

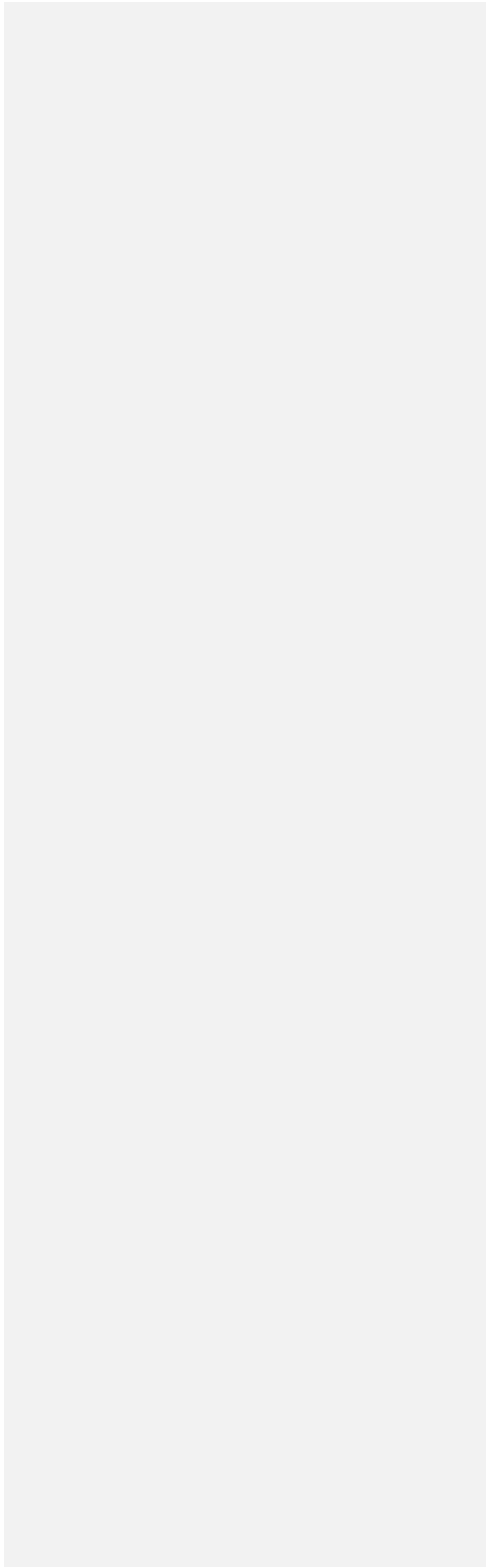
# Bidding FCR

## Implementation Guide

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## 1. Introduction

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

### 1.1 Abbreviations

BSP	Balancing Service Provider
FCR	Frequency Containment Reserve
FCR-N	Frequency Containment Reserve, Normal operation
FCR-D	Frequency Containment Reserve, Disturbance

### 1.2 Change log

- Recommended maximum number of bids (2 000) within the bid document added.
- Decimal separator must be a period.
- Reserve object options for FCR-D updated
- FCR-D one step activation added as separate product
- An acknowledgement document is generated either accepting the completely received document or rejecting it completely. Partly accept is never used.
- version 2.13:
  - Seconds added to the Creation Date Time -field
  - Correction to the Reserve Allocation Results -document
  - Example of acknowledgement-document added
- version 2.14:
  - FCR-D one step activation product removed
  - Possibility for FCR-D down direction (A02) added
  - Description of FCR-D down Reserve Results -document added

### 1.3 References

- [1] urn-entsoe-eu-wgedi-errp-reservebiddocument-5-0.xsd
- [2] urn-entsoe-eu-wgedi-errp-reserveallocationresultdocument-5-0.xsd
- [3] urn-entsoe-eu-wgedi-acknowledgement-acknowledgementdocument-6-0.xsd
- [4] Rules and fees for the hourly market of frequency-controlled reserves (official version in Finnish: Taajuusohjattujen reservien tuntimarkkinoiden säännöt ja maksut)

## 2. General Rules

### 2.1 Trade process

BSP can submit hourly bids to the FCR hourly markets for the next day (CET time zone) until 18.30 (EET). 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 FCR-N, FCR-D up and FCR-D down. Fingrid confirms the transactions for the next calendar day by 22.00 (EET). [4]

### 2.2 Technical Aspects

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

If the ECP connection is not working properly, the BSP should, if possible, use the Vaksi Web trading system as a back-up to check the status of the submitted bids.

### 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 volume. 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 bid and allocation 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 [3]
3. Allocations are notified using ENTSO-E ERRP Reserve Allocation Result Documents [2]
4. BSP will always acknowledge the allocation document using a standard ENTSO-E Acknowledgement Document [3]

### 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.
- Volume 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.

	FCR-N	FCR-D
Minimum bid size (MW)	0,1	1,0
Maximum bid size (MW)	5,0	10,0
Minimum price (€/MW,h)	0	0
Maximum price (€/MW,h)	-	-

### 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>A28</b> Primary 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>A46</b> Balancing Service Provider (Also <b>A12</b> – Balance Supplier can be used, but this is phased out in the future)
Receiver Identification	<b>10X1001A1001A264</b> (Fingrid) codingScheme = <b>A01</b> (EIC)
Receiver Role	<b>A04</b> System Operator (Also <b>A11</b> – Market operator can be used, but this is phased out in the future)
Creation Date Time	<i>Date and time for creation of the document. Must include seconds without decimals</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. Does not include seconds</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>A46</b> Balancing Service Provider (Also <b>A12</b> – Balance Supplier can be used, but this is phased out in the future)
<b>Bid Time Series</b>	
Reserve Bid Identification	<i>Unique over time identification of the of the bid given by the sender</i> <i>Cannot contain -</i>
Auction Identification	Fixed " <b>FCR</b> " <i>Note: the element should not be checked</i>
Business Type	<b>Z03</b> FCR-N, Frequency Containment Reserves, Normal <b>Z06</b> FCR-D, Frequency Containment Reserves, Disturbance
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 valid for aggregated FCR-N bids
Block Bid	<b>A02</b> No
Reserve Object	<i>For FCR-N</i> Regulation object code <i>For FCR-D</i> Kulutus / Tuotanto / Aggregoitu codingScheme = <b>NFI</b> (kansallinen tunnus) <i>For FCR-D downward</i> Not Used
Direction	<i>For FCR-N</i> <b>A03</b> Up and down <i>For FCR-D</i> <b>A01</b> Up <b>A02</b> Down
<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> <i>For all bids</i>
Qty	<i>The volume of the bid in question</i>
Price	<i>The price expressed for the bid</i>

Commented [IL1]: tämä on FCR-N:lle RO kenttä (kullekin osapuolelle määritetty sallitut RO:t) ja FCR-D:lle tyypin kenttä

Commented [JK2R1]: FCR-N:lle koodin näkee Vaksista. FCR-D:lle ei ole vielä aggregoinnin koodia

### 3.1.3 Validation of bid document

An acknowledgement document [3] is generated either accepting the completely received document or rejecting it completely. Partly accept is never used. Figure 1 shows an example of the acknowledgement document.

Following error codes are applied:

- A01 successfully received document.
- A02 discarded document.

```
<?xml version="1.0" encoding="UTF-8" standalone="true"?>
- <AcknowledgementDocument xmlns="urn:entsoe.eu:wgged:acknowledgement:acknowledgementdocument:6:0" xmlns:xsi="http://www.w3.org/2001/XMLSchema-
instance" xmlns:xsd="http://www.w3.org/2001/XMLSchema">
  <DocumentIdentification v="70f0e033d2fd4f29a0b920fd53ca6efb"/>
  <DocumentDateTime v="2021-01-25T12:28:36Z"/>
  <SenderIdentification v="10X1001A1001A264" codingScheme="A01"/>
  <SenderRole v="A11"/>
  <ReceiverIdentification v="44X-DummyBSP100" codingScheme="A01"/>
  <ReceiverRole/>
  <ReceivingDocumentIdentification v="4129590a05a64467a90e4d6746e96991"/>
  <ReceivingDocumentVersion v="1"/>
  <ReceivingDocumentType v="A24:A28"/>
  - <Reason>
    <ReasonCode v="A01"/>
  </Reason>
</AcknowledgementDocument>
```

