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Implementing rules with regard to the Electricity Network Code

Version management

Version	Date	Brief description of amendment
0.0	13.02.2001	First version published by Market and Regulation Department
1.0	29.01.2002	Various textual changes, block time of Energy Programmes changed from 2 hours to 1 hour, definition of regulating object added and implementation of market restrictions.
1.1	18.03.2002	Section on market restrictions deleted, as topic is described in TenneT procedure "BS-OPP 2002-001; Procedure for resolution of transmission restrictions on 380/220 kV grid connections through shifts in production"
2.0	02.07.2003	Separate implementation regulations combined into single document. Section 1.3.4.1 brought in line with existing bidding rules. Section 1.3.3.2 bullet referring to no bidding obligation when the dispatch time is 36 hours was deleted as it is in conflict with the Codes. Section 1.3.4.3 dispatch time for incident reserve changed to 15 minutes. Implementation regulations for sections 5.1.1.2/5.1.1.5 of the Grid Code and section 3.8 of the System Code added.
2.1	04.09.2003	Section 4.3.1.2 brought in line with the Codes.
2.2	01.03.2004	Chapter 4 deleted. The provisions of section 3.8 of the System Code will be included in the Technical Codes in due course.
3	01.09.2006	Chapter 1 amended where it concerns the dispatch of reserve power bids to support foreign TSOs in complying with UCTE policies; changes to sections 1.2, 1.3.1, 1.3.2.2, 1.3.2.2, 1.3.5.3, 1.3.6; insertion of new section 1.3.9; changes to old sections 1.3.9.1 and 1.3.10. Amendment to chapter 1 in connection with changes to Load Frequency Control (LFC) system and dummy bids. Amendment to chapter 2 in connection with market coupling.
3.1	14.11.2007	Amendment to chapters 1 and 2 in connection with Energie Data Services Nederland. Amendment to chapter 2 in connection with changes to the Grid Code following NorNed implementation.
4.0	March 2010	Amendment to chapter 1 in connection with bid functionality. Insertion of Chapter 4 Procedure pursuant to Section 3.9.8 of the System Code with respect to the incentive component.
4.05	March 2011	Amendment to bid size limits.
4.1	May 2011	Amendment to Chapter 3 and Annex 6.1 with respect to SST, following BritNed implementation.
4.2	Jan 2012	Amendment to Chapter 1 bid limit; amendment to Chapter 3 and deletion of 7.2 following implementation of ex-post notification; addition of GCTs IET nominations table.
4.3	Nov 2017	Amendment to Chapter 1 bid limit (1.4.2). Response aFRR same as product specification.
4.4	Jan 2018	Amendment to Gate Closure Time.
4.5	Dec 2019	Amendment to settlement
5.0	March 2020	Reviewed in the context of code change BR-2018-1417 GL EB and changes to Electricity Grid Code.

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1. Implementation regulations for bids

1.1 Introduction

The Electricity Grid Code contains provisions relating to making regulating and reserve power available by means of bids to TenneT by connected parties, and about the use of this by TenneT. These provisions are detailed below.

In case of differences between this text and the text of the Electricity Grid Code, the text of the Grid Code shall prevail.

1.2 Procedure pursuant to article 9.19 of the Electricity Grid Code

1.2.1 Who offers capacity?

In accordance with article 9.19 of the Grid Code, all connected parties with a contractually agreed (in the connection contract) and available total power of more than 60 MW (in total per connection) are obliged to make available to TenneT all the power that can be consumed less, or can be produced more by means of offering bids to TenneT. Other connected parties can offer voluntarily to TenneT the power that can be consumed less or that can be produced more.

The offer may be made by appointing a “BSP” (Balancing Service Provider)¹ for balance energy bids (see product specifications mFRRsa and aFRR) or by ‘reserve other purposes’ bids to the grid operator of the national high voltage grid (see product specification ROD) from the viewpoint of redispatch with respect to section 9.1 of the Electricity Grid Code².

1.2.2 What is a bid

Balance energy bids and Reserve Power Other Purposes bids are electronic messages of an accounting nature, that give TenneT the right in case of activation to:

- Calculate a volume.
- Settle this volume with the provider.
- Correct this volume on the BRP imbalance of the connection.

The supplier of bids is responsible for compliance with requirements and specifications with respect to bids, (see: Manual Tendering of Regulating and Reserve Power on the TenneT website (www.tennet.eu)).

Incorrect bids will be ignored by TenneT.

