

# Bidding mFRR capacity

## Implementation Guide for Finnish national mFRR capacity market

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Version 1.3  
3.7.2023

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## 1. Introduction

Since 2016 Fingrid has been procuring mFRR capacity (up-regulation) on a weekly market to maintain enough mFRR balancing bids to cover the dimensioning fault in Finland. Due to changes in the Finnish electricity production palette, the demand for mFRR capacity is rising and due to this, Fingrid is also developing the national mFRR capacity market. In December 2022, the weekly market was transformed into an hourly market, where the hourly capacities for each day are procured through auctions on the previous day (pre-spot market). From the beginning of 2023, Fingrid also started to procure capacity for down-regulation. The demand for down-regulation capacity was 150 MW at first and is increased stepwise to cover the dimensioning fault in the down-direction.

This implementation guide contains information about the process for bidding of manual Frequency Restoration Reserves to Finnish national capacity market manually through the web user interface and 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                 |
| GOT  | Gate Opening Time, after which bids can be submitted |
| GCT  | Gate Closure Time, until which bids can be submitted |

### 1.2 Change log

| Version | Release         | Date       | Changed by     | Comments  |
|---------|-----------------|------------|----------------|---|
| 1.0     | Initial version | 3.10.2022  | Antti Hyttinen | First released version  |
| 1.1     |                 | 26.10.2022 | Antti Hyttinen | <ul style="list-style-type: none"> <li>- Use of the column "Min MW" updated</li> <li>- Location of new screens in Vaksi Web updated</li> <li>- Other small updates</li> </ul>   |
| 1.2     |                 | 18.11.2022 | Antti Hyttinen | <ul style="list-style-type: none"> <li>- Validation error table updated</li> <li>- Additions to the bid submission display</li> </ul>   |
| 1.3     |                 | 3.7.2023   | Antti Hyttinen | <ul style="list-style-type: none"> <li>- New screen "billing report" in Vaksi Web</li> <li>- clipping board option removed from manual bid submission</li> <li>- Area code for Central Finland added to the message implementation guide</li> </ul> |

## 1.3 References

- [1] urn:iec62325.351:tc57wg16:451-7:reservebiddocument:7:1
- [2] urn:iec62325.351:tc57wg16:451-1:acknowledgementdocument:8:1
- [3] urn:iec62325.351:tc57wg16:451-7:reserveallocationresultdocument:6:4

## 2. General Rules

### 2.1 Trade process

The Gate opening time (GOT) for the Finnish national mFRR capacity market is D-31 days. The gate closure time for bids (GCT) is D-1 at 9:30 EET/EEEST. The auction is cleared, and the results are published at the latest D-1 10:30 EET/EEEST. The timeline below demonstrates the different operational phases of the capacity market.

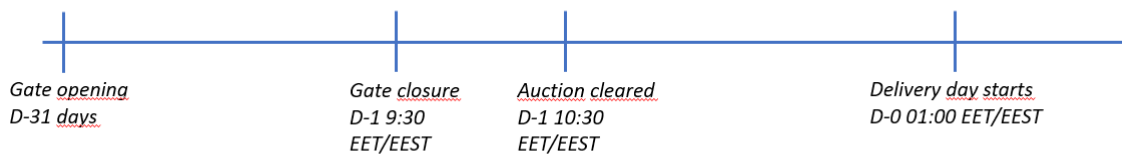


Figure 1 Timeline of the operational phases of the national mFRR capacity market

For each hour, Fingrid places the bids in price order, with the principle of giving priority to the cheapest bid. Bids can also be selected in another order due to the operational situation in the network. If this is done, BSPs are informed of this by changing the status of the bids in question to “unavailable”. A necessary number of the bids is used in the price order, separately for up and down regulation.

## 3. Manual bid submission

BSPs can enter bids manually into VaksiWeb under the menu:

- Balancing market → Hourly markets → mFRR capacity bid input (English)
- Säätömarkkinat → Säätökapasiteettimarkkinat 1h → 1h säätökapasiteettitarjousten syöttö (Finnish)

After choosing the correct party and correct date, new bids can be added by adding new rows.

