

Unofficial translation

Fingrid Oyj

**Terms and conditions for providers of
Frequency Containment Reserves
(FCR)**

Valid from 22.5.2023

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1 Introduction

This document defines the terms and conditions of Fingrid Oyj (hereinafter Fingrid) for the acquisition and maintenance of Frequency Containment Reserves (FCR) in accordance with the European Commission's Guideline on Electricity Balancing, Commission Regulation (EU) 2017/2195 (hereinafter EGBL) and the requirements for providers of the reserve services needed to balance the electricity system (hereinafter Balancing Service Provider).

Frequency Containment Reserves (FCR) are reserves used for stabilising the frequency of the electricity system. Frequency Containment Reserves are divided into three reserve products: the Frequency Containment Reserve for Normal Operation (FCR-N), the Frequency Containment Reserve for Disturbances Upwards (FCR-D Up) and Frequency Containment Reserve for Disturbances Downwards (FCR-D Down).

The terms and conditions related to the procurement and maintenance of Frequency Containment Reserves (FCR) laid down in this document are applied when a Balancing Service Provider participates in the yearly and/or hourly market for Frequency Containment Reserved for Normal Operation and/or Disturbances.

Fingrid is entitled to publish the names of the Balancing Service Providers that participate in the FCR Market.

2 Definitions

The following definitions are used in this document:

Energy Fee refers to the compensation paid for the activation of the reserve.

D-2-FCR Hourly Market Price refers to the hourly price determined for each FCR product in the D-2-FCR hourly market.

D-2-FCR Hourly Market refers to the reserve market maintained by Fingrid, used by Fingrid for the procurement of Frequency Containment Reserves for the next day in the CET/CEST time zone and timed before the Day-Ahead Market.

FCR Agreement refers to an agreement between Fingrid and a Balancing Service Provider on the provision of Frequency Containment Reserves (FCR) to the FCR Hourly Market and/or Yearly Market.

FCR Hourly Market Price refers to the hourly price determined for each FCR product in the FCR hourly market.

FCR Hourly Market refers to a reserve market maintained and used by Fingrid for the procurement of Frequency Containment Reserves for the next day in the CET/CEST time zone and timed after the Day-Ahead Market.

FCR Yearly Market Price refers to the price per calendar year determined for each reserve product in a competitive tendering process in the FCR Yearly Market.

FCR Yearly Market refers to a market maintained by Fingrid, from which Fingrid procures some Frequency Containment Reserves. The price of reserve products and the yearly market capacities for each Balancing Service Provider are determined in the FCR Yearly Market for the calendar year.

Fingrid's Reserve Trading and Information Exchange guideline refers to Fingrid's detailed instructions for Balancing Service Providers regarding, for example, the use of the Vaksi reserve trading system and the submission of real-time data. The applicable revision of the guideline is available on Fingrid's website.

Capacity Fee refers to the compensation paid by Fingrid to a Balancing Service Provider for maintaining the reserve capacity.

Manual Frequency Restoration Reserve (mFRR) is a manually activating frequency restoration reserve, the purpose of which is to restore the frequency of the electricity system to the nominal frequency and to restore the power balance of the load-frequency control area to the design value.

Market Time Unit refers to the trading period in the reserve market. The Market Time Unit in the D-2-FCR Hourly Market, FCR Hourly Market, and FCR Yearly Market is one hour.

Reserve Unit refers to a unit that fulfils the requirements concerning the provision of the reserve. A Reserve Unit can consist of one or more Reserve Resources.

Reserve Resource refers to an individual resource capable of control: a power plant, consumption facility or energy storage facility.

Frequency Restoration Reserve (FRR) refers to a reserve that is available for the restoration of the frequency of the electricity system to the nominal frequency and to restore the power balance of the load-frequency control area to the design value.

Frequency Containment Reserve (FCR) refers to a reserve that is available for the containment of frequency during an imbalance between electricity production and consumption.

Frequency Containment Reserve for Disturbances, up-regulation product (FCR-D Up) is a Frequency Containment Reserve that aims to contain the frequency to at least 49.5 Hz if the frequency falls below the normal frequency range of 49.9–50.1 Hz.

Frequency Containment Reserve for Disturbances, down-regulation product (FCR-D Down) is a Frequency Containment Reserve that aims to contain the frequency to at least 50.5 Hz if the frequency is above the normal frequency range of 49.9–50.1 Hz.

Frequency Containment Reserve for Normal Operation (FCR-N) is a Frequency Containment Reserve that aims to keep the frequency within the normal frequency range of 49.9–50.1 Hz.

Balancing Service Provider (BSP) refers to a market participant whose reserve-providing units or groups are able to provide balance services to transmission system operators. In this document, reserve suppliers are also called Balancing Service Providers.

Imbalance Settlement Period refers to the time unit for which the balance responsible parties' imbalances are calculated. The Imbalance Settlement Period is 15 minutes.