TenneT is responsible for timely activation or deactivation of bids and for correct financial and administrative settlement of the bids activated by TenneT.

¹ Commission Regulation (EU) 2017/2195, 2(6).

²Article 9.1 of the Grid code: Consumers and producers with a contractually agreed and available transmission capacity exceeding 60 MW shall be obligated to contribute to the resolution of physical congestion under conditions agreed in advance with the grid operator.

All bids will be archived by TenneT and can be used for analysis purposes in retrospect.

1.2.3 What is the objective of bids

1.2.3.1 For suppliers

Bids give suppliers the option to:

- comply with Electricity Grid Code article 9.1 and 9.19³
- generate additional turnover under their own conditions and depending on TenneT's requirements.
- manage the imbalance price risk to a certain level.
- prevent that TenneT needs to start claiming power, including disconnecting the load.

1.2.3.2 For TenneT

Maintaining balance:

- To comply with Commission Regulation (EU) 2017/1485 establishing a guideline on electricity transmission system operation. This concerns such things as having a certain amount of FRR permanently available and complying with a 'control target' to restore the system balance.

Other purposes:

- Resolving internal congestion: Being able to comply with Electricity Grid Code §9.1 and 9.2 with respect to solving transmission constraints.
- Comply to Commission Regulation (EU) 2017/1485 establishing a guideline on electricity transmission system operation (SO-GL).
- Comply to Commission Regulation (EU) 2017/2196 establishing a network code on electricity emergency and restoration of the electricity grid (ER-GL).
- Comply to Regulation (EU) 2019/943 of the European Parliament and of the Council of 5 June 2019 on the internal market for electricity (Clean Energy Package)

1.2.4 How bids are offered

Bids are submitted via an electronic message with a prescribed format UTIL TS. The specifications of this message can be found on "My EDSN" via www.edsn.nl.

The timelines for submitting and changing bids are incorporated in article 10.38 of the Grid Code.

1.2.5 What is offered

The required parameters and the optional parameters with respect to balance energy bids (FRR) and Reserve Power Other Purposes (ROD) are described in the Manual Tendering of Regulating and Reserve Power on the TenneT website www.tennet.eu.

For balance energy bids, the bid price of a bid per ISP may vary; for Reserve Power Other Purposes bids,

³ Requirements are included in article 10.38 of the gridcode with respect to the time windows for the submission of bids.

the bid price of a bid may not vary.

A regulating object links two aFRR bids (dispatch time = 0) with different sign. A reserve object links two Reserve Power Other Purposes bids with the same dispatch time and power, but with another dispatch duration and bid price.

The sign of the product of the Power and the Bid price determines the offered direction of the flow of money:

	Bid price > 0	Bid price < 0
Power > 0 (upward regulation)	TenneT pays supplier	Supplier pays TenneT
Power < 0 (downward regulation)	Supplier pays TenneT	TenneT pays supplier

1.2.6 Publications on website

A bid price ladder will be produced of all bids for maintaining balance. The bid price ladder is divided into a section for upward adjustment bids and a section for downward adjustment bids. Every day, the expected upward and downward regulation prices for each ISP of that day and the next day, as soon as and if available, will be published on the TenneT website www.tennet.eu. The prices are presented based on the prevailing bid price ladders for maintaining balance, the price of a deployment/dispatch value in MW of 0, + or - 100, + or - 300, + or - 600 and at the end of the bid price ladder per direction.

An overview based on Reserve Power Other Purposes bids according to status and direction is also published.

Publications on the website will be updated each ISP.

1.3 Usage Bids by TenneT

1.3.1 Deployment/dispatch for maintaining balance

1.3.1.1 Procedure

- Bids are deployed/dispatched by TenneT in accordance with the bid parameters and TenneT's requirements as derived from Commission Regulation (EU) 2017/1485. TenneT can deploy multiple aFRR bids in parallel in order to obtain the desired regulating speed in MW/min.
- Upward adjustment bids (+) are deployed/dispatched by TenneT in order of increasing bid price. Downward adjustment bids (-) are deployed/dispatched in order of decreasing bid price.
- Deployment of an aFRR bid in an ISP takes place when TenneT allocates and dispatches a setpoint to the supplier: the delta signal.
- A bid to which a setpoint is allocated at the end of ISP_N automatically leads to the deployment of that bid in ISP_{N+1} , unless:
 - The bid no longer exists in ISP_{N+1} .
 - The sign (+/-) of the correction required by TenneT in ISP_{N+1} does not correspond with the sign of the bid's setpoint at the end of ISP_N .