The screenshot shows a web interface titled "Capacity bid input". It includes a dropdown menu for "BSP" (set to "TESTI2"), a date field (set to "21.11.2022 01"), and buttons for "Save", "Add row" (highlighted with a red box), "Leikepöytä", and "Delete all bids". Below these is a table with the following structure:

| Bid number | BSP | Direction | Regulation area | RO code | Price [€] | Min. [MW] | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|------------|-----|-----------|-----------------|---------|-----------|-----------|---|---|---|---|---|---|---|---|---|
| Sum up     |     |           |                 |         |           |           | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sum down   |     |           |                 |         |           |           | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Figure 2 In the Web interface, new bids can be added by clicking on the “add row” button

### 3.1 Information required in the bid

Each bid must contain the following information:

- Bid number – column is filled out automatically when adding a new row
- BSP – column is filled out automatically when adding a new row
- Direction (up/down)
- Regulation area (North/South)
- Price

- Price cannot be negative and must be between 0,01 – 10 000 €
- Volume
  - A bid can contain volume for 1 – 24 hours. Bid selection is done independently for each hour.
- Bid ID – created automatically by the system when a new row is added
- Further details – column is filled out automatically when adding a new row

The BSP can also specify optional information for the bid:

- RO-code (selected from the drop-down menu)
- Unique informal identification in addition to the Bid ID (Free text)

Min. [MW] is used to inform the divisibility of the bid. For fully divisible bids, the field should contain 0 or 1. For fully indivisible bids, the field is left empty. If the field is empty, the bid is automatically marked with the text “indivisible” and each volume of the bid is handled as fully indivisible. Min. [MW] must be lower or equal to the lowest volume within a single bid.

| Bid number | BSP    | Direction | Regulation area | RO code             | Price [€] | Min. [MW]   | 1  | 2  | 3  | 4 | 5  | 6  | 7  | 8  | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
|------------|--------|-----------|-----------------|---------------------|-----------|-------------|----|----|----|---|----|----|----|----|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 1          | TEST12 | Up        | North           |                     | 3,10      | 0           | 10 | 10 | 10 |   | 10 | 10 | 10 |    |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 2          | TEST12 | Up        | South           |                     | 5,00      | Indivisible | 5  | 5  | 5  | 5 | 5  | 5  | 5  | 5  | 5 | 5  | 5  | 5  | 5  | 5  | 5  | 5  | 5  | 5  | 5  | 5  | 5  | 5  | 5  | 5  |
| 3          | TEST12 | Down      | South           | Powerplantgroup1_DU | 2,50      | 5           | 5  | 6  | 7  | 8 | 9  | 10 | 10 | 10 |   |    |    |    |    |    |    | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| Sum up     |        |           |                 |                     |           |             | 15 | 15 | 15 | 5 | 15 | 15 | 15 | 15 | 5 | 5  | 5  | 5  | 5  | 5  | 5  | 5  | 5  | 5  | 5  | 5  | 5  | 5  | 5  | 5  |
| Sum down   |        |           |                 |                     |           |             | 5  | 6  | 7  | 8 | 9  | 10 | 10 | 10 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |

Figure 3 example bids submitted through Vaksi Web. Bid number 1: All volumes are fully indivisible. Bid number 2: All volumes of the bid are fully indivisible. Bid number 3: At least 5 MW must be accepted from each volume of the bid.

## 3.2 Excel – input

Bids can also be copy-pasted to the user interface from e.g. Excel. Before pasting bids, the following steps should be taken:

1. correct subject party and date must be selected
2. A single bid row must be added in order to copy bids from excel

The amount of bid rows in Vaksi Web does not need to be the same as the number of rows copied from excel. The copied bids do not need to contain the following information:

- Bid number (this is automatically created by Vaksi)
- BSP (This is automatically created by Vaksi)
- Bid ID (This is automatically created by Vaksi)
- Further details

An excel template will be provided for market participants alongside this implementation guide

## 3.3 Bid submission through electronic messages

It is also possible to submit bids to the market using ECP/MADES network. The process uses the cim document schema ReserveBid\_MarketDocument version 7.1 [\[1\]](#)

### 3.3.1 General rules

The time interval of a reserve bid document is always an entire CET/CEST day.

The regulation area (North/Central/South) is defined using acquiring and connecting domain. It is mandatory to define the regulation area for the bid. BSP can also provide RO-code as a voluntary information.

A bid time series can include several periods if all periods are within the time interval of the bid document (an entire CET/CEST day). Periods are not allowed to overlap with each other.

### 3.3.2 Updating and deleting of bids

In general, a new received bid document will always completely replace a previously received document. Updating or deleting of any individual bid is done by sending a new bid document honoring these rules:

- A new document mRID
- Revision number always “1”
- Newer creation date & time for the document
- Same document interval (same CET/CEST day)
- Same domain on document-level (Finnish domain)
- Same auction mRID
- Same subject market participant

A BSP can also delete all bids for a given day by sending a new bid document that contains a single dummy Bid\_TimeSeries that includes the element "status" and value A09 = cancelled. In this case all bids from the day in question are deleted and the content of the dummy timeseries is ignored. The bid document is not allowed to contain any other Bid\_TimeSeries.

BSPs can see valid bids in Vaksi Web user interface. Bids can also be updated and deleted manually in the user interface.