Imbalance Power refers to the electrical energy provided by the Balancing Service Provider that is used by transmission system operators for balancing the network. This document uses the term *Balancing Energy* for imbalance power.

Day-Ahead Market refers to an electricity marketplace where parties trade in electricity sold and purchased for the next day.

Yearly Market Appendix refers to an appendix to the FCR agreement specifying the hourly market capacity of each Balancing Service Provider for the specific calendar year and the Yearly Market Price per reserve product applying to all Balancing Service Providers in the specific calendar year.

3 Procurement of reserves

The reserves are procured in accordance with Article 153 of the Guideline on System Operation, COMMISSION REGULATION (EU) 2017/1485 (hereinafter SOGL). The obligations concerning the maintenance of Frequency Containment Reserves are specified between the Nordic transmission system operators pursuant to SOGL Article 153.

The procurement of Frequency Containment Reserves is structured in a way that ensures the sufficiency of the reserves at all times, whether the electricity system is operating normally or experiencing a disturbance. At the same time, the structure enables efficient competition with impartial procurement conditions. Trade between countries is also possible in order to meet the reserve obligation. Fingrid is entitled to sell the reserves sold to Fingrid by Balancing Service Providers onwards to other transmission system operators.

There are separate markets for each of the three reserve products. Fingrid procures a part of its obligation under section 7 from the FCR Yearly Market on the basis of an annual competitive tendering process. The reserve capacity purchased in the FCR Yearly Market forms the basis for purchasing Frequency Containment Reserves. In addition, Fingrid makes daily purchases of reserves in the FCR Hourly Market in accordance with section 8 so that the total acquisition covers Fingrid's obligations together with the reserve plans of the FCR Yearly Markets and the procurement in Russia, Estonia and the other Nordic countries.

4 Requirements for Balancing Service Providers

A party that has access to Reserve Unit(s) that fulfil(s) the requirements laid down in section 5 can become a Balancing Service Provider.

The Balancing Service Provider must make an FCR Agreement with Fingrid before participating in the maintenance of reserves in the FCR Yearly and/or Hourly Markets. A Balancing Service Provider may participate in both markets or only one of them.

A Balancing Service Provider does not need to own the Reserve Resource or be an open provider or balance responsible party. A Balancing Service Provider must have the consent of the owner of the Reserve Resource to use the reserve pursuant to the FCR Agreement. Upon Fingrid's separate request, the Balancing Service Provider shall deliver the consent of the owner of the Reserve Resource to Fingrid.

If a Balancing Service Provider is not the balance responsible party of the Reserve Resource, the Balancing Service Provider shall inform the balance responsible party of the Reserve Resource of the balancing use of the Reserve Resource no later than when an FCR Agreement has been concluded. If the balance responsible party of the Reserve Resource changes, the Balancing Service Provider shall inform Fingrid of the change in writing no later than 14 days before the change takes effect.

An individual Reserve Resource may only be offered by a single Balancing Service Provider to the Frequency Containment Reserve market.

The Balancing Service Provider must plan the maintenance of Frequency Containment Reserves to ensure that they correspond to Fingrid's acquired reserve capacity as closely as possible. Deficits and surpluses in the maintained reserve capacity should remain moderate in proportion to the scope of the Balancing Service Provider's operations.

Reserve services shall be administered using Fingrid's digital systems. Balancing Service Providers shall be granted the necessary access rights to these systems. Balancing Service Providers are responsible for keeping their representatives' access rights up to date and for their actions while using the digital systems.

5 Requirements for Reserve Units

Pursuant to SOGL Article 155, the Balancing Service Provider must demonstrate that the Reserve Unit reported as a reserve complies with the required control capacity by means of prequalification tests laid down in the document, *Verification and Prequalification Process for the Technical Requirements of Frequency Containment Reserves (FCR)* published by Fingrid.

The Reserve Unit shall be located within Fingrid's system responsibility area¹.

The lost capacity in Frequency Containment Reserves for Normal Operation or Disturbances as a consequence of an individual fault in a Reserve Unit must not exceed

¹ Finland excluding the autonomous region of Åland.

70 MW of up-regulation capacity and 70 MW of down-regulation capacity. In addition, if it is possible to lose Frequency Containment Reserves both for Normal Operation and for Disturbances as a consequence of a single fault, the lost reserve capacity must not exceed 100 MW of up-regulation capacity and 100 MW of down-regulation capacity.

If the electricity system is forced into an island situation, with Finland disconnected from the rest of the Nordic electricity system, and in situations in which the sum of the domestic supply of Frequency Containment Reserves and purchases from other countries is not sufficient to cover Fingrid's reserve obligations in all hours, the Balancing Service Provider shall, at Fingrid's request, keep the load-frequency control operating in all available Reserve Units. Fingrid pays the Balancing Service Provider for the capacity maintained on the basis of its request, in accordance with the price of the specific reserve product in the FCR Hourly Market. If there has been no trading during the hour in question in the FCR Hourly Market, the compensation price shall be the price of the specific reserve product in the FCR Yearly Market. If, in addition to this, Fingrid asks the Balancing Service Provider to maintain more reserves, forcing the Balancing Service Provider to change the power of its Reserve Units, a transaction corresponding to this shall be carried out at the balancing power price² for the period corresponding to the request.