- The correction required by TenneT at the beginning of ISP_{N+1} is allocated to other bids with lower prices (if it concerns upwards regulation) or other bids with higher prices (if it concerns downwards regulation).
- An aFRR bid that is no longer deployed for this reason will be readjusted to 0 in ISP_{N+1} , with due regard for the regulating speed of the bid deployed in ISP_N .
- A bid is dispatched as mFRRsa maintaining balance when TenneT sends a dispatch notification to the supplier.

1.3.1.2 Calculation of volume

- Volume calculations for aFRR bids are performed by adding all setpoints⁴ per supplier, per direction and per ISP.
- Dispatch of an mFRRsa bid leads per ISP to the allocation of a volume based on size * ISP.
- The volume to be allocated per BSP per ISP per direction for maintaining balance is determined by adding up the volumes calculated per ISP and per direction for aFRR and mFRRsa bids.

1.3.1.3 Payment

- The volume to be allocated to suppliers for maintaining balance is calculated per ISP per direction. Upward regulation bids are settled at the price of the highest bid deployed or dispatched in that ISP (i.e. the deployment price for upward regulation). Downward regulation bids are settled at the price of the lowest bid deployed in that ISP (i.e. the deployment price for downward regulation).
- If no price for upward or downward regulation is available, the volume to be allocated to suppliers for maintaining balance per ISP per direction is settled at the upward or downward regulation price of the previous ISP.

1.3.1.4 Imbalance correction

The volume to be corrected on the imbalance of the relevant BRP for the activated connections is determined by balancing the volumes per ISP per direction allocated to the BRP. This is in accordance with article 10.38 of the Grid Code.

1.3.2 Dispatch for other purposes

1.3.2.1 Procedure

Dispatching bids with a dispatch time ≥ 3 ISP can take place from the moment the initial bids have been placed. Every offered Reserve Power Other Purposes bid defines a transaction space for the size of the offered power and with a length based on the offered ISPs and associated dispatch duration.

TenneT is entitled within such a connected transaction space of a bid, to start a transaction over a number of ISPs of at least the offered dispatch duration, for the offered volume and direction.

This transaction will be registered via a transaction message, in which the specification of the applicable transaction volume, price, reference to the bid and the correction to be carried out on the imbalance of the

⁴ This *includes* setpoints that cannot be allocated to deployed bids.

BRP, will be indicated to the provider.

Bids will be activated in such a way that these meet the TenneT requirements at the lowest possible costs. In the event that internal transmission constraints are resolved, outside the restricted part of the grid, bids will be activated to the same volume as in the restricted part of the grid, but with reversed signs, in order to maintain the national balance. This is done in such a way as to minimise the total costs while complying with the provisions of article 9.2 of the Electricity Grid Code.

On activation of Reserve Power Other Purposes the providers will be expected to activate the power in line with the bids and the ROD product specifications (see www.tennet.eu).

1.3.2.2 Calculation of volume

Activation of a reserve power bid leads per bid to the allocation of a volume determined according to size * dispatch duration in ISPs.

1.3.2.3 Payment

Payment is per dispatch based on the bid price.

1.3.2.4 Imbalance correction

The volume to be corrected per supplier on the imbalance of the relevant BRP of the activated connections is determined by calculating volumes per ISP per direction for Reserve Power Other Purposes bids allocated to the activated connections.

1.3.3 Settlement process

1.3.3.1 Balancing settlement

- Every day⁵ TenneT provides the suppliers of regulating and reserve power for maintaining balance with an overview of all information that can serve for invoicing, namely:
 - Dte of execution;
 - Volumes in MWh and amounts in Euro for regulating and reserve power for maintaining balance per direction (upward/downward) on PT15M and daily basis;
 - Deployment prices in €/MWh per direction (upward/downward) on PT15M basis.

1.3.3.2 Invoicing

- Monthly, TenneT provides the suppliers of regulating and reserve power for maintaining balance with an overview of all information that can serve as specification for the invoice, namely:
 - Volumes in MWh and amounts in Euro for regulating and reserve power for maintaining balance per direction (upward/downward) on a daily basis for the entire invoicing period;
 - The total amount in Euro for regulating and reserve power for maintaining balance for both

⁵ The overview that is provided daily by TenneT to suppliers of regulating and reserve power for maintaining balance relates to the data on the 11th working day after implementation day.

directions (upward/downward) on a daily basis for the entire invoicing period.