Deleting bids in the user interface is done by pressing on the “bin” icon at the end of each row (Figure 4). All bids for a certain day can be deleted by clicking on the “delete all bids” button (Figure 5).

| 9  | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | Bid id                           | Further details | Free text |  |
|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----------------------------------|-----------------|-----------|--|
|    | 10 | 10 | 10 |    |    |    |    |    |    |    |    |    |    |    |    | e8dc6c5f26314da781f99d8a8218cee4 | Domestic bid    |           |  |
| 5  | 5  | 5  | 5  | 5  | 5  | 5  | 5  | 5  | 5  | 5  | 5  | 5  | 5  | 5  | 5  | 41ab88ab58264039b68139096d182f2e | Domestic bid    |           |  |
| 10 | 10 | 10 | 10 | 10 | 10 |    |    |    |    | 10 | 10 | 10 | 10 | 10 | 10 | 50678285f3294a3797649a5eed1792e8 | Domestic bid    |           |  |
| 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  |                                  |                 |           |  |
| 15 | 25 | 25 | 25 | 15 | 15 | 5  | 5  | 5  | 5  | 15 | 15 | 15 | 15 | 15 | 15 |                                  |                 |           |  |

Figure 4 In the user interface bids are deleted by clicking on the garbage bin

**Capacity bid input**

BSP: TESTI2  
 Date: 21.11.2022 01

Buttons: Save, Add row, Leikepöytä, **Delete all bids**

| Bid number | BSP    | Direction | Regulation area | RO code             | Price [€] | Min. [MW]   | 1  | 2  | 3  | 4  | 5  | 6  | 7  | 8  | 9  |   |
|------------|--------|-----------|-----------------|---------------------|-----------|-------------|----|----|----|----|----|----|----|----|----|---|
| 1          | TESTI2 | Up        | North           |                     | 3,10      | 0           | 10 | 10 | 10 |    | 10 | 10 | 10 |    |    |   |
| 2          | TESTI2 | Up        | South           |                     | 5,00      | Indivisible | 5  | 5  | 5  | 5  | 5  | 5  | 5  | 5  | 5  |   |
| 3          | TESTI2 | Down      | South           | Powerplantgroup1_DU | 2,50      | 5           | 5  | 6  | 7  | 8  | 9  | 10 | 10 | 10 |    |   |
| Sum up     |        |           |                 |                     |           |             |    | 15 | 15 | 15 | 5  | 15 | 15 | 15 | 5  | 5 |
| Sum down   |        |           |                 |                     |           |             |    | 5  | 6  | 7  | 8  | 9  | 10 | 10 | 10 | 0 |

Figure 5 Deleting all bids for an entire day can be done by clicking the "Delete all bids" button

## 4. Auction Results

Auction results can be viewed in the Vaksi user interface under the menu:

- Balancing market → Hourly markets → mFRR capacity sale report (English)
- Säätomarkkinat → Säätokapasiteettimarkkinat 1h → 1h säätokapasiteettikauppojen raportointi (Finnish)

After searching for the correct date, all bids with accepted volumes are presented:

