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Product specifications

Reserve Power Other Purposes

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Version Management

Version	Date	Description
1.0	11.4.2019	ROD Product specifications

1. Introduction

As Transmission System Operator (TSO), TenneT TSO B.V. (hereafter TenneT) has the statutory task of safeguarding the grid security of the electricity system in the Netherlands.¹ For this purposes, TenneT purchases so-called ancillary services from qualified market parties.² Market parties in the role of Transport Service Provider (TSP) can offer the Reserve Power Other Purposes (ROD) product to TenneT.³ TenneT uses this capacity mainly to mitigate the risk of expected congestions by reducing the power flows across certain grid elements on the basis of a grid security analysis under the criterion of the single fault reserve.⁴

The use of ROD in various connection points in the grid enables generation and consumption to be shifted geographically in the grid, which influences power flows. This process is also known as *redispatch*. ROD can also be used as a measure with both national and international transport problems.

The ROD product is used to resolve transport problems. TenneT uses other products for balancing.⁵

This document describes the product specifications of ROD, particularly the conditions for the delivery of ROD, the submission of bids, the process of activating bids and the administrative settlement.

¹ TenneT is also the transmission system operator for a part of the German transport grid. This document only relates to the Reserve Power Other Purposes product as applied in the Netherlands.

² See also www.tennet.eu for product specifications of other ancillary services.

³ In contrast to the Balancing Service Provider (BSP), the TSP is not a statutory role. TSP is only used in TenneT's documentation to describe the suppliers of transport services, such as Reserve Power Other Purposes, for instance.

⁴ The criterion of single fault reserve, also known as the N-1 criterion, states that the grid must still be in full operation even after the failure of a random element. This criterion is laid down in *Commission Regulation (EU) 2017/1485 establishing a guideline on electricity transmission system operation* and in the national regulatory framework of the *Netcode Elektriciteit*.

⁵ For balancing TenneT uses the products the FCR, aFRR, mFRRsa and mFRRda.

2. Definitions and Abbreviations

Abbreviation/definition	Description
BRP	Balancing Responsible Party
CPS	Centraal Postbus Systeem
ISP	Imbalance Settlement Period – time unit of 15 minutes; a day is subdivided into 96 ISPs
ROD	Reserve Power Other Purposes
TSO	Transmission System Operator
TSP	Transport Service Provider
BTV	Balancing and Transport Capacity

3. Transport Service Providers (TSP)

As described in the *Netcode Elektriciteit* (Dutch Grid Code), consumers and producers with a connection capacity of over 60 MW are obliged to make available to TenneT the power that can be produced or consumed less or more than planned. This can be done, among other means, by, submitting bids for ROD. Parties with connection capacities below 60 MW can submit bids on a voluntary basis. Parties can only submit bids if they have gone through the ROD prequalification procedure.

3.1 Prequalification procedure

The ROD prequalification procedure is described in the *prequalification process for FCR, aFRR, mFRRsa, mFRRda and Reserves Other Purposes* document on www.tennet.eu. This process briefly consists of the following steps:

1. The supplier completes an application form and submits this to TenneT.
2. TenneT checks the details and requests additional details where necessary.
3. TenneT and the supplier check the message exchange.

Following a successful conclusion, the supplier receives a TSP status and bid messages can be submitted and activated.

4. Bids

Information related to submitting bids for all products can be found in the *Manual Bidding of Balancing- and Transport Power*. This document can be found on www.tennet.eu.

Properties that apply specifically for ROD are the preparation period, delivery period and the location of the offered capacity. The location-specific element is indicated in the form of an EAN code. For ROD, no ramping rate is indicated in the bid. Activation for the offered capacity by the TSP should take place as

quickly as possible, taking into account the technical possibilities of the installation. Complete activation of the activated capacity must be realised prior to the start of the ISP to which the bid relates.

ROD property	Possible values
Preparation period: the minimum start-up time between the point of activation and the point of supply	Greater than or equal to 3 ISPs*
Delivery period: minimum number of consecutive ISPs* in which activation is possible	Greater than or equal to 4 ISPs*
Power in MW	Integer of 1 MW or higher, value is positive for upward regulation and negative for downward regulation
Ramping rate	No activation speed is indicated in the bid
Grid object location: A point or collection of points in the Dutch high voltage grid where capacity is made available. This point has one owner or operator.	EAN code

* An Imbalance Settlement Period (ISP) is equal to 15 minutes, a day is subdivided into in 96 ISPs (except for days with a transition from summer to winter time and vice versa).