6 Aggregation of Reserve Resources

In the FCR Yearly Market and FCR Hourly Market, the Balancing Service Provider can contribute to maintaining the Frequency Containment Reserve for Normal Operation and for Disturbances using Reserve Resources included in the balances of different balance responsible parties.

- In the Frequency Containment Reserve for Normal Operation, the Reserve Unit must consist of Reserve Resources in the balance of one balance responsible party. In other words, the Balancing Service Provider may aggregate Reserve Resources into a Reserve Unit if they are in the balance of the same balance responsible party. Up-regulation and down-regulation of a Reserve Unit are exceptions to this: these may be provided with Reserve Resource in the balance of different balance responsible parties, but the regulation of the Reserve Unit must be symmetrical, and all the Reserve Resources regulating in the same direction must be included in the balance of the same balance responsible party. A shared power plant may also constitute a single Reserve Unit, even if the energies produced by the plant are shared among different balances. Shared power plants should define the ratio of division between balances, forming the basis for the processing of energy.

² The balancing power price is determined in accordance with the *terms and conditions for providers of manual Frequency Restoration Reserves (mFRR)*.

- In Frequency-Controlled Reserves for Disturbances, the Reserve Unit may consist of Reserve Resources from different balance responsible parties.

Reserve Units from different balance responsible parties may be aggregated into a single bid, and the volume of the reserve corresponding to the minimum bid capacity may consist of Reserve Units from different balance responsible parties.

7 Rules for the FCR Yearly Market

Fingrid acquires Frequency Containment Reserves in the FCR Yearly Market by holding a tender competition every autumn for the following calendar year. The tender competition is announced on Fingrid's website. It is not possible to start contributing to the maintenance of reserves in the FCR Yearly Market midway through a yearly market period.

7.1 Bidding rules

The maximum capacity of a single bid for the Frequency Containment Reserve for Normal Operation is 5 MW and for the Frequency Containment Reserve for Disturbances 10 MW.

The minimum capacity of a single bid for the Frequency Containment Reserve for Normal Operation is 0.1 MW and for the Frequency Containment Reserve for Disturbances 1.0 MW. The capacity of a Reserve Unit or the aggregated capacity of several Reserve Units cannot be rounded up to reach the minimum capacity for a bid.

Bids shall be submitted at an accuracy of 0.1 MW. A Balancing Service Provider can submit several bids. The bids must not be linked to each other, and each bid is processed separately.

A bid must contain the following information:

- Product (Frequency Containment Reserve for Normal Operation, Frequency Containment Reserve for Disturbances Upwards or Frequency Containment Reserve for Disturbances Downwards)
- Capacity (MW)
- Price of capacity throughout the calendar year (€/MW,h)

- Name or list of the Reserve Units³ used to contribute to the maintenance of reserves

7.2 Processing of bids

Fingrid decides the capacities of reserves procured from the FCR Yearly Market on the basis of the price level and permanence of the bids received and on the basis of the forecasted price level and availability of other procurement alternatives.

The bids are approved in price order separately for each product. If several Balancing Service Providers submit bids at the same price, the bids are accepted, if necessary, in proportion to the volumes of the bids. Bids submitted by the same Balancing Service Provider in the same price step can also be accepted, if necessary, in proportion to the volumes of the bids.

Fingrid updates the Yearly Market Appendix to the FCR Agreement based on its procurement decision for the Balancing Service Providers who participated in the competitive tendering process in the FCR Yearly Market for the specific calendar year. The Yearly Market Appendix specifies the approved capacity for the FCR Yearly Market from the Balancing Service Provider in the specific calendar year and the FCR Yearly Market Prices for each reserve product applying to all Balancing Service Providers.

7.3 Reserve plans

If a Balancing Service Provider has approved capacity for the FCR Yearly Market, the Balancing Service Provider shall submit to Fingrid an hourly reserve plan concerning the reserve capacities in the hours of the following day in the CET/CEST time zone. The plan must be submitted to Fingrid by 18:00 (EET/EEST) on the preceding day of the calendar year in question. The reserve plan is binding.

The volume of the reserve plan may not exceed the reserve capacity agreed in the Yearly Market Appendix. The reserve plan shall be submitted at an accuracy of 0.1 MW. The plans shall be submitted in accordance with Fingrid's guideline, *Fingrid's reserve trading and information exchange*. Plans arriving after the deadline are not accepted.