Capacity sale report

BSP  
TEST12

24.10.2022 01 Date

Search Clear Close

Only sales  
 Sales and unaccepted bids  
 Sales and all bids

| Bid number | BSP    | Direction | Regulation area | RO code | Price    | Min. [MW]   | 1     | 2     | 3     | 4     | 5     | 6     | 7     | 8    | 9    | 10    | 11    | 12    | 13    | 14    | 15    | 16    | 17    | 18    | 19    | 20    | 21    | 22    | 23    | 24 |
|------------|--------|-----------|-----------------|---------|----------|-------------|-------|-------|-------|-------|-------|-------|-------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----|
| 1          | TEST12 | Up        | North           |         | 3,10 €   | 0           | 3     | 1     | 0     |       | 0     | 0     | 0     |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |    |
| 2          | TEST12 | Up        | South           |         | 5,00 €   | Indivisible | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5    | 5    | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5     |    |
| 4          | TEST12 | Up        | North           |         | 5,00 €   | 0           | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 10   | 10   | 10    | 10    | 10    | 10    | 10    | 10    | 10    | 10    | 10    | 10    | 10    | 10    | 10    | 10    |    |
| 5          | TEST12 | Up        | South           |         | 10,00 €  | 0           | 10    | 10    | 10    | 10    | 10    | 10    | 10    | 10   | 10   | 10    | 10    | 10    | 10    | 10    | 10    | 10    | 10    | 10    | 10    | 10    | 10    | 10    | 10    |    |
| 9          | TEST12 | Up        | South           |         | 40,00 €  | 0           | 40    | 40    | 40    | 40    | 40    | 40    | 40    | 40   | 40   | 40    | 40    | 40    | 40    | 40    | 40    | 40    | 40    | 40    | 40    | 40    | 40    | 40    | 40    |    |
| 10         | TEST12 | Up        | North           |         | 70,00 €  | 0           | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 33   | 34   | 35    | 35    | 35    | 35    | 35    | 35    | 35    | 35    | 35    | 35    | 35    | 35    | 35    | 35    |    |
| 11         | TEST12 | Up        | South           |         | 100,00 € | 0           | 45    | 45    | 45    | 44    | 44    | 44    | 43    | 0    | 0    | 45    | 45    | 45    | 45    | 45    | 45    | 45    | 45    | 45    | 45    | 45    | 45    | 45    | 45    |    |
| 14         | TEST12 | Up        | North           |         | 200,00 € | 0           | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0    | 0    | 4     | 10    | 10    | 10    | 10    | 10    | 10    | 10    | 10    | 10    | 10    | 10    | 10    | 10    |    |
| Sum up     |        |           |                 |         |          |             | 103   | 101   | 100   | 99    | 99    | 99    | 98    | 98   | 99   | 149   | 155   | 155   | 155   | 155   | 155   | 155   | 155   | 155   | 155   | 155   | 155   | 155   | 155   |    |
| Sum down   |        |           |                 |         |          |             | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0    | 0    | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     |    |
| Price up   |        |           |                 |         |          |             | 100,0 | 100,0 | 100,0 | 100,0 | 100,0 | 100,0 | 100,0 | 70,0 | 70,0 | 200,0 | 200,0 | 200,0 | 200,0 | 200,0 | 200,0 | 200,0 | 200,0 | 200,0 | 200,0 | 200,0 | 200,0 | 200,0 | 200,0 |    |
| Price down |        |           |                 |         |          |             | 0,00  | 0,00  | 0,00  | 0,00  | 0,00  | 0,00  | 0,00  | 0,00 | 0,00 | 0,00  | 0,00  | 0,00  | 0,00  | 0,00  | 0,00  | 0,00  | 0,00  | 0,00  | 0,00  | 0,00  | 0,00  | 0,00  | 0,00  |    |

Figure 6 View of how accepted volumes are presented in Vaksi Web

The green color implicates that the volume of the bid in this hour was fully accepted. Yellow color implicates that the accepted volume was smaller than the original bid volume. If a bid is partially accepted (in some hours), also hours where no volume is accepted, are marked yellow. If, due to constraints in the transmission network, some bids cannot be accepted, these bids are marked with the status “unusable, transfer limitation” (*Epäkäyttävää, siirtorajoitus*) and are presented with a grey color.

Marginal prices of the clearing are shown in the last two rows of the table.

The user can choose to show also unaccepted bids or all bids (the underlying bids for any sales) by selecting the option “Sales and unaccepted bids” or “Sales and all bids”. If no volume is accepted from a bid, the bid is not highlighted in any color.