- Within 21 calendar days of the end of each calendar month, TenneT will determine the supplied energy of the deployed regulating power and activated reserve power for maintaining balance across the previous calendar month. The financial result will be invoiced by TenneT to the Provider via an invoice.
- The invoices contain at least the following information:
 - Provider name;
 - Month of delivery;
 - Volumes in MWh and amounts in Euro for regulating and reserve power for maintaining balance per direction (upward/downward) per invoice period;
 - Total amount.
- Parties shall pay each other's invoices within 14 days of the invoice date.

1.3.3.3 Reserve Power Other Purposes settlement

- Every day, TenneT provides the providers of regulating and reserve power other purposes with an overview of all transactions that can serve for invoicing, namely:
 - name of PRP
 - supplier name
 - implementation day
 - PTU to which the transaction applies
 - transaction volume
 - transaction price

1.3.3.4 Invoicing

- The invoices for the supplied Reserve Power Other Purposes (positive and/or negative) will be sent weekly by TenneT on Wednesdays. The invoices concern the deliveries in the previous period from Saturday to Friday.
- The invoices contain at least the following information:
 - provider name
 - 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.

2. Implementation Regulations relating to forecasts (pursuant to section 13.2 of the Grid Code)

2.1 Introduction

The Grid Code contains provisions relating to transmission forecasts. In §13.2 of the Grid Code, reference is made to what a connected party must submit in the forecast. The rules in connection with how the forecast should be submitted are stated in §13.5 of the Grid Code⁶.

These rules are further specified below with regard to parties connected to the grid operated by the national grid operator.

In the event of differences between the text of this document and the text of the Grid Code, the text of the Codes shall prevail.

2.2 Definitions

D Operational day

Transmission System Operator A company designated by virtue of Section 10, 13 or 14 of the Act as the gridoperator of one or more grids.

BRP Balance Responsible Party.

GLMD Generation Load Market Document message to exchange generation and load information

2.3 Procedure with respect to “forecasts” as referred to in §13.2 of the Grid Code

- a. Connected parties and BRP (where applicable) submit their forecasts by means of an electronic message with prescribed GLMD content. Up-to-date information about the GLMD message can be found on the BRP’s MyTenneT account or on that of the connected parties
- b. Forecasts must be received by the grid operators before 3.15 pm on operational day.
- c. Changes must be supplied in accordance with the Grid Code.
- d. Emergency procedure in connection with being unable to submit a forecast is stated on <https://www.tennet.eu/nl/elektriciteitsmarkt/regels-en-procedures>

⁶ Electricity Grid Code §13.2, article 13.10 to 13.15 and §13.5 article 13.32 to 13.36

3. Implementation regulations for Single Sided Transactions (pursuant to article 10.25.7c of the Grid Code)

3.1 Introduction

Article 10.25 sub7c of the Grid Code refers to a procedure determined by the grid operator of the national high voltage grid which describes how Single Sided Transactions (SSTs) can be realised. This procedure is further specified below.

For the sake of completeness, the incorporation of SSTs in the determination of the imbalance is also described, in addition to the realisation of the transactions themselves.

In the event of differences between the text of this document and the text of the Grid Code, the text of the Grid Code shall prevail.

3.2 Definitions

Authorised Party	The BRP that submits the single sided transaction and is authorised to do so by the contract party.
Contract party	The BRP that issued the authorisation to the Authorised Party.
SST	Single Sided Transaction
BRP	Balance Responsible Party
Preparation day	Day prior to the day of execution
ISP	Imbalance Settlement Period, also known as Program time unit

3.3 Procedure pursuant to article 10.25 sub 7c of the Grid Code

3.3.1 Purpose of Single Sided Transactions

Single Sided Transactions make it possible for market parties (BRPs) to submit transactions to TenneT without processing in E Programmes. The transaction is submitted to TenneT by just 1 of the involved parties. This party must, however, have been authorised in advance by the other party to do this. Correctly submitted SSTs are processed without a consistency check or authorisation procedure.

3.3.2 Authorisations

In an authorisation⁷, one BRP (the Contract Party) indicates that it has authorised another BRP (the Authorised Party) to submit transactions to TenneT on its behalf.

