

Technical Rule no. 10 rev. 1 MPE

(under article 4, Integrated Text of the Electricity Market Rules,
approved by the Decree of the Minister of Production Activities of 19 December 2003,
as subsequently amended and supplemented)

Title	Technical adequacy verifications of bids/offers with respect to margins
Reference Legislation	Articles 41 and 51, Integrated Text of the Electricity Market Rules

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1. Foreword

Articles 41 and 51 of the Integrated Text of the Electricity Market Rules (hereafter “Electricity Market Rules”) lay down the technical adequacy requirements of bids/offers submitted into the MGP and MI, respectively.

Article 51, para. 51.4 of the Electricity Market Rules provides that each set of balanced bids/offers shall be considered as technically adequate, among others, if the sum of the electricity quantities specified in supply offers is equal to the sum of the electricity quantities specified in demand bids, taking into account a tolerance margin to be indicated in the Technical Rules.

2. Technical adequacy verifications of simple bids/offers with respect to margins

Under articles 41 and 51 of the Electricity Market Rules:

- a) supply orders submitted into each MPE are technically adequate with respect to margins, if the quantity specified in the offer does not exceed the step-up margin for the market into which the offer is submitted, for the offer point and the applicable period to which the offer refers, i.e. if:

$$QEV_m^i(k, h) \leq M_m^+(k, h)$$

If this condition is not fulfilled, the offer is adjusted by the system until reaching the margin and thus considered to be technically adequate for such quantity;

- b) demand bids submitted into each MPE are technically adequate with respect to margins, if the quantity specified in the bid does not exceed the step-down margin for the market into which the bid is submitted, for the offer point and the applicable period to which the bid refers, i.e. if:

$$QEA_m^i(k, h) \leq M_m^-(k, h)$$

If this condition is not fulfilled, the bid is adjusted by the system until reaching the margin and thus considered to be technically adequate for such quantity.

In the above formulas:

$M_m^+(k, h)$ is the step-up margin for market m , offer point k and applicable period h ;

$M_m^-(k, h)$ is the step-down margin for market m , offer point k and applicable period h ;

$QEA_m^i(k, h)$ is the quantity of electricity specified in demand bid i , submitted into market m – or in virtual bids/offers made under bilateral contracts of withdrawal – for offer point k and applicable period h ;

$QEV_m^i(k, h)$ is the quantity of electricity specified in supply offer i , submitted into market m – or in virtual bids/offers made under bilateral contracts of injection – for offer point k and applicable period h ;

$\overline{QEA}_m^i(k, h)$ is the quantity of electricity specified in demand bid i , submitted into market m – or in virtual bids/offers made under bilateral contracts of withdrawal – for offer point k and applicable period h and already verified to be technically adequate;

$\overline{QEV}_m^i(k, h)$ is the quantity of electricity specified in supply offer i , submitted into market m – or in virtual bids/offers made under bilateral contracts of injection – for offer point k and applicable period h and already verified to be technically adequate.

Example 1 – Technical adequacy verification of simple bids/offers and re-computation of margins

Suppose the following margins for the MGP pertaining to hour h . The offer point for injection can only increase its injection (by 100 MWh) and the offer point for withdrawal can only increase its withdrawal (by 60 MWh).

$$\begin{aligned} M_{MGP}^+(k, h) &= 100 \text{ MW}; \\ M_{MGP}^-(k, h) &= 0 \text{ MW}; \\ M_{MGP}^+(s, h) &= 0 \text{ MW}; \\ M_{MGP}^-(s, h) &= 60 \text{ MW}. \end{aligned}$$

The Market Participant submits the following bid/offers into the MGP. Both bids/offers prove to be technically adequate with respect to margins ($80 < 100$ and $50 < 60$).

$$\begin{aligned} OV_{MGP}(k, h) &= (80 \text{ MWh}, 10 \text{ €/MWh}) \\ OA_{MGP}(s, h) &= (50 \text{ MWh}, 50 \text{ €/MWh}) \end{aligned}$$

Suppose that both bids/offers submitted into the MGP have been fully accepted. If, within the specified time limit, GME does not receive the updated margins for the MI, then it will compute them by correcting the margins for the MGP, taking into account the quantities accepted in the same market. In particular, the new margins will be as follows.

$$\begin{aligned} M_{MI}^+(k, h) &= 20 \text{ MW}; \\ M_{MI}^-(k, h) &= 80 \text{ MW}; \end{aligned}$$

$$M_{MI}^+(s,h) = 50 \text{ MW};$$
$$M_{MI}^-(s,h) = 10 \text{ MW}.$$

If the same Market Participant submits the following demand bids into the MI, then the first bid will be technically adequate ($80=80$), while the second one will be corrected to 10.

$$OA_{MI}(k,h) = (80 \text{ MWh}, 20 \text{ €/MWh})$$
$$OA_{MI}(s,h) = (20 \text{ MWh}, 50 \text{ €/MWh})$$

3. Technical adequacy verifications of multiple bids/offers with respect to margins

The bids/offers making up a multiple bid/offer will be individually checked, from those with higher priority to those with lower priority. In particular, each pair of a multiple bid/offer will be considered to be technically adequate with respect to margins:

- a) for supply offers - if the quantity specified in the pair does not exceed the step-up margin for the market where the offer is submitted, for the offer point and for the applicable period to which the offer refers, such margin having been decreased by the quantities specified in the other supply offers for the same offer point, the same applicable period and the same market and already verified to be technically adequate, i.e. if:

$$QEV_m^i(k, h) \leq M_m^+(k, h) - \sum_{i=1}^n \overline{QEV}_m^i(k, h)$$

If this condition is not fulfilled, the quantity specified in the pair will be adjusted by the system until reaching the margin;

- b) for demand bids - if the quantity specified in the pair does not exceed the step-down margin for the market where the bid is submitted, for the offer point and for the applicable period to which the bid refers, such margin having been decreased by the quantities specified in the other demand bids for the same offer point, the same applicable period and the same market and already verified to be technically adequate, i.e. if:

$$QEA_m^i(k, h) \leq M_m^-(k, h) - \sum_{i=1}^n \overline{QEA}_m^i(k, h)$$

If this condition is not fulfilled, the quantity specified in the pair will be adjusted by the system until reaching the margin.

Example 2 – Technical adequacy verification of a multiple bid/offer in the MGP

Suppose a multiple bid/offer submitted into the MGP in respect of an offer point for injection and consisting of the following four pairs:

$$\begin{aligned} OV_{MGP}^1(k, h) &= (100 \text{ MWh}, 10 \text{ €/MWh}) \\ OV_{MGP}^2(k, h) &= (100 \text{ MWh}, 22 \text{ €/MWh}) \\ OV_{MGP}^3(k, h) &= (100 \text{ MWh}, 20 \text{ €/MWh}) \\ OV_{MGP}^4(k, h) &= (20 \text{ MWh}, 25 \text{ €/MWh}) \end{aligned}$$

Moreover, let the step-up margin for the MGP be equal to:

$$M_{MGP}^+(k, h) = 250 \text{ MWh}$$

In this case, the first two pairs are technically adequate, the third pair is partially adequate and the last pair is inadequate.

So, GME will check the bids/offers in the order $OV^1-OV^3-OV^2-OV^4$. In the order:

- OV^1 is adequate ($100 < 250$)
- OV^3 is adequate ($200 < 250$)
- OV^2 is partially adequate for a quantity equal to 50
- OV^4 is inadequate, since the margin is completely covered by the other bids/offers.

This rule will also apply to multiple bids/offers consisting of both supply offers and demand bids possibly entered into the MI or MGP and pertaining to mixed offer points. This means that each supply offer or demand bid, included in the multiple bid/offer, will be compared with the step-up margin, reduced by the quantity corresponding to the other supply offers already verified to be technically adequate, or with the step-down margin, reduced by the quantity corresponding to the other demand bids already verified to be technically adequate, respectively.

Example 3 – Technical adequacy verification of a multiple bid/offer in the MI

A multiple bid/offer entered into the MI may consist of both supply offers and demand bids. In this case, the rule for checking its technical adequacy will not change, since the quantities quoted in the supply offers will be compared with the step-up margins and those quoted in the demand bids will be compared with the step-down margins.

Consider the example of a multiple bid/offer in respect of a given offer point for injection, entered into MI and consisting of the following four pairs:

$$\begin{aligned} OV^1_{MGP}(k,h) &= (100 \text{ MWh}, 20 \text{ €/MWh}) \\ OA^2_{MGP}(k,h) &= (70 \text{ MWh}, 15 \text{ €/MWh}) \\ OV^3_{MGP}(k,h) &= (90 \text{ MWh}, 30 \text{ €/MWh}) \\ OV^4_{MGP}(k,h) &= (20 \text{ MWh}, 32 \text{ €/MWh}) \end{aligned}$$

Moreover, let the margins for the MI be equal to:

$$\begin{aligned} M^+_{MI}(k,h) &= 180 \text{ MWh} \\ M^-_{MI}(k,h) &= 50 \text{ MWh} \end{aligned}$$

In this case, GME will check the supply offers in the order OV^1 - OV^3 - OV^4 , by comparing them with M^+ , and the demand bid by comparing it with M^- . It follows that

- OV^1 is adequate ($100 < 180$)
- OV^3 is partially adequate for a quantity equal to 80
- OV^4 is inadequate
- OA^2 is partially adequate for a quantity equal to 50.

The bids/offers pertaining to the same offer point, the same market and the same reference period, even if they are entered by different Market Participants, will be processed as multiple bids/offers.

4. Technical adequacy verifications of balanced bids/offers

Balanced bids/offers are sets of demand bids and supply offers: i) identified with the same balancing code (selected by the submitting parties); ii) pertaining to the same market, to the same applicable period and to the same geographical or virtual zone or constrained zone; iii) whose purchasing and selling prices are equal to zero; and iv) whose purchase and sale quantities are equal.

Balanced bids/offers may only be submitted into the MI and, as per art. 51, para. 51.4 of the Electricity Market Rules, they are subject to the technical adequacy verification both individually and jointly.

In particular, bids/offers that are specified as mutually balanced are deemed to be technically adequate with respect to quantities, if:

- a) they are individually technically adequate with respect to margins;
- b) they pertain to the same market, the same day and the same applicable period;
- c) they pertain to offer points belonging to the same geographical or virtual zone or constrained zone;
- d) they are such that the sum of the electricity quantities specified in supply offers identified as mutually balanced and adjusted for are equal to the sum of the electricity quantities specified in demand bids identified as mutually balanced, i.e. if:

$$\sum_{bal=x} QEV_{MI}^{bal}(k, h) = \sum_{bal=x} QEA_{MI}^{bal}(k, h)$$

where

$QEA_{MI}^{bal}(k, h)$ is the quantity of electricity specified in the balanced demand bid in respect of offer point k and applicable period h , submitted into the MI;

$QEV_{MI}^{bal}(k, h)$ is the quantity of electricity specified in the balanced supply offer in respect of offer point k and applicable period h , submitted into the MI;

Bal is the generic alphanumerical balancing code;

(bil in Italian)

x is the specific value of the balancing code adopted by a set of bids/offers.