

# Bidding mFRR energy

## Implementation Guide

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Version 2.13  
12.11.2020

<b>1. Introduction</b>	<b>3</b>
1.1 Abbreviations	3
1.2 Change log	3
1.3 References	3
<b>2. General Rules</b>	<b>4</b>
2.1 Trade process	4
2.2 Technical Aspects	4
<b>3. Message Implementation Guide</b>	<b>4</b>
3.1 Reserve bid document	4

## 1. Introduction

This guide contains information about the process for bidding of manual Frequency Restoration Reserves to balancing energy market by electrical messages. The document describes the business rules as well as provides detailed information about the messages exchanged between Fingrid and Balance Service Provider or their service provider (both referred later as BSP).

### 1.1 Abbreviations

BSP	Balance Service Provider
mFRR	Manual Frequency Restoration Reserve

### 1.2 Change log

- Recommended maximum number of bids (2 000) within the bid document added.
- Decimal separator must be a period.
- An acknowledgement document is generated either accepting the completely received document or rejecting it completely. Partly accept is never used.
- 12.11.2020: Removed need to use Contract identification for balancing capacity bids.

### 1.3 References

- [1] urn-entsoe-eu-wgedi-errp-reservebiddocument-5-0.xsd
- [2] urn-entsoe-eu-wgedi-acknowledgement-acknowledgementdocument-6-0.xsd
- [3] Regulating Power Market agreement (official version in Finnish: Säätosähkömarkkinasopimus)

## 2. General Rules

### 2.1 Trade process

BSP can submit hourly bids to the balancing energy markets for the hours at the latest 45 min before each hour. For each hour, Fingrid places the bids in price order, with the principle of giving priority to the cheapest bid. A necessary number of the bids is used in the price order, separately for up and down regulation.[3]

### 2.2 Technical Aspects

Bid documents, Allocation Result documents and Acknowledgement documents will be exchanged between the parties using the ECP/MADES network.

### 2.3 Updating and deleting of bids

BSP can update bids by sending a new bid with the same bid ID. Latest successfully received bid is valid.

Bids can be deleted by sending a new bid with the same bid ID and zero amount. This removes bid totally from Vaksi trading system.

BSP can see valid bids in Vaksi trading system. Bids can also be updated and deleted manually in Vaksi trading system.

## 3. Message Implementation Guide

The bidding process can be summarized in the following steps:

1. Bids are submitted by BSP using the ENTSO-E ERRP Reserve Bid Documents [1]
2. Fingrid will always acknowledge a bid document using a standard ENTSO-E Acknowledgement Document  
**Error! Reference source not found.**

### 3.1 Reserve bid document

#### 3.1.1 Business rules

- Recommended maximum number of bids within the bid document is 2 000.
- Bid price can have two decimals.
- Bid volume shall be in integer, except bids that form an aggregated bid can have one decimal.
- Decimal separator must be a period.
- Document identification can be maximum 35 character long.
- EIC code shall be used as sender identification code and subject party code. If that is not available G21 code or national code can be used.

	mFRR up regulation	mFRR down regulation
Minimum bid size (MW)	5 / 10*	5 / 10*
Maximum bid size (MW)	-	-
Minimum price (€/MW,h)	-	-
Maximum price (€/MW,h)	5000	-

\* 5 MW if electrical ordering is in use.

### 3.1.2 Mapping table

<b>Reserve Bid</b>	
Document Identification	<i>Unique identification of the document (spaces and special characters not accepted)</i>
Document Version	Fixed <b>1</b>
Document Type	<b>A24</b> Bid document
Process Type	<b>A29</b> Secondary reserve process
Sender Identification	<i>EIC party code (X) of the BSP or their service provider</i> <b>XXXXXXXXXXXXXXXX</b> (BSP or their service provider) codingScheme = <b>A01</b> (EIC)
Sender Role	<b>A12</b> Balance Service Provider (Balance Supplier) <b>A39</b> Service Provider (Data Provider)
Receiver Identification	<b>10X1001A1001A264</b> (Fingrid) codingScheme = <b>A01</b> (EIC)
Receiver Role	<b>A11</b> Market operator (TSOs)
Creation Date Time	<i>Date and time for creation of the document</i> YYYY-MM-DDTHH:MM:SSZ (ISO 8601 UTC format)
Reserve Bid Time Interval	<i>The beginning and ending date and time of the period covered by the document</i> YYYY-MM-DDTHH:MMZ/YYYY-MM-DDTHH:MMZ (ISO 8601 UTC format)
Domain	<b>10YFI-1-----U</b> codingScheme = <b>A01</b> (EIC)
Subject Party	<i>EIC party code (X) of the BSP</i> <b>XXXXXXXXXXXXXXXX</b> (BSP) codingScheme = <b>A01</b> (EIC)
Subject Role	<b>A12</b> Balance Service Provider
<b>Bid Time Series</b>	
Reserve Bid Identification	<i>Unique over time identification of the of the bid given by the sender. Cannot only be a running number, must contain also some other char. Cannot contain -.</i>
Auction Identification	Fixed " <b>mFRR</b> " <i>Note: the element should not be checked</i>
Business Type	<b>A97</b> Manual Frequency Restoration Reserve
Acquiring Area	<i>EIC code for the national area</i> <b>10YFI-1-----U</b> <i>"The area where the resource is contracted for use"</i> codingScheme = <b>A01</b> (EIC)
Connecting Area	<i>EIC code for the national area</i> <b>10YFI-1-----U</b> <i>"The area where the resource is located"</i> codingScheme = <b>A01</b> (EIC)