Before bids can be offered to TenneT, a party should be certified at TenneT as TSP for electronic data traffic (EDINE) and have a connection to the Central Postbox System (CPS). Information about the EDINE-related topics, such as the UTILTS messages (for the bid messages) can be requested via EDSN.

4.1 Providing bids

ROD bids can be submitted from 7 days prior to the day of delivery. On the day of preparation (D-1), bids can be submitted until 14:45 hours and after the time of approval. On the day of delivery, bids can be submitted until the specified supply preparation period.

Bids that are not activated and lie outside the specified preparation period can be amended as desired. These changes take place by submitting a new version of the bid message for the same delivery day. Bids can be withdrawn by submitting a new bid message with 0-values for the capacity that has been made available. Modifications can be made by withdrawing the capacity as described and submitting a new bid. When a bid message contains changes for already expired or activated bids, all bids will be rejected. Bids expire when their preparation period lies partly or entirely in the past or in the current ISP.

5. Activation of bids

ROD bids are used to resolve congestions. The bids are selected to meet TenneT requirements at the lowest possible costs. This is done by activating bids in areas where these are effective in reducing the power flow across overloaded grid elements.

TenneT can activate the offered capacity within the 'transaction space' specified in the bids. The transaction space is determined by the offered size and direction of the offered capacity, the preparation period and the

delivery period (ISPs) as specified in the bid. The bid can be activated in accordance with the size of the offered capacity for at least the duration of the offered delivery period. Examples are given in appendix 1 of the effect of the submitted bids on the transaction space.

The activation of the offered ROD obliges the TSP to activate the power on the specified connections as indicated in the relevant bid. The supplied power is relative compared to the T-prognosis at the time of activation and thus must be delivered in addition to the planned dispatch for the delivery period.⁶ Immediately after announcing a change, including an activation of an ROD bid by TenneT, the changed T-prognosis should be made available to the grid operator.

The imbalance of the Balancing Responsible Party (BRP) of the TSP is corrected by TenneT for the activated capacity. The volume to be corrected on the imbalance of the BRP specified in the bid is determined by offsetting the ROD volumes per ISP direction allocated to the BRP.

The transaction is registered via a transaction message to the supplier and BRP. This includes the specification of the applicable transaction volume, price, reference to the bid and the correction to be carried out on the imbalance of the BRP.

To indicate that TenneT requires additional ROD capacity, TenneT publishes market messages stating at which locations and in which direction the capacity is needed. Market messages are published on the www.tennet.eu under 'operational reports'.

Details about the capacity available to TenneT and the ROD capacity activated by TenneT are published on www.tennet.eu under 'system & transmission data'.

6. Settlement

The volume that is remunerated to the TSP is determined by the capacity specified in the ROD bid and the duration of the activation (number of activated ISPs). The payment for the volume supplied by the TSP is determined by price specified in the bid (pay-as-bid) and the volume.

TenneT provides the TSPs of ROD with a daily overview of all transactions that serves for billing, namely:

- name of the BRP
- name of the TSP
- day of delivery
- ISPs to which the transaction applies
- transaction volume
- transaction price

⁶ TenneT assumes the realised power in real-time of production units greater than 60 MW but lower than 200 MW to deviate no more than 5% of the maximum power compared to the latest T-prognosis. For production units greater than or equal to 200 MW a maximum deviation of 10 MW applies (*Netcode* article 13.11.19).

The invoices for the supplied ROD (positive and/or negative) are sent by TenneT weekly on Wednesdays. The invoices concern the supplies in the previous period from Saturday to Friday. They contain at least the following information:

- name of the TSP
- the period, start and end date
- calculated volumes and amounts per direction
- total amount

Once the invoice amount is agreed the invoice should be paid within 2 weeks.

7. Questions

Any questions about ROD or the connection to the CPS can be sent to TenneTCCC@tennet.eu.

Appendix 1: Examples of bids and transaction space

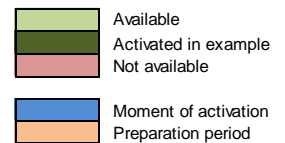
The tables below show the way in which bids can define a transaction space. In all examples, a delivery period of at least 4 ISPs (15 minutes) is indicated in the bids. This means that if TenneT intends to activate a bid, it must do so for at least 4 consecutive ISPs. The preparation period is set at minimum 3 ISPs for these bids. For both the supply period as well as for the preparation period, larger values can be specified by the TSP.