Figure 1 Example of acknowledgement message to bid 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	Message reference missing.
Document Identification must be unique	Message	Message reference must be unique.
Message must be received within a given time	Message	Message was received after deadline.
Message can only include bids for next 30 days	Message	Message contains data for more than next 30 days.
Sender Identification must be connected to the Subject Party	Message	Sender is not connected to the Subject Party.
<b>Bid Times Series</b>		
Message can only contain FCR bids	Message	Message can only contain FCR bids.
Measure Unit Quantity required	Bid	Quantity unit required.
Quantity unit must be MAW	Bid	Quantity unit must be MAW.
Measure Unit Price required	Bid	Currency required.
Currency must be EUR	Bid	Currency must be EUR.
Reserve object code required	Bid	Reserve object code required.
<b>Bid Times Series Interval:</b>		
Position is required to be 1	Bid	The time interval of the bid can be only one hour
Quantity can contain only one decimal	Bid	Quantity contains too many decimals; position <pos <sup>1</sup> >
Quantity is required	Bid	Quantity required; position <pos>

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

Quantity must be 0 or larger	Bid	<i>Quantities must be 0 or larger; position &lt;pos&gt;</i>
Quantity must be maximum 5 MW for FCR-N and 10 MW for FCR-D	Bid	<i>Maximum quantity 5 MW for FCR-N and 10 MW for FCR-D.</i>
Price is required	Bid	<i>Price required; position &lt;pos&gt;</i>
Bid price must be 0 or larger	Bid	<i>Price is lower than the lower limit; position &lt;pos&gt;.</i>
Reserve 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. Only FCR-N bids can have linked bid identification.</i>

### 3.2 Reserve allocation result document

#### 3.2.1 Business rules

- The time series will include volume and megawatt average price per hour (EUR/MW/h).
- The result will not have any reference to the bids.
- There will be own document for FCR-N, FCR-D up and FCR-D down.
- The time series will include result per hour. Result is sum of all accepted bids.
- The Reserve Allocation Result Document will only be sent to a BSP, if the BSP has submitted bids for that day to Fingrid.

#### 3.2.2 Mapping table

<b>Reserve Allocation Result</b>	
Document Identification	<i>Unique identification of the document</i>
Document Version	Fixed 1
Document Type	<b>A38</b> Reserve Allocation Result
Process Type	<b>A28</b> Primary reserve process
Sender Identification	<b>10X1001A1001A264</b> (Fingrid) codingScheme = <b>A01</b> (EIC)
Sender Role	<b>A11</b> Market operator (TSOs)
Receiver Identification	<b>XXXXXXXXXXXXXX</b> (BSP or their service provider) codingScheme = <b>A01</b> (EIC)
Receiver Role	<b>A12</b> Balance Service Provider (Balance Supplier)
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> (Finland) codingScheme = <b>A01</b> (EIC)
<b>Allocation Time Series</b>	
Time Series Identification	<i>Unique identification of the time series instance</i>



Reserve Bid Document Identification	Fixed "NA" <i>Note: the element should not be checked</i>
Reserve Bid Document Version	Fixed 1
Reserve Bid Identification	Fixed "NA" <i>Note: The Reserve allocation result document contains a calculated sum, hence there is no single bid to reference</i>
Tendering Party	<b>10X1001A1001A264</b> (Fingrid) codingScheme = <b>A01</b> (EIC)
Auction Identification	Fixed "FCR"
Business Type	<b>Z03</b> FCR-N, Frequency Containment Reserves, Normal <b>Z06</b> FCR-D, Frequency Containment Reserves, Disturbance
Acquiring Area	<b>10YFI-1-----U</b> (Finland) codingScheme = <b>A01</b> (EIC)
Connecting Area	<b>10YFI-1-----U</b> (Finland) codingScheme = <b>A01</b> (EIC)
Contract Type	<b>A01</b> Daily
Contract Identification	Fixed "NA"
Measure Unit Quantity	<b>MAW</b>
Currency	<b>EUR</b>
Measure Unit Price	<b>MAW</b>
Direction	<i>For FCR-N</i> <b>A03</b> Up and down <i>For FCR-D</i> <b>A01</b> Up <b>A02</b> Down
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	<i>The relative position of a period within a Reserve Bid Interval</i>
Qty	<i>Sum of all accepted bids</i>
Price	<i>Marginal price of the hour</i>

### 3.3 Communication overview

In the figure below, the overall communication regarding the bidding process to the FCR-markets is clarified.

