
exchange of Frequency Containment Reserve
Normal and Disturbance in accordance with article
33(1) of the commission regulation (EU) 2017/2195
of 23 November 2017 establishing a guideline on
electricity balancing**

19 April 2021

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Introduction

This document describes the proposed common market for Frequency Containment Reserve Normal and Disturbance (FCR-N, FCR-D) in Sweden and eastern Denmark, as stipulated by Article 33(1) of the Commission Regulation (EU) 2017/2195 of 23 November 2017 establishing a guideline on electricity balancing.

This document serves as the proposed methodology for the public consultation according to Article 10 of the Commission Regulation (EU) 2017/2195 of 23 November 2017 establishing a guideline on electricity balancing in Sweden and (eastern) Denmark.

The public consultation is held between **the 19th of April 2021 and the 18th of May 2021**. Any feedback should be provided in written in English, Swedish or Danish to one of the following e-mails;

FCR@svk.se or alternatively

HEP@energinet.dk and EAR@energinet.dk

Please label the e-mail subject with “Public consultation response SE/DK FCR common proposal 2021” no later than the 18th of May 2021.

Ancillary services relevant for this document

This document is relevant for the following ancillary services in Sweden and eastern Denmark (DK2).

- FCR-N
- FCR-D Up (up regulation)
- FCR-D Down (down regulation)

FCR-N is a symmetrical product, up- and down regulation is therefore included in the same product. FCR-D is an asymmetrical product. FCR-D Up is a product which is already in use today, as for FCR-N, whereas FCR-D Down is a new product which is scheduled to be introduced in the Nordics from the 1st of January 2022.

Proposed time plan

This proposal will be fully adopted and deployed at earliest at the 1st of January 2022, and at the latest 12 months after regulatory approval.

Market design of FCR-N and FCR-D

This section describes the market design elements of the joint FCR market in Sweden and eastern Denmark. All attributes are identical for FCR-N, FCR-D Up and FCR-D Down, why “FCR” is used to describe all three ancillary products.

Geographical scope and demand obligation of common FCR market

The geographical scope of the common market for FCR include the following Bidding Zones;

- SE1 (Luleå)
- SE2 (Sundsvall)

- SE3 (Stockholm)
- SE4 (Malmö)
- DK2 (eastern Denmark)

The dimensioning of the FCR products is done on a country by country basis, why SE1-4 has a common demand obligation. The exception is done for Denmark since DK2 is synchronous with the Nordics, why the demand obligation is set for DK2 and not Denmark as a whole.

The TSOs in the Nordic Synchronous Area have, pursuant to Article 118(1)(a) of the SO Regulation, developed a methodology for the dimensioning of FCR. The dimensioning rules is determined in accordance with Article 153 of the SO Regulation and result in the total required amount of FCR for the synchronous area. The total requirement amount is distributed over the Nordic TSOs.

The shares of the amount of FCR required for each TSO as initial FCR obligation is based on the sum of the net generation and consumption of its control area divided by the sum of net generation and consumption of the synchronous area over a period of 1 year. The shares are revised each year and the new shares enter into force on 1st of January every year.

According to the Nordic system operation agreement, each TSO shall have at least 2/3 of their initial FCR demand obligation in its own control area. Because of the relatively limited initial FCR obligation for DK2, the 2/3 rule does not apply to DK2 and the obligation can therefore be fulfilled by procuring FCR solely outside of DK2. In case the demand obligation for FCR-N in DK2 is met with more than 1/3 from providers outside of DK2, the exceeding capacity is counter traded between SE4 and DK2.

Auction process for FCR capacity procurement

Historically, two auctions for reserving FCR capacity have been utilized in Sweden and eastern Denmark. This section describes the proposed alternatives for the auction procedure for FCR procurement in Sweden and eastern Denmark.

Four different timings for the first auction open for public consultation

The historically applied two-step auction procedure will be amended. The current setup of the first auction taking place two days before delivery (D-2) with gate closure at 15:00 CET will be abolished. The current second and last auction “D-1” is proposed to continue as-is. E.g. the second auction procedure with a gate closure at 18:00 CET D-1 is planned to continue, however open for consultation.

Svenska kraftnät and Energinet therefore wish to receive input on which of the following four alternatives are preferred.

The proposal consists of four different alternatives. Alternative 1-3 are proposing to keep the current two-step auction process but with a revised time for gate closure and clearing. The fourth alternative ultimately means that the two-step auction process will be changed into a one-step auction process where all capacity is contracted during a single auction with GCT at 18:00 CET D-1. In addition to the proposed gate closure time for all alternatives, the gate opening time will be at least 24 hours prior to gate closure.

It should be noted that all four proposed alternatives require at least 60 minutes for clearing the auction and notification to market participants.

Alternative 1 - First auction: gate closure 00:30 D-1, second auction: gate closure 18:00 D-1

This alternative proposes to have the gate closure just after midnight 00:30 CET D-1. This auction will also be complemented with a second auction with a gate closure at 18:00 CET D-1.

Alternative 2 - First auction: gate closure 05:30 D-1, second auction: gate closure 18:00 D-1

This alternative proposes to have the gate closure at 05:30 CET D-1. This auction will also be complemented with a second auction with a gate closure at 18:00 CET D-1.

Alternative 3 - First auction: gate closure 07:30 D-1, second auction: gate closure 18:00 D-1

This alternative proposes to have the gate closure at the same time as the Nordic aFRR capacity market at 07:30 D-1. This auction will also be complemented with a second auction with a gate closure at 18:00 CET D-1.

Alternative 4 – Single auction: gate closure 18:00 D-1

This alternative proposes to have a single auction with the gate closure at 18:00 CET D-1.

Bidding formats and constraints

The Market Time Unit (MTU) for FCR provision corresponds to 60 minutes.

The following bidding formats for FCR provision bids are allowed:

- Single bids, EUR/MW and MW for a single MTU of provision
- Block bids, EUR/MW and MW for two or more consecutive MTUs of provision. During the ex-ante auction a maximum of six consecutive hours is allowed. For the ex-post auction, a maximum of three consecutive MTUs is allowed. A provider can place a block bid period corresponding to 6/3 MTUs of minimum acceptance. A block bid must have the same offered volume for all MTUs in the bid.

The volume limits relevant for FCR-N and FCR-D provision are minimum 0.1 MW. No maximum bid size. All bids are indivisible (accept all or nothing). It should be noted that the current minimum volume limit for providing FCR-N and FCR-D in eastern Denmark is 0.3 MW, which with this proposal, is proposed to be lowered to 0.1 MW.

Capacity bids are placed using “portfolio-bidding” during the auction phase, e.g. the provider of FCR capacity does not have to define which physical assets that will be providing FCR capacity during the MTU of delivery. The bids shall include information about volume, price per MW and a bidding zone¹.

No price regulation is applied in the proposed market design for the common Danish-Swedish FCR market. It should be noted that there has been a cost regulation in Sweden for FCR provision historically.

Bid selection criteria

The submitted bids for FCR provision are selected based on Merit-order, minimizing socio-economic cost for reserving FCR capacity. Furthermore, the bids are selected respecting the Nordic system operation agreement and the 2/3 of the demand obligation to be met domestically².

¹ Due to IT technical reasons, no link to actual delivery

² Exemption of the 2/3 demand obligation for DK2, as explained in section “Geographical scope and demand obligation of common FCR market”.

Remuneration

All accepted bids are remunerated according to pay-as-bid. Activated FCR-N energy is settled in accordance with the price of upward or downward regulation. There is no remuneration for activated FCR-D energy.