ISP	ISP start-time	bid capacity (MW)	Moment of activation	Transaction space
1	0:00			
2	0:15			
3	0:30			
4	0:45			
5	1:00	50		50
6	1:15	50		50
7	1:30	50		50
8	1:45	50		50
9	2:00	50		50
10	2:15			50
11	2:30			50
12	2:45			50

1: All bids are available. In this example the bids are activated from ISP 7 to 10.

ISP	ISP start-time	bid capacity (MW)	Moment of activation	Transaction space
1	0:00			
2	0:15			
3	0:30			
4	0:45			
5	1:00	50		50
6	1:15	50		50
7	1:30	50		50
8	1:45	50		50
9	2:00	50		50
10	2:15			50
11	2:30			50
12	2:45			50

2: Part of the bid is placed in the preparation period and is no longer available. The bid can still be activated from ISP 7 to 12.



The examples from tables 1 and 2 concern one submitted bid, in which 50 MW upward capacity was offered for the ISPs 5 to 9. The first two tables show different examples of the points in time at which TenneT can activate these bids. Table 1 shows the point at which TenneT activates bids entirely outside their preparation period, and the capacity from these bid is still available for all specified points in time. However, when the moment of activation moves, as shown in table 2, the capacity is no longer available for ISPs 5 and 6, as indicated in red.

ISP	ISP start-time	bid capacity (MW)	Moment of activation	Transaction space
1	0:00			
2	0:15			
3	0:30			
4	0:45			
5	1:00	50		50
6	1:15			50
7	1:30			50
8	1:45			50
9	2:00	50		50
10	2:15			50
11	2:30			50
12	2:45			50

3: part of the bid is placed in the preparation period and is no longer available. The bid is available again from the next entered bidline. In this example the bid is activated from ISP 9 to 12.

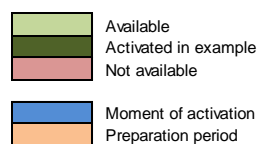


Table 3 shows that one bid with a supply period of 4 ISPs at each hour has in principle the same effect as a bid in which values are indicated for each ISP as in tables 1 and 2. The difference is, however, that at the point that these bids fall within the preparation period, the possibility of using these bids in the subsequent ISPs also expires. In table 3, TenneT can only use the indicated 50 MW for ISPs 9 to 12.

ISP	ISP start-time	bid capacity (MW)		Moment of activation	Transaction space		Activated
		Bid 1	Bid 2		Bid 1	Bid 2	
1	0:00						
2	0:15						
3	0:30						
4	0:45						
5	1:00	50	100		50	100	0
6	1:15	50			50	100	50
7	1:30	50			50	100	50
8	1:45	50			50	100	50
9	2:00	50	100		50	100	150
10	2:15				50	100	100
11	2:30				50	100	100
12	2:45				50	100	100
13	3:00						
14	3:15						

4: Two bids are submitted, which are only partly available. In the example bid 1 is activated from ISP 6 to 9 and bid 2 is activated from ISP 9 to 12.

	Available
	Activated in example
	Not available
	Moment of activation
	Preparation period

ISP	ISP start-time	bid capacity (MW)		Moment of activation	Transaction space		Activated
		Bid 1	Bid 2		Bid 1	Bid 2	
1	0:00						
2	0:15						
3	0:30						
4	0:45						
5	1:00	50	100		50	100	0
6	1:15	50			50	100	0
7	1:30	50			50	100	0
8	1:45	50			50	100	0
9	2:00	50			50		50
10	2:15				50		50
11	2:30		100		50	100	150
12	2:45				50	100	150
13	3:00					100	100
14	3:15					100	100

5: Bid 2 has a longer interval than its delivery period, and is therefore not continuously available. In the example bid 1 is activated from ISP 9 to 12 and bid 2 is activated from ISP 11 to 14.

In tables 4 and 5 the same TSP has submitted two bids with different capacities (50 and 100 MW upward). The two bids from the same bid message result in the availability of both capacities. In table 4, the preparation time for both bids has started for the capacity offered for ISP 5, which results in a reduced availability in ISPs 5 to 8. Table 5 shows that the space between successive bid lines from bid 2 causes this bid not to be available in ISPs 9 and 10.