³ If a Balancing Service Provider so wishes, it can allocate only some of its Reserve Units to the FCR Yearly Market, in which case the Balancing Service Provider can only use such Reserve Units in the FCR Yearly Market (the portfolio model).

8 Rules of the FCR Hourly Market

Fingrid procures Frequency Containment Reserves in the FCR Hourly Market through day-ahead competitive tendering for the hours of the next day in the CET/CEST time zone. The Market Time Unit is one hour.

A Balancing Service Provider can participate in the FCR Hourly Market after concluding an FCR Agreement with Fingrid. Participation in the FCR Hourly Market does not require participation in the FCR Yearly Market, and participation is also possible mid-way through a calendar year.

If a Balancing Service Provider has approved Reserve Units for the FCR Yearly Market, the provider may only make the relevant Reserve Units available in the FCR Hourly Market if the reserve capacity according to the Yearly Market Appendix has been provided in full for the hour in question.

If the Balancing Service Provider has only assigned certain Reserve Units to the FCR Yearly Market (the portfolio model), the Balancing Service Provider may make its other Reserve Units available in the FCR Hourly Market, even if the contractual volume stated in the Yearly Market Appendix has not been supplied in full for the hour in question.

8.1 Bidding rules

The minimum capacity of a single bid for the Frequency Containment Reserve for Normal Operation is 0.1 MW and for the Frequency Containment Reserve for Disturbances 1.0 MW. The capacity of a Reserve Unit or the aggregated capacity of several Reserve Units cannot be rounded up to reach the minimum capacity for a bid.

The bids shall be submitted at an accuracy of 0.1 MW. A Balancing Service Provider can submit several bids. The bids must not be linked to each other, and each bid is processed separately.

A bid must contain the following information:

- Product (Frequency Containment Reserve for Normal Operation, Frequency Containment Reserve for Disturbances Upwards or Frequency Containment Reserve for Disturbances Downwards)
- Capacity (MW)
- Capacity price (€/MW,h)
- Hour (EET/EEST time zone)

Hourly bids shall be submitted for the hours of a day in the CET/CEST time zone. Bids may be submitted for the hours of the next day until 18:30 (EET/EEST). The hourly bids shall be submitted in Fingrid's electronic reserve trading system (Vaksi) in accordance with Fingrid's separate guideline, *Fingrid's reserve trading and information exchange*.

8.2 Processing of bids

Fingrid arranges the bids by price and gives priority to the cheapest bid for each Market Time Unit. The required number of bids is approved in price order separately for each of the three products. Bids at the same price will be accepted in the order they are received. Bids may also be partially accepted if necessary, although at least 1 MW of a bid for a Frequency Containment Reserve for Disturbances will be accepted. Fingrid confirms the transactions for the next day by 22:00 (EET/EEST).

8.3 D-2-FCR Hourly Market

Fingrid is entitled to introduce a D-2-FCR Hourly Market timed before the Day-Ahead Market by posting at least two weeks' notice of the matter on Fingrid's website.

To participate in the D-2-FCR Hourly Market, a Balancing Service Provider must have a valid FCR Agreement.

The rules laid down under sections 8.1 and 8.2 above shall be followed in other respects in the D-2-FCR Hourly Market, but the bids shall be submitted for the next day of the CET/CEST time zone no later than 9:30 (EET/EEST). Fingrid confirms the transactions for the next day by 10:20 (EET/EEST).

A Balancing Service Provider can participate in the D-2-FCR Hourly Market also with the capacity that it has sold to the FCR Yearly Market.

9 Reporting and monitoring of reserve maintenance

The Balancing Service Provider and Fingrid provide information for each other in accordance with the *Fingrid Guidelines on Reserve Trading and Information Exchange*.

9.1 Balancing Service Provider's reporting to Fingrid

The Balancing Service Provider shall submit real-time and historical data for each Reserve Unit to Fingrid at its own expense. Fingrid shall use the real-time data to monitor the volume of maintained reserves and verify the amount of billable reserve capacity. Historical data shall be submitted to Fingrid upon separate request and used to verify the activation of reserves. Reporting shall comply with Fingrid's guideline, *Fingrid's reserve trading and information exchange*.

9.2 Fingrid's reporting to the Balancing Service Provider

Fingrid shall report the following data to the Balancing Service Provider in accordance with the Fingrid guideline, *Fingrid's reserve trading and information exchange*:

- Actual hourly transactions and prices for the next day in accordance with the CET/CEST time zone in the FCR Hourly Market and D-2-FCR Hourly Market
- Upon request, the volume of balancing energy (MWh) in each imbalance settlement period and the price (€/MWh)

9.3 Balancing Service Provider's reporting to the balance responsible party

Balancing Service Providers shall provide the balance responsible party of the Reserve Resource with data related to the maintenance of the Frequency Containment Reserves and imbalance settlement. The Balancing Service Provider shall agree on these separately with the balance responsible party of the Reserve Resource.