Capacity sale report

BSP  
TEST12

24.10.2022 01 Date

Search Clear Close

Only sales  
 Sales and unaccepted bids  
 Sales and all bids

| Bid number | BSP    | Direction | Regulation area | RO code             | Price    | Min. [MW]   | 1     | 2     | 3     | 4     | 5     | 6     | 7     | 8    | 9    | 10    | 11    | 12    | 13    | 14    | 15    | 16    | 17    | 18    | 19    | 20    | 21    | 22    | 23    | 24 |
|------------|--------|-----------|-----------------|---------------------|----------|-------------|-------|-------|-------|-------|-------|-------|-------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----|
| 1          | TEST12 | Up        | North           |                     | 3,10 €   | 0           | 3     | 1     | 0     |       | 0     | 0     | 0     |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |    |
| 2          | TEST12 | Up        | South           |                     | 5,00 €   | Indivisible | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5    | 5    | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5     |    |
| 3          | TEST12 | Down      | South           | Powerplantgroup1_DU | 2,50 €   | 5           | 5     | 6     | 7     | 8     | 9     | 10    | 10    |      |      |       |       |       |       |       |       | 10    | 10    | 10    | 10    | 10    | 10    | 10    | 10    |    |
| 4          | TEST12 | Up        | North           |                     | 5,00 €   | 0           | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 10   | 10   | 10    | 10    | 10    | 10    | 10    | 10    | 10    | 10    | 10    | 10    | 10    | 10    | 10    | 10    |    |
| 5          | TEST12 | Up        | South           |                     | 10,00 €  | 0           | 10    | 10    | 10    | 10    | 10    | 10    | 10    | 10   | 10   | 10    | 10    | 10    | 10    | 10    | 10    | 10    | 10    | 10    | 10    | 10    | 10    | 10    | 10    |    |
| 6          | TEST12 | Down      | North           |                     | 15,00 €  | 0           | 10    | 10    | 10    | 10    | 10    | 10    | 10    | 10   | 10   | 10    | 10    | 10    | 10    | 10    | 10    | 10    | 10    | 10    | 10    | 10    | 10    | 10    | 10    |    |
| 7          | TEST12 | Down      | South           |                     | 20,00 €  | 0           | 10    | 10    | 10    | 10    | 10    | 10    | 10    | 10   | 10   | 10    | 10    | 10    | 10    | 10    | 10    | 10    | 10    | 10    | 10    | 10    | 10    | 10    | 10    |    |
| 8          | TEST12 | Down      | South           |                     | 30,00 €  | 0           | 30    | 30    | 30    | 30    | 30    | 30    | 30    | 30   | 30   | 30    | 30    | 30    | 30    | 30    | 30    | 30    | 30    | 30    | 30    | 30    | 30    | 30    | 30    |    |
| 9          | TEST12 | Up        | South           |                     | 40,00 €  | 0           | 40    | 40    | 40    | 40    | 40    | 40    | 40    | 40   | 40   | 40    | 40    | 40    | 40    | 40    | 40    | 40    | 40    | 40    | 40    | 40    | 40    | 40    | 40    |    |
| 10         | TEST12 | Up        | North           |                     | 70,00 €  | 0           | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 33   | 34   | 35    | 35    | 35    | 35    | 35    | 35    | 35    | 35    | 35    | 35    | 35    | 35    | 35    | 35    |    |
| 11         | TEST12 | Up        | South           |                     | 100,00 € | 0           | 45    | 45    | 45    | 44    | 44    | 44    | 43    | 0    | 0    | 45    | 45    | 45    | 45    | 45    | 45    | 45    | 45    | 45    | 45    | 45    | 45    | 45    | 45    |    |
| 12         | TEST12 | Down      | South           |                     | 50,00 €  | 0           | 30    | 30    | 30    | 30    | 30    | 30    | 30    | 30   | 30   | 30    | 30    | 30    | 30    | 30    | 30    | 30    | 30    | 30    | 30    | 30    | 30    | 30    | 30    |    |
| 13         | TEST12 | Down      | South           |                     | 100,00 € | 0           | 30    | 30    | 30    | 30    | 30    | 30    | 30    | 30   | 30   | 30    | 30    | 30    | 30    | 30    | 30    | 30    | 30    | 30    | 30    | 30    | 30    | 30    | 30    |    |
| 14         | TEST12 | Up        | North           |                     | 200,00 € | 0           | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0    | 0    | 4     | 10    | 10    | 10    | 10    | 10    | 10    | 10    | 10    | 10    | 10    | 10    | 10    | 10    |    |
| Sum up     |        |           |                 |                     |          |             | 103   | 101   | 100   | 99    | 99    | 99    | 98    | 98   | 99   | 149   | 155   | 155   | 155   | 155   | 155   | 155   | 155   | 155   | 155   | 155   | 155   | 155   | 155   |    |
| Sum down   |        |           |                 |                     |          |             | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0    | 0    | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     |    |
| Price up   |        |           |                 |                     |          |             | 100,0 | 100,0 | 100,0 | 100,0 | 100,0 | 100,0 | 100,0 | 70,0 | 70,0 | 200,0 | 200,0 | 200,0 | 200,0 | 200,0 | 200,0 | 200,0 | 200,0 | 200,0 | 200,0 | 200,0 | 200,0 | 200,0 | 200,0 |    |
| Price down |        |           |                 |                     |          |             | 0,00  | 0,00  | 0,00  | 0,00  | 0,00  | 0,00  | 0,00  | 0,00 | 0,00 | 0,00  | 0,00  | 0,00  | 0,00  | 0,00  | 0,00  | 0,00  | 0,00  | 0,00  | 0,00  | 0,00  | 0,00  | 0,00  | 0,00  |    |

Figure 7 Bids that are not accepted are shown when "Sales and unaccepted bids" is activated



## 5. Billing report

Vaksi contains a separate screen called “Billing Report” that can be used as a basis for invoicing. The screen can be found in the Vaksi user interface under the menu:

- Balancing Market → hourly markets → Billing report (english)
- Säättömarkkinat → Säättökapasiteettimarkkinat 1h → Laskutusraportti (Finnish)

In the billing report, capacity compensation is calculated for each hour & direction separately based on the capacity sales and energy bids on the mFRR energy market. A maximum of 1 month of information can be displayed at the same time.

## 6. Message Implementation Guide

The bidding process can be summarized in the following steps:

1. Bids are submitted by BSP using the CIM Reserve Bid Document [\[1\]](#)
2. Fingrid will always acknowledge a bid document using a CIM Acknowledgement Document [\[2\]](#)
3. Bid results are distributed to BSP using the CIM Reserve Allocation Result Document [\[3\]](#)
4. BSP acknowledges the receipt of the Allocation Result Document [\[2\]](#)

### 6.1 Reserve bid document

#### 6.1.1 Business rules

- Recommended maximum number of bids within the bid document is 2 000.
- Bid can have volume for 1 to 24 hours.
- Bid price can have two decimals. Bid price is the same for all hours.
- Decimal separator must be a period. Bid quantity must be submitted at 1 MW granularity (no decimals). Bid volume shall be in integer
- A minimum volume for bid acceptance can be defined. The minimum volume is the same for all hours. Bid volume for each hour must be equal or higher than the minimum volume.
- Document identification and bid identification must be in UUID format.
- EIC code shall be used as sender identification code and subject party code.

|                       | mFRR capacity up regulation | mFRR capacity down regulation |
|-----------------------|-----------------------------|-------------------------------|
| Minimum bid size (MW) | 1                           | 1                             |
| Maximum bid size (MW) | 50                          | 50                            |

#### 6.1.2 Mapping table

| Reserve Bid             |  |
|-------------------------|--|
| Document Identification | <i>Unique identification of the document in UUID-format</i>  |
| Revision Number         | Fixed <b>1</b>   |
| Document Type           | <b>B40</b> Complete set of bids  |
| Process Type            | <b>A47</b> Manual frequency restoration reserve  |
| Sender Identification   | <i>EIC party code (X) of the BSP or their service provider</i><br><b>XXXXXXXXXXXXXXXXXX</b> (BSP or their service provider)<br>codingScheme = <b>A01</b> (EIC) |
| Sender Role             | <b>A46</b> Balancing Service Provider, if sender is BSP  |

|                               |  |
|-------------------------------|--|
|                               | <b>A39</b> Service Provider, if sender is BSPs Service provider  |
| Receiver Identification       | <b>10X1001A1001A264</b> (Fingrid)<br>codingScheme = <b>A01</b> (EIC)   |
| Receiver Role                 | <b>A04</b> TSO   |
| Creation Date Time            | <i>Date and time for creation of the document</i><br>YYYY-MM-DDTHH:MM:SSZ<br>(ISO 8601 UTC format)   |
| Reserve Bid Time Interval     | <i>The beginning and ending date and time of the period covered by the document. Must always be an entire CET/CEST day</i><br>YYYY-MM-DDTHH:MMZ/YYYY-MM-DDTHH:MMZ<br>(ISO 8601 UTC format)   |
| Domain                        | <b>10YFI-1-----U</b><br>codingScheme = <b>A01</b> (EIC)  |
| Subject Party                 | <i>EIC party code (X) of the BSP</i><br><b>XXXXXXXXXXXXXXXX</b> (BSP)<br>codingScheme = <b>A01</b> (EIC)   |
| Subject Role                  | <b>A46</b> Balancing Service Provider  |
| <b>Bid Time Series</b>        |  |
| Reserve Bid Identification    | <i>Unique identification of the Bid Time series in UUID-format</i>   |
| Auction Identification        | Fixed " <b>MFRR_CAPACITY_MARKET</b> "<br><i>Note: the element should not be checked</i>  |
| Business Type                 | <b>B74</b> Offer   |
| Acquiring Area                | <i>EIC code for the national area</i><br><b>10YFI-1-----U</b><br><i>"The area where the resource is contracted for use"</i><br>codingScheme = <b>A01</b> (EIC)   |
| Connecting Area               | <i>EIC code for the area within Finland where the resource is located</i><br><b>10YFI-0-----3 for North Finland</b><br><b>10YFI-2-----K for South Finland</b><br><b>10YFI-3-----9R for Central Finland</b><br>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<br><b>A02</b> No  |
| Linked Bids Identification    | Not used   |
| Exclusive Bids Identification | Not used   |
| Block Bid                     | Not used   |
| Status                        | The element is optional.<br><br>If the element is present, it must contain the value <b>A09</b> (Cancelled) and is used for being able to cancel all bids for a given delivery date and market. In that case, the content of the time series is ignored. |

|   |   |
|---|---|
|   | If a time series with such a status is part of the document, it must be the only time series in the document.   |
| Registered Resource                     | Regulation object code, information is optional<br>codingScheme = <b>NFI</b> (kansallinen koodi)  |
| Direction                               | <b>A01</b> Up<br><b>A02</b> Down  |
| Market Agreement Type                   | Fixed <b>1</b>  |
| Resting duration constraint             | Not used  |
| Maximum duration constraint             | Not used  |
| <b>Period</b>                           |   |
| Time Interval                           | <i>Period covered. The bid can contain several periods. Periods are not allowed to overlap.</i><br>YYYY-MM-DDTHH:MMZ/YYYY-MM-DDTHH:MMZ<br>(ISO 8601 UTC format)<br>This shall be included in the Time Period Covered                          |
| Resolution                              | <b>PT60M</b> or <b>PT1H</b>   |
| <b>Point</b>                            |   |
| Pos                                     | <i>Position within the time interval. Sequential value beginning with 1</i>   |
| Qty                                     | <i>Offered volume</i>   |
| Price                                   | <i>The price of the product offered</i>   |
| Minimum Quantity                        | <i>The minimum quantity must be present if bid is marked as divisible (A01) and must not be present when the bid is market as indivisible (A02).<br/>Must be specified as the same value across all points across all periods of the bid.</i> |
| <b>Reason (within TimeSeries-level)</b> |   |
| code                                    | <i>Optional to use Reason code. If used, A95 = complementary information</i>  |
| text                                    | <i>Free text or identification for the BID. Does not affect the BID ID.</i>   |

|                                  |  |
|----------------------------------|--|
| <b>Reserve Allocation Result</b> |  |
| Document Identification          | <i>Unique identification of the document in UUID format</i>          |
| Document Version                 | Fixed <b>1</b>   |
| Document Type                    | <b>A38</b> Reserve Allocation Result Document                        |
| Process Type                     | <b>A47</b> Manual frequency restoration reserve                      |
| Sender Identification            | <b>10X1001A1001A264</b> (Fingrid)<br>codingScheme = <b>A01</b> (EIC) |
| Sender Role                      | <b>A04</b> TSO   |

|   |   |
|---|---|
| Receiver Identification                 | <i>EIC party code (X) of sender of the bid document</i><br>codingScheme = <b>A01</b> (EIC)  |
| Receiver Role                           | <b>A46</b> Balance Service Provider, if receiver is BSP<br><b>A39</b> Service Provider, if receiver is BSPs service provider  |
| Creation Date Time                      | <i>Date and time for creation of the document</i><br>YYYY-MM-DDTHH:MM:SSZ<br>(ISO 8601 UTC format)  |
| Reserve Bid Time Interval               | <i>The beginning and ending date and time of the period covered by the document. Must always be an entire CET/CEST day.</i><br>YYYY-MM-DDTHH:MMZ/YYYY-MM-DDTHH:MMZ<br>(ISO 8601 UTC format) |
| Domain                                  | <b>10YFI-1-----U</b><br>codingScheme = <b>A01</b> (EIC)   |
| <b>Bid Time Series</b>                  |   |
| Reserve Bid Identification              | <i>Unique identification of the time series in UUID format</i>  |
| Original bid time series                | <i>The identification of the time series that was used in the original bid document - the reference to the bid</i>  |
| Original tendering party                | <i>EIC party code (X) of the sender of the original tender</i>  |
| Auction Identification                  | Fixed " <b>MFRR_CAPACITY_MARKET</b> "   |
| Business Type                           | <b>B95</b> Procured Capacity  |
| Acquiring Area                          | <i>EIC code for the national area</i><br><b>10YFI-1-----U</b><br><i>"The area where the resource is contracted for use"</i><br>codingScheme = <b>A01</b> (EIC)                              |
| Connecting Area                         | <i>EIC code for the national area</i><br><b>10YFI-1-----U</b><br>codingScheme = <b>A01</b> (EIC)  |
| Market Agreement type                   | <b>A01</b> Daily  |
| Measure Unit Quantity                   | <b>MAW</b>  |
| Currency                                | <b>EUR</b>  |
| Measure Unit Price                      | <b>MAW</b>  |
| Registered Resource                     | <i>RO-code of the original bid, if available</i>  |
| Direction                               | <b>A01</b> Up<br><b>A02</b> Down  |
| <b>Reason (within timeseries level)</b> |   |
| Code                                    | <b>A73</b> - Tender in question has been accepted<br><b>A72</b> - The original bid quantity has been divided to enable it to be accepted.<br><b>B09</b> - Bid not accepted                  |
| <b>Reason (within timeseries level)</b> |   |
| Code                                    | <i>If Bid has an informal identification:</i><br><b>A95</b> Complementary information   |
| text                                    | <i>Identification submitted with the Bid</i>  |

| <b>Period</b>                      |  |
|------------------------------------|--|
| Time Interval                      | <i>Period covered. Always an entire CET/CEST day.<br/>YYYY-MM-DDTHH:MMZ/YYYY-MM-DDTHH:MMZ<br/>(ISO 8601 UTC format)</i>        |
| Resolution                         | <b>PT60M</b>   |
| <b>Point</b>                       |  |
| Pos                                | <i>Position within the time interval. Sequential value beginning with 1</i>  |
| Qty                                | <i>The accepted quantity for a point</i>   |
| Price                              | <i>Marginal price for the hour in question. If accepted volume for the hour is 0, this field is empty.</i>                     |
| Secondary quantity                 | <i>Original volume of the bid</i>  |
| Bid price                          | <i>Original price of the bid</i>   |
| <b>Reason (within point-level)</b> |  |
| Code                               | <b>B16 - Tender unavailable</b><br><i>This reason code is used if the TSO cannot accept the bid due to internal congestion</i> |
| Text                               | <i>"Bid could not be accepted due to constraints in the transmission network"</i>  |

## 6.1.3 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             | -Message reference missing.   |
| Document Identification must be in UUID format   | Message             | -Document Identification must be in correct format  |
| Document type must be filled out correctly   | Message             | -DocumentType missing.<br>-DocumentType must be B40   |
| Process type must be filled out correctly  | Message             | -ProcessType not valid  |
| Message must be received within a given time   | Message             | -Message was received after deadline. Gate closure for mFRR capacity bids is D-1 9:30 EET                                 |
| Message can only include bids for next 31 days<br>Message time interval must be one full day in CET/CEST time zone | Message             | -Message contains data for more than next 31 days.<br>-Document start and end interval must define an entire CET/CEST Day |
| Sender Identification must be connected to the Subject Party   | Message             | -SenderIdentification missing<br>-Sender is not connected to the Subject Party.   |
| Message must contain correct Receiver Identification   | Message             | -ReceiverIdentification missing.<br>-ReceiverIdentification is wrong  |
| Message must contain correct subject party   | Message             | -Subject party missing<br>-Subject party not found.   |
| Time stamp of the document must be in correct format   | Message             | -createdDatetime format is incorrect<br>-Decimals are not allowed in createdDatetime                                      |
| Time interval of the document must be in correct format  | Message             | -ReserveBidTimeInterval not in correct format   |
| <b>Bid Times Series:</b>   |                     |   |
| Bid Identification is mandatory<br>Bid Identification must be in UUID format                                       | Bid                 | -ReserveBidIdentification missing.<br>-ReserveBidIdentification must be in correct format                                 |
| Business type must be correct  | Bid                 | -Business type missing<br>-Message can only contain mFRR capacity bids  |
| Acquiring domain must be 10YFI-1-----U<br>Connecting domain must be either Finland or flow area in Finland         | Bid                 | -Acquiring domain must be 10YFI-1-----U.<br>-Connecting domain must be 10YFI-0-----3 or 10YFI-2-----K                     |

|   |     |  |
|---|-----|--|
| Quantity Measure unit must be MAW   | Bid | <i>-Quantity unit must be MAW.</i>   |
| Currency must be EUR  | Bid | <i>-Currency must be EUR.</i>  |
| Price Measure unit must be MAW  | Bid | <i>-Price unit must be MAW</i>   |
| Divisibility must be specified  | Bid | <i>-Divisible must be A01 or A02<br/>-Divisible required.</i>  |
| Direction must be specified   | Bid | <i>-Direction required<br/>-Direction must be A01 or A02</i>   |
| marketAgreement type must be specified correctly  | Bid | <i>-Market agreement type required<br/>-MarketAgreementType must be A01</i>  |
| <b>Bid Times Series Interval:</b>   |     |  |
| Time interval of the bid must be in correct format  | Bid | <i>-Period TimeInterval not in correct format</i>  |
| Bid interval must be included in document time interval<br>Bid Periods are not allowed to overlap<br>Resolution not specified correctly<br>Point position within a period must begin with 1 | Bid | <i>-Period is not in header timeinterval<br/>-Periods are overlapping<br/>-Resolution must be PT60M or PT1H<br/>-Point position within a period must begin with 1<br/>-Point position 'x' is missing from period<br/>-Position 'x' is not valid for period<br/>-Points must be in order by position number</i> |
| Quantity is required  | Bid | <i>-Quantity required<br/>-Quantity cannot contain any decimals</i>  |
| Quantity must be within accepted limits   | Bid | <i>- Quantity must be between 1-50</i>   |
| Quantity must be defined as a whole number  | Bid | <i>-Quantity cannot contain any decimals</i>   |
| Minimum Quantity must be present if bid is defined as divisible (A01)<br>Minimum quantity must not be present if bid is defined as indivisible  | Bid | <i>-Minimum quantity required for divisible bid<br/>-Minimum quantity must not be used for indivisible bid</i>   |
| Price is required   | Bid | <i>-Price required</i>   |
| Prices cannot be negative   | Bid | <i>-Price is lower than the lower limit 0.01</i>   |
| Price can contain a maximum of two decimals   | Bid | <i>-Price contains too many decimals</i>   |

## 6.2 Example messages

*Example messages are provided upon asking Fingrid experts.*