Measure Unit Quantity	<b>MAW</b>
Currency	<b>EUR</b>
Measure Unit Price	<b>MAW</b>
Divisible	<b>A01</b> Yes
Linked Bids Identification	Optional <b>1-10</b> Aggregation number code, only used for aggregated bids
Block Bid	<b>A02</b> No
Reserve Object	Regulation object code, mandatory codingScheme = <b>NFI</b> (kansallinen koodi)
Direction	<b>A01</b> Up <b>A02</b> Down
Contract Identification	<b>0-7</b> Balancing bid type identification, obligatory empty or 0 = normal balancing bid 1 = peak load reserve balancing bid 2 = reserve power plant balancing bid <del>3 = balancing capacity market balancing bid 1</del> <del>4 = balancing capacity market balancing bid 2</del> <del>5 = balancing capacity market balancing bid 3</del> <del>6 = balancing capacity market balancing bid 4</del> <del>7 = balancing capacity market balancing bid 5</del>
<b>Period</b>	
Time Interval	<i>The hour of the bid in question, the time interval can be only one hour</i> YYYY-MM-DDTHH:MMZ/YYYY-MM-DDTHH:MMZ (ISO 8601 UTC format) This shall be included in the Time Period Covered
Resolution	<b>PT60M</b> or <b>PT1H</b>
<b>Interval</b>	
Pos	<b>1</b> For all bids
Qty	<i>The volume of the bid in question, 1 MW granularity, 5 MW minimum</i>
Price	<i>The price expressed for the bid</i>

### 3.1.3 Validation of bid document

An acknowledgement document is generated either accepting the completely received document or rejecting it completely. Partly accept is never used.

Following error codes are applied:

- A01 successfully received document.
- A02 discarded document.

The table below contains the list of error messages that will be included in the Acknowledgement document in case validation of a bid document fails:

Description	Level of validation	Error message
<b>Reserve Bid Document:</b>		
Document Identification is mandatory	Message	<i>Message reference missing.</i>
Document Identification must be unique	Message	<i>Message reference must be unique.</i>
Message must be received within a given time	Message	<i>Message was received after deadline.</i>
Message can only include bids for next 30 days	Message	<i>Message contains data for more than next 30 days.</i>
Sender Identification must be connected to the Subject Party	Message	<i>Sender is not connected to the Subject Party.</i>
<b>Bid Times Series</b>		
Message can only contain mFRR bids	Message	<i>Message can only contain mFRR bids.</i>
Measure Unit Quantity required	Bid	<i>Quantity unit required.</i>
Quantity unit must be MAW	Bid	<i>Quantity unit must be MAW.</i>
Measure Unit Price required	Bid	<i>Currency required.</i>
Currency must be EUR	Bid	<i>Currency must be EUR.</i>
Reserve object code required	Bid	<i>Reserve object code required.</i>
<b>Bid Times Series Interval:</b>		
Quantity must be in integer MW	Bid	<i>Quantity contains non-integer numbers; position &lt;pos<sup>1</sup>&gt;</i>
Quantity is required	Bid	<i>Quantity required; position &lt;pos&gt;</i>
Quantity must be 0 or larger	Bid	<i>Quantities must be 0 or larger; position &lt;pos&gt;</i>
Price is required	Bid	<i>Price required; position &lt;pos&gt;</i>
Bid price must be maximum 5000 euro	Bid	<i>Price is higher than the upper limit; position &lt;pos&gt;.</i>
Reserve object object is invalid	Bid	<i>Reserve object must valid and connected to the subject party.</i>
Linked bid identification is invalid	Bid	<i>Linked bid identification must be 1-10.</i>
Contract identification is invalid	Bid	<i>Contract identification must be 0-7.</i>

<sup>1</sup> The error message will include a reference to the interval position for the error