

COLLATERAL CALCULATION PROCEDURE

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Purpose

ARTICLE 1 - (1) The purpose of this Procedure is to designate the collateral calculