# **TERRE, MARI, PICASSO principles for transferring Balancing energy (BE) data from European platforms to CS OTE (valid for data from July 2024):**

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As part of the transition to the European platforms for the exchange of balancing energy TERRE (RR), MARI (mFRR) and PICASSO (aFRR), a new way of transferring data on provided SVR services between ČEPS and OTE is being implemented. The TERRE platform has already been implemented in CS OTE in 2020, however its operation is also covered in this document.

## Structure of transmitted data and meaning of individual profile values

The structure of the data transmitted by the EAN OPM for the registration of data from the European Regulatory Energy Exchange Platforms is described by the meaning of the individual profile roles. Each profile role is composed of 3 characters:

The first character indicates the platform for the exchange of balancing energy, or its subcomponent (in the case of MARI), and takes the following values:

T - TERRE platform

S - MARI platform scheduled activation

D - MARI platform direct activation

P - PICASSO platform

The second character indicates whether it is a quantity or price profile:

V - value, i.e. quantity profile [kWh,2 decimal places]

P - price, i.e. price profile [CZK/MWh, 2 decimal places]

The third character specifies the meaning of the profile (described in more detail in the tables below). The specificity is that the odd numbered profile is for reporting BE+, the even numbered profile is for reporting BE- data.

All profile values are 15-minute values.

The description of the structure and XSD templates for recording BE data from European platforms can be found on the OTE public website:

<https://www.ote-cr.cz/cs/dokumentace/dokumentace-elektrina/dokumentace-elektrina>

### **TERRE (RR)**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 1st char. | platform  | 2nd character | Type | 3rd character[[1]](#footnote-1) | Purpose/territory of addressing the imbalance |
| T | TERRE | V | Value | 1 | BE+ Czechia |
|  |  | P | Price | 2 | BE- Czechia |
|  |  |   |   | 3 | BE+ abroad |
|   |   |   |   | 4 | BE- abroad |
|   |   |   |   | 5 | BE+ without effect on imbalance price (following ¼h)  |
|   |   |   |   | 6 | BE- no effect on imbalance price (following ¼h) |
|   |   |   |   | 7 | BE+ without effect on imbalance price (previous ¼h) |
|   |   |   |   | 8 | BE- no effect on imbalance price (previous ¼h) |
|   |   |   |   | 9 | Failure to provide BE+ of the required quality |
|   |   |   |   | 0 | Failure to provide BE of the required quality |

An inventory of all TERRE profiles in use:



### **MARI (mFRR)**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 1st char | Platform / activation | 2nd char | Type | 3rd char[[2]](#footnote-2) | Purpose/territory of addressing the imbalance |
| S | Scheduled activation | V | Value | 1 | BE+ Czechia |
| D | Direct Activation | P | Price | 2 | BE- Czechia |
|  |  |   |   | 3 | BE+ abroad |
|   |  |   |   | 4 | BE- abroad |
|   |  |   |   | 5 | BE+ without effect on imbalance price (following ¼h)  |
|   |  |   |   | 6 | BE- no effect on imbalance price (following ¼h) |
|   |  |   |   | 7 | BE+ without effect on imbalance price (previous ¼h) |
|   |  |   |   | 8 | BE- no effect on imbalance price (previous ¼h) |
|   |  |   |   | 9 | Failure to provide BE+ of the required quality |
|   |  |   |   | 0 | Failure to provide BE of the required quality |

Inventory of all MARI profiles in use:



### **PICASSO (aFRR)**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 1st char | Platform | 2nd char | Type | 3rd char[[3]](#footnote-3) | Purpose/territory of addressing the imbalance |
| P | PICASSO | V | Value | **1** | **BE+ (no distinction whether BE is for the Czech Republic or abroad)** |
|  |  | P | Price | **2** | **BE- (no distinction whether BE is for the Czech Republic or abroad)** |
|  |  |   |   | 3 | *Not used, but profile retained due to OPM PIC standardization* |
|   |  |   |   | 4 | *Not used, but profile retained due to OPM PIC standardization* |
|  |  |  |  | 5 | *Not used, but profile retained due to OPM PIC standardization* |
|  |  |  |  | 6 | *Not used, but profile retained due to OPM PIC standardization* |
|   |  |   |   | **9** | **Failure to provide BE+ of the required quality [[4]](#footnote-4)** |
|   |  |   |   | **0** | **Failure to provide BE of the required quality** |

Inventory of all PICASSO profiles in use:



## Registration of balancing energy from European platforms - work with profile values on EAN points

New profile types have been created on EAN points for reporting BE data from European platforms (see above). Historical F\* and G\* profiles are also used for calculations over the BE data provided after 1 April 2022. However, their use is reduced to the transmission of BE data provided for mFRR5 (profiles F11, F12 are used, G11 and G12 on newly created EAN points for mFRR5 with AGR resource type) and to report information on redispatch and test activation of the provider's resource (profiles FX1, FX2, FX3, FX4 are used to report this data, as well as GX1, GX2, GX3 and GX4 on current EAN points on which measurement data are transmitted). The processing of BE data will now use the existing F\* and G\* profiles as well as the new sets of profiles generated on the EAN points used to register values and prices of the BE provided through the European platforms. For the resulting display of the balancing energy provided, the BE provider will display the BE in the **Settlement->Reports->Balancing Energy** report.

### SVR provider's view

From the SVR provider's perspective, the balancing energy is divided (at the MMS CEPS level) into the individual 15 minutes in which the BE was provided. Subsequently, the data at the 15-minute granularity is transmitted to the CS OTE system. For each platform, the data is reported as follows:

TERRE (RR) - total for all units that provided BE on the virtual EAN point of the provider with the TER resource type

MARI (mFRR 12.5) - aggregated for all units that provided BE, broken down by activation method into planned and direct activation

PICASSO (aFRR) - individually by each unit providing the advance

mFRR5 - for these newly registered EAN points, data on the provided BE is transmitted on profiles (F\* and G\*) at 15-minute resolution

### View BRP

For the balance responsible party (BRP), who is responsible for the EAN point imbalance for the transmission of BE data from European platforms, the impact of the transmitted BE data on its overall balance sheet is important. The BE data from European platforms are subtracted from the relevant profiles identically to the original F\* profiles. In order to reproduce the summation of the data drop into the balance of the BRP, the sum over all quantity profiles ("V" in the 2nd character of the profile name) can be added to the balance of the F\* profiles in a given direction, divided according to the last character of the profile (if the last character is odd, it is BE+, if even, it is BE-). The result of the calculation is the sum of the BEs in a given direction, which is subtracted from the balance of that BRP in a given quarter-hour.

### Imbalance settlement inputs

The BE prices from which the imbalance prices and counter-imbalance prices are calculated include the current prices on G\* profiles, with the exception of GX1, GX2, GX3 and GX4 profiles. From the TERRE and MARI type EAN points, only profiles with the value 1 and 2 in the 3rd character of the profile name (BE supplied for the purposes of Czechia) enter the imbalance price and counter-imbalance price. From the PICASSO type EAN points, the marginal price aFRR determined by CEPS, which is transmitted on a dedicated EAN point specifically designed to transmit this price, enters the imbalance settlement, not the prices from the individual PICASSO type EAN points provided by the BE.

## Examples

### TERRE+ MARI (the difference is only in the first character of the profile, where the T character is used for TERRE and either for MARI: S - scheduled activation or D - direct activation)

1. **Balancing energy (BE) activated in Czechia for solution of imbalance states in Czechia (3rd character = 1, 2):**
* the quantity of BE and the price of BE are included in the calculation of the imbalance and counter-imbalance settlement price;
* is settled between the market operator and the BE provider at the actual BE price;
* in the CS OTE system is reported on the virtual EAN point of the BE provider as follows (e.g. for the first quarter hour):
	+ TV1 - the amount of positive BE from TERRE for a given quarter-hour;
	+ TV2 - the amount of negative BE from TERRE for a given quarter-hour;
	+ TP1 - unit price of positive BE from TERRE for the given quarter-hour;
	+ TP2 - unit price of negative BE from TERRE for the given quarter-hour.

Example: entity 1 provides 10 MWh via TERRE for 100 CZK/MWh (in the 1st quarter hour)

* EAN of entity 1
	+ 10 000 kWh will be reported on the TV1 profile in the interval 0:00-0:15;
	+ 100 CZK/MWh will be reported on the TP1 profile in the interval 0:00-0:15.
1. **Balancing energy caused by activating bid via the TERRE platform for the next quarter hour (3rd character = 5, 6):**
* the quantity of BE is included in the imbalance evaluation and settlement system, the price of this BE is transmitted, however, it is not taken into account for the calculation of the imbalance and counter-imbalance settlement price;
* is settled between the market operator and the BE provider at the actual BE price;
* in the CS OTE system is reported on the virtual EAN point of the BE provider as follows (e.g. for the 1st quarter-hour preceding the activation in the 2nd quarter-hour):
	+ TV5 - the amount of positive BE from TERRE for a given quarter-hour;
	+ TV6 - the amount of negative BE from TERRE for a given quarter-hour;
	+ TP5 - unit price of positive BE from TERRE for the given quarter-hour;
	+ TP6 - the unit price of the negative BE from TERRE for a given quarter-hour.

Example: will be part of the comprehensive example below - see example (i) below.

1. **Balancing energy caused by deactivation of the bid via the TERRE platform from the previous quarter-hour (3rd character = 7, 8):**
* the quantity of BE is included in the imbalance evaluation and settlement system, the price of this BE is transmitted, however, it is not taken into account for the calculation of the imbalance and counter-imbalance settlement price;
* is settled between the market operator and the BE provider at the actual BE price;
* in the CS OTE system is reported on the virtual EAN point of the BE provider as follows (e.g. for the quarter-hour following the end of the activation):
	+ TV7 - amount of positive BE from TERRE for the given quarter hour;
	+ TV8 - the amount of negative BE from TERRE for a given quarter-hour;
	+ TP7 - unit price of positive BE from TERRE for the given quarter-hour;
	+ TP8 - the unit price of the negative BE from TERRE for a given quarter-hour.

Example: will be part of the comprehensive example below - see example (i) below.

1. **Balancing energy activated via the TERRE platform that was not delivered by the BE provider in the required quality (3rd character = 9, 0):**
* the quantity of BE is included in the imbalance evaluation and settlement system, the price of this BE is transmitted, however, it is not taken into account for the calculation of the imbalance and counter-imbalance settlement price;
* in the CS OTE system is reported on the virtual EAN point of the BE provider as follows:
	+ TV9 - the amount of positive BE from TERRE for a given quarter-hour;
	+ TV0 - the amount of negative BE from TERRE for a given quarter-hour;
	+ TP9 - unit price of positive BE from TERRE for the given quarter-hour;
	+ TP0 - the unit price of the negative BE from TERRE for a given quarter-hour.

Example : Entity 1 sells 10 MWh via TERRE for 100 CZK/MWh for solution of imbalance state in Czechia, but fails to deliver this BE in the required quality:

* EAN of entity 1 ("EAN point of the BE provider")
	+ value of 10 MWh will be reported on the TV9 profile;
	+ value 0 CZK/MWh will be reported on the TP9 profile.
1. **Comprehensive example of providing BE for solution of imbalance state in Czechia using overlaps (ramp-up before activation or ramp-down after deactivation)**

Example: entity 1 will provide 20 MWh in the Czech Republic via TERRE for 200 CZK/MWh in the 2nd quarter hour. This contract includes a ramp-up to the demand value in the previous quarter-hour of 4 MWh and a run-up in the following quarter-hour of 6 MWh. We assume that the BE price in the ramp-up and run-up is the same (i.e. 200 CZK/MWh) as for the activation of a regular BE.

EAN point of entity 1 ("EAN point of the BE provider"):

* + Run-up (1st quarter of an hour):
		- 4 MWh (positive BE) will be reported on the TV5 profile in the interval 0:00-0:15;
		- TP5 profile will show 200 CZK/MWh (positive price) in the interval 0:00-0:15;
	+ Activation (2nd quarter hour):
		- TV1 profile will show 20 MWh (positive BE) in the interval 0:15-0:30;
		- TP1 profile will show 200 CZK/MWh (positive price) in the interval 0:15-0:30;
	+ Time (3rd quarter of an hour):
		- 6 MWh (positive BE) will be reported on the TV7 profile in the interval 0:30-0:45;
		- TP7 profile will show 200 CZK/MWh (positive price) in the interval 0:30-0:45;
1. Odd/Even = BE+/BE- [↑](#footnote-ref-1)
2. Odd/Even = BE+/BE- [↑](#footnote-ref-2)
3. Odd/Even = BE+/BE- [↑](#footnote-ref-3)
4. [↑](#footnote-ref-4)