Authorisations are subject to the following rules:

⁷ An authorisation form is attached as appendix

- The Contract Party issues an authorisation by completing and signing the required standard authorisation form and sending it to TenneT by post or fax (to the Customers and Markets sub-department).
- The Contract party can cancel the authorisation by completing and signing the required standard form and sending it to TenneT by post or fax (to the Customers and Markets sub department).
- The Contract Party must also inform the Authorised Party that the authorisation has been cancelled.
- Changes to authorisations must be submitted to TenneT at least two working days before they come into effect.
- Authorisations have an official start date.
- Pursuant to article 10.25 sub 7c of the Grid Code, TenneT will correct the imbalance of the Authorised Party and the Contract Party with the volume of their Single Sided Transactions; also see §3.3.4.

3.3.3 Submission of transactions

The following rules apply to the submission of Single Sided Transactions:

- Transactions that have been correctly submitted to TenneT will be confirmed by TenneT in an EDINE message to the Authorised Party and the Contract Party. This EDINE message states which transaction has been submitted to TenneT by which Authorised Party. The relevant transaction is given an opposite sign in the message sent to the Contract Party.
- SSTs can be used from the moment of authorisation on the day of preparation.
- TenneT accepts correctly submitted transactions according to SST up to the time that applies for submission of a change to an approved E programme as stated in Grid Code article 10.14 sub 8.
- Once submitted, a transaction cannot be cancelled. If a transaction has to be cancelled, a reverse transaction will have to be submitted.
- SSTs are submitted to TenneT by means of an EDINE message intended for that purpose.
- Multiple transactions can be submitted in one message. However, no more than one column may be used per Contract Party.
- SSTs cannot be used to submit import or export transactions.
- SSTs exists in addition to the changes to TenneT-approved E Programmes.
- The use of SSTs is not compulsory.
- Messages containing one or more errors will not be processed. If a message contains an error, any correct transactions submitted in that message will therefore not be processed.
- All electronic message traffic takes place in accordance with the EDINE guidelines. The relevant procedures are laid down in various sources, including the Message Implementation Guides (MIGs).

3.3.4 Determination of imbalance

When determining the imbalance of a particular BRP, the sum of all Single Sided Transactions submitted by or on behalf of that BRP is determined per ISP. This total is corrected on the imbalance as described in article 10.25 sub 7 of the Electricity Grid Code.

4. Failures occurring in TenneT's automated systems

If a failure occurs in TenneT's automated systems, TenneT will try to continue the exchange of information with all the parties involved by telephone, fax or e-mail.

Further information about the procedures followed in these cases can be found on the TenneT website, www.tennet.eu .

5. Appendices

5.1 Authorisation form for Single Sided Transactions

AUTHORISATION

..... (hereinafter: "legal person 1")¹⁾ with EAN code....., with its registered office at, a fully recognised Balance Responsible Party within the meaning of the Grid Code, hereby grants TenneT TSO B.V. unconditional permission until this permission is revoked to use the form below to adjust its imbalance without its intervention if (hereinafter: "legal person 2")²⁾ with EAN code, with its registered office at, Balance Responsible Party within the meaning of the Grid Code has submitted to TenneT TSO B.V. a transaction with legal person 1 as referred to in article 10.25 sub 7c of the Grid Code.

Transactions that have been correctly submitted to TenneT TSO B.V. will be confirmed to the parties involved after they have been processed.

This authorisation enters into effect on, but no sooner than two working days after the day on which TenneT TSO B.V. received this authorisation.

The authorisation can be cancelled by completing the form below and sending it to TenneT TSO B.V. The cancellation enters into effect on the date stated by the party submitting the cancellation, but no sooner than two working days after the day on which TenneT TSO B.V. received the cancellation.

=====

CANCELLATION OF AUTHORISATION (by the party that issued the authorisation)

Legal person 1 with EAN-code with its registered office at....., withdraws the authorisation granted on (date) to TenneT TSO B.V. to adjust its imbalance without its intervention in the cases that legal person 2 with EAN-code with its registered office at..... has submitted a transaction to TenneT TSO B.V. with legal person 1 as stated in article 10.25 sub 7c. of the Grid Code

This cancellation enters into effect on, but no sooner than two working days after the day on which TenneT TSO B.V. received this cancellation.

The undersigned declares that it has sent a copy of this cancellation to legal person 2.

¹⁾ Legal person 1 is the party issuing the authorisation

²⁾ Legal person 2 is the authorised party

..... (town/city),..... (date)

..... (name),.....(position)

.....(signature)

Please send this form by post to:

TenneT TSO B.V.
Customers and Markets Department
PO Box 718
6800 ARNHEM

or fax it to +31 026 373 1112 at TenneT TSO B.V., Customers and Markets Department
or send a scanned copy by e-mail to servicecentrum@tennet.eu.