9.4 Technical descriptions

A Balancing Service Provider shall deliver, upon Fingrid's request, descriptions of the technical properties of the Reserve Units and of the implementation of load-frequency control to an extent that enables this data to be used for modelling the operation of the load-frequency control of the Reserve Units. In so far as the delivery of the data would entail excessive costs for the Balancing Service Provider, the parties shall negotiate on what type of data is considered sufficient for delivery.

10 Processing of energy

Balancing energy refers to the Balancing Energy caused by the activation of the Frequency Containment Reserve for Normal Operation. The balancing energy is calculated for each imbalance settlement period and is expressed as the cumulative volume of energy in the imbalance settlement period separately for up-regulation and down-regulation. A balance deviation caused by the activation of a reserve is corrected for the balance responsible party of the Reserve Resource.

The volume of up-regulation energy (MWh) is calculated using equation 4, and the volume of down-regulation energy (MWh) is calculated using equation 5.

$$\text{Up-regulation energy} = \frac{\sum C_{FCR-N} \times \Delta f_{ylössäätö} \times 0,25 \text{ h}}{0,1 \text{ Hz}}$$

(4)

$$\text{Down-regulation energy} = \frac{\sum C_{FCR-N} \times \Delta f_{alassäätö} \times 0,25 \text{ h}}{0,1 \text{ Hz}}$$

(5)

$\sum C_{FCR-N}$ (MW) is the sum of the Balancing Service Provider's Frequency Containment Reserves for Normal Operation in the balance responsible party's balance. The volume of the Balancing Service Provider's Frequency Containment Reserve for Normal Operating is verified by real-time measurement and, when calculating the Balancing energy, is not limited to the Balancing Service Provider's reserve plan on the FCR Yearly Market or the FCR Hourly Market and/or a trade agreed in the D-2-FCR Hourly Market.

$\Delta f_{\text{up-regulation}}$ (Hz) is the average under-frequency deviation in the imbalance settlement period, calculated from the frequency values measured at below 50.0 Hz in the specific imbalance settlement period.

$\Delta f_{\text{down-regulation}}$ (Hz) is the average over-frequency deviation in the imbalance settlement period, calculated from the frequency values measured at over 50.0 Hz in the specific imbalance settlement period.

A power transaction is made for Balancing Energy (up and down) between Fingrid and the balance responsible party of the Reserve Unit in connection with the nationwide imbalance settlement. Balancing Energy is compensated to the balance responsible party of the Reserve Unit by an Energy Fee as follows:

- Up-regulation energy: Fingrid pays the balance responsible party an Energy Fee that corresponds to the purchased Balancing Energy. The Energy Fee is calculated by multiplying the calculated energy caused by the activation of the Frequency Containment Reserve for Normal Operation by the up-regulation price of the hour in question⁴. If no up-regulation price has been determined, the price for the hour in question in the Finland bidding zone of the Day-Ahead Market is used instead.
- Down-regulation energy: Fingrid charges the balance responsible party an Energy Fee for the Balancing Energy sold by Fingrid to the balance responsible party. This Energy Fee is calculated by multiplying the calculated energy caused by the activation of the Frequency Containment Reserve for Normal Operation by the downward balancing price of the hour in question⁵. If no down-regulation price has been determined, the price for the hour in question in the Finland bidding zone of the Day-Ahead Market is used instead.

The Energy Fee is taken into account in the imbalance settlement of the balance responsible party of the Reserve Unit in conjunction with imbalance power invoicing. Fingrid or its service provider shall report the preliminary Energy Fee and volume of Balancing Energy to the balance responsible party after Fingrid's operating hour and the final information no later than within 13 days.

11 Fees and terms of payment

Fingrid shall pay a Capacity Fee to the Balancing Service Provider for the Balancing Service Provider's contribution to the maintenance of the Frequency Containment Reserve for Normal Operation and Frequency Containment Reserve for Disturbances in accordance with the reserve capacity verified using real-time measurements. The Balancing Service Provider shall pay a sanction to Fingrid for reserves

⁴ The up-regulation price is determined in accordance with the *terms and conditions for providers of manual Frequency Restoration Reserves (mFRR)*.

⁵ The down-regulation price is determined in accordance with the *terms and conditions for providers of manual Frequency Restoration Reserves (mFRR)*.

that are not provided. If the sanctions imposed for the invoicing period exceed the Capacity Fee, the Balancing Service Provider shall pay compensation to Fingrid.

11.1 Invoicing

The Balancing Service Provider shall calculate the billable reserve capacity using the real-time data referred to in section 9.1. The hourly reserve capacities used for billing shall be calculated in accordance with the *Fingrid Guidelines on Reserve Trading and Information Exchange*.

If the exchange of real-time data is interrupted for a reason attributable to Fingrid, the Balancing Service Provider will be requested to submit the reserve maintenance data again, and the invoices shall be based on this information. If the reason for the outage is attributable to the Balancing Service Provider and there are no exceptional circumstances at play, the Balancing Service Provider shall be considered to have failed to maintain its reserve capacity, leading to a sanction. Circumstances are considered exceptional if the Balancing Service Provider could not reasonably have prepared for them. If the real-time data is missing or invalid, a reasonable margin of error shall be permitted in accordance with the *Fingrid Guidelines on Reserve Trading and Information Exchange*.

The Balancing Service Provider shall send the invoice for the maintenance of the previous month's reserves to Fingrid on the tenth day of each month or the first working day following that date. The due date of the invoice is 14 days from the invoice date, which is the date the invoice was sent.

11.2 Capacity Fee in the FCR Yearly Market

The FCR Yearly Market Price is determined in the FCR Yearly Market according to the most expensive accepted bid (the marginal price) in such a way that separate prices are determined for the Frequency Containment Reserve for Normal Operation and the up-regulation and down-regulation products belonging to the Frequency Containment Reserve for Disturbances.

Fingrid shall pay a Capacity Fee to the Balancing Service Provider based on the reserve capacities verified by measurements, although the reserve capacities may be no more than the volume accepted in the FCR Yearly Market. Fingrid shall pay the Capacity Fee to the Balancing Service Provider in full if the reserve capacity verified by measurements is in accordance with the reserve plan delivered by the Balancing Service Provider by the deadline. If the reserve capacity verified by means of measurements is below the reserve plan, Fingrid shall compensate the Balancing Service Provider on the basis of the capacity verified by measurements. The Balancing Service Provider shall pay a sanction to Fingrid for capacity that is not maintained.

The Capacity Fee paid by Fingrid to the Balancing Service Provider is determined for each hour as follows:

Capacity Fee (€) = maintained reserve capacity (MW,h) × FCR Yearly Market Price (€/MW,h) – sanctions (€).

The sanction is determined by hour as follows:

Sanction (€) = reserve capacity not delivered (MW,h) × 3 × FCR Yearly Market Price (€/MW,h).

A sanction shall not be imposed if the non-delivery is due to force majeure.

11.3 Capacity Fee in the FCR Hourly Market

The price in the FCR Hourly Market is determined for each hour separately according to the most expensive accepted bid (the marginal price) in such a way that separate FCR Hourly Market Prices are determined for the Frequency Containment Reserve for Normal Operation and the up-regulation and down-regulation products belonging to the Frequency Containment Reserve for Disturbances.

11.3.1 Participation in the FCR Hourly Market only

Fingrid shall compensate the Balancing Service Provider based on the capacities verified by measurements, although the maximum amount is the transaction agreed in the FCR Hourly Market.

If the reserve capacity verified by means of measurements is below the transaction carried out in the FCR Hourly Market, Fingrid shall compensate the Balancing Service Provider on the basis of the capacity verified by means of measurements. The Balancing Service Provider shall pay a sanction to Fingrid for capacity that is not maintained.

The Capacity Fee paid by Fingrid to the Balancing Service Provider is determined for each hour as follows:

Capacity Fee (€) = maintained reserve capacity (MW,h) × FCR Hourly Market Price (€/MW,h) – sanctions (€).

The sanction is determined by hour as follows:

Sanction (€) = reserve capacity not delivered (MW,h) × 3 × FCR Hourly Market Price for the specific hour (€/MW,h).

A sanction shall not be imposed if the non-delivery is due to force majeure.

11.3.2 Participation in both the FCR Yearly Market and FCR Hourly Market

Fingrid shall compensate the Balancing Service Provider based on the capacities verified by measurements, although the maximum amount is the total reserve capacity approved for the FCR Yearly Market and the transaction agreed in the FCR Hourly Market.

Fingrid only pays compensation for participation in the FCR Hourly Market if the reserve capacity in accordance with the Yearly Market Appendix has been provided in full for the hour in question. If the Balancing Service Provider has allocated some of its Reserve Units to the FCR Yearly Market and some to the FCR Hourly Market,

Fingrid shall compensate the Balancing Service Provider on the basis of the capacities, verified by measurement, of the Reserve Units participating in the FCR Hourly Market, even if the capacity stated in the Yearly Market Appendix is not delivered in full for the hour in question.

If the reserve capacity verified by measurements is below the total combined volume of the reserve plan and trading in the FCR Hourly Market, Fingrid shall compensate the Balancing Service Provider on the basis of the verified capacity. The Balancing Service Provider shall pay a sanction to Fingrid for capacity that is not maintained. The maintained capacity shall be considered fulfilled primarily with regard to the FCR Yearly Market.

The sanction is determined by hour as follows:

Sanction (€) = reserve capacity not delivered (MW,h) × 3 × y (€/MW,h).

y (€/MW,h) = FCR Hourly Market Price for the hour in question (€/MW,h) or FCR Yearly Market Price (€/MW,h), for which the capacity was not maintained.

A sanction shall not be imposed if the non-delivery is due to force majeure.

11.4 Capacity Fee in the D-2-FCR Hourly Market

The price in the D-2-FCR Hourly Market is determined for each hour separately according to the most expensive accepted bid (the marginal price) in such a way that separate D-2-FCR Hourly Market Prices are determined for the Frequency Containment Reserve for Normal Operation and the up-regulation and down-regulation products belonging to the Frequency Containment Reserve for Disturbances.

11.4.1 Participation in the D-2-FCR Hourly Market only

Fingrid shall compensate the Balancing Service Provider based on the capacities verified by measurements, although the maximum amount is the transaction agreed in the D-2-FCR Hourly Market.

If the reserve capacity verified by means of measurements is below the transaction carried out in the D-2-FCR Hourly Market, Fingrid shall only compensate the Balancing Service Provider on the basis of the capacity verified by means of measurements. The Balancing Service Provider shall pay a sanction to Fingrid for capacity that is not maintained.

The Capacity Fee paid by Fingrid to the Balancing Service Provider is determined for each hour as follows:

Capacity Fee (€) = maintained reserve capacity (MW,h) × D-2-FCR Hourly Market Price (€/MW,h) – sanctions (€).

The sanction is determined by hour as follows:

Sanction (€) = reserve capacity not delivered (MW,h) × 3 × D-2-FCR Hourly Market Price for the specific hour (€/MW,h).

A sanction shall not be imposed if the non-delivery is due to force majeure.

11.4.2 Participation in both the D-2 Hourly Market and the Yearly Market

Fingrid shall compensate the Balancing Service Provider on the basis of the volumes verified by measurements, although the maximum shall be the total combined volume of the reserve plan in accordance with the Yearly Market Appendix and the volume agreed in the D-2-FCR Hourly Market.

Fingrid shall only pay compensation for participation in the D-2-FCR Hourly Market if the reserve capacity in the FCR Yearly Market has been maintained in full in accordance with the reserve plan for the hour in question. However, the reserve plan does not need to be equal to the capacity agreed on in the Yearly Market Appendix.

If the reserve capacity verified by measurements is below the total combined volume of the reserve plan and trading in the D-2-FCR Hourly Market, Fingrid shall compensate the Balancing Service Provider on the basis of the verified capacity. The Balancing Service Provider shall pay a sanction to Fingrid for capacity that is not maintained. The maintained capacity shall be considered fulfilled primarily with regard to the Yearly Market.

The sanction is determined by hour as follows:

Sanction (€) = reserve capacity not delivered (MW,h) × 3 × y (€/MW,h).

y (€/MW,h) = D-2-FCR Hourly Market Price for the hour in question (€/MW,h) or FCR Yearly Market Price (€/MW,h), for which the capacity was not maintained.

A sanction shall not be imposed if the non-delivery is due to force majeure.

11.4.3 Participation in the D-2 Hourly Market, the Yearly Market and the Hourly Market

Fingrid shall compensate the Balancing Service Provider for the volumes verified by measurements, although the maximum compensation shall be the total combined volume of the reserve plan for the FCR Yearly Market and the transactions agreed on in the D-2-FCR Hourly Market and FCR Hourly Market.

Fingrid shall only pay compensation for participation in the D-2-FCR Hourly Market if the volume of the reserve plan in accordance with the FCR Yearly Market has been delivered in full for the hour in question. Participation in the FCR Hourly Market requires the reserve plan to correspond to the maximum volume agreed upon in the Yearly Market Appendix.

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If the reserve capacity verified by means of measurements is below the total combined volume of the reserve plan, the trading conducted in the D-2-FCR Hourly Market and the trading conducted in the FCR Hourly Market, Fingrid shall compensate the Balancing Service Provider for the verified capacity. The Balancing Service Provider shall pay a sanction to Fingrid for capacity that is not maintained. The maintained capacity shall be considered fulfilled primarily with regard to the FCR Yearly Market and, thereafter, with regard to the D-2-FCR Hourly Market.

The sanction is determined by hour as follows:

Sanction (€) = reserve capacity not delivered (MW,h) × 3 × y (€/MW,h).

y (€/MW,h) = FCR Hourly Market Price (€/MW,h) or D-2-FCR Hourly Market Price for the hour in question (€/MW,h) or FCR Yearly Market Price (€/MW,h), for which the capacity was not maintained.

A sanction shall not be imposed if the non-delivery is due to force majeure.

11.4.4 Participation in both the D-2 Hourly Market and the Hourly Market

Fingrid shall compensate the Balancing Service Provider on the basis of the volumes verified by measurements, although the maximum shall be the total combined transactions agreed in the D-2-FCR Hourly Market and the FCR Hourly Market.

If the reserve capacity verified by measurements is below the total combined volume of transactions in the D-2-FCR Hourly Market and FCR Hourly Market, Fingrid shall compensate the Balancing Service Provider on the basis of the verified capacity. The Balancing Service Provider shall pay a sanction to Fingrid for capacity that is not maintained. The maintained capacity shall be considered fulfilled primarily with regard to the D-2-FCR Hourly Market.

The sanction is determined by hour as follows:

Sanction (€) = reserve capacity not delivered (MW,h) × 3 × y (€/MW,h).

y (€/MW,h) = FCR Hourly Market Price (€/MW,h) or D-2-FCR Hourly Market Price for the hour in question (€/MW,h), for which the capacity was not maintained.

A sanction shall not be imposed if the non-delivery is due to force majeure.

11.5 Complaints

When necessary, a contracting party shall make complaints regarding the invoice in writing. The other party shall inspect the invoice and send the necessary correction invoice without delay. A complaint does not exempt a party from the payment obligation by the due date unless otherwise agreed upon in each case.

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11.6 Value-added tax and other indirect taxes and levies

In addition to the fees specified in these terms, value-added tax shall be added to the Balancing Service Provider's invoices at the applicable rate, along with any other taxes and levies imposed on the Agreement by the authorities.

11.7 Interest on arrears

If a contractual party's payment is delayed, the party shall be obliged to pay interest on arrears. Interest on arrears is determined in accordance with section 4(1) of the Interest Act.

12 Force majeure

In the event of force majeure, the contracting parties have the right to restrict the maintaining of reserves or to interrupt it entirely.

Force majeure is considered to be an event beyond the control of a contracting party which was not known to the contracting parties when the Agreement was being concluded and which could not have been prevented by a contracting party or the effects of which could not have been avoided by reasonable measures and which make the maintaining of the reserves in accordance with the Agreement impossible, complicate it essentially or otherwise make it unreasonable.

Cases of force majeure may include war, a country's internal unrest, mischief, sabotage, explosion, fire, unforeseen equipment fault, storm or other exceptional weather conditions, general interruption in traffic, strike or stoppage of a key employee group, lock-out ordered by an employer organisation, measures by authorities, or other reason with equally significant and unusual consequences. If one of the factors listed above applies to one of the Balancing Service Provider's Reserve Units, but the Balancing Service Provider could compensate for the lost reserve capacity using its other Reserve Units, the situation shall not be considered force majeure.

The Balancing Service Provider shall promptly inform Fingrid in writing of the occurrence of force majeure and its estimated duration as well as its end. For the period of force majeure, Fingrid shall not pay compensation in accordance with these terms to the Balancing Service Provider, nor shall the Balancing Service Provider be subject to sanctions under these terms for unmaintained reserve capacity.

13 Breach of terms

13.1 Sanction

For capacity not delivered, the Balancing Service Provider shall pay a sanction to Fingrid in accordance with section 11.

13.2 Verification of control properties of reserves, and the Balancing Service Provider's reimbursement obligation

Fingrid is entitled to verify the control properties of a Reserve Unit. If monitoring carried out by Fingrid indicates that a Balancing Service Provider has not maintained the agreed control properties, the Balancing Service Provider shall provide within 30 days an account requested by Fingrid concerning the shortcomings in the maintaining of reserves.

If the account requires a verification of the balancing capacity by means of measurements carried out on Fingrid's demand and the measurements indicate that the Reserve Unit fulfils the valid requirements, Fingrid shall be responsible for the costs of the measurements. Otherwise, the Balancing Service Provider shall be responsible for the costs.

If the Balancing Service Provider fails to provide the account requested by Fingrid by the deadline, the Balancing Service Provider shall reimburse the fees based on these terms and conditions for the period of the account in terms of both the Frequency Containment Reserve for Normal Operation and Frequency Containment Reserve for Disturbances.

If a verification, other test in accordance with this document or monitoring by Fingrid indicates that the reserve capacity maintained by the Balancing Service Provider has been smaller than what has been agreed or if the balancing capacity of the Reserve Unit differs from the terms and conditions of this document, the Balancing Service Provider shall reimburse the fees paid by Fingrid in so far as they have been based on a reserve capacity which was higher than in reality.

13.3 Temporary exclusion of a Balancing Service Provider from the reserve market

Fingrid has a right to temporarily exclude a Balancing Service Provider from the reserve market in question if the Balancing Service Provider:

- fails to deliver reserves without giving an acceptable reason despite Fingrid's written notice,
- has knowingly changed the control settings so that the control properties are changed significantly,
- has failed to give the account referred to in section 13.2,
- does not deliver the history data referred to in section 9.1 and requested by Fingrid,
- or has otherwise violated the terms and conditions of this document despite Fingrid's written notice.

The duration of the temporary exclusion is from one to three months depending on the nature of the violation.

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13.4 Cancelling the agreement

In the event of a material breach of contract, Fingrid shall be entitled to cancel the FCR Agreement in accordance with the terms and conditions of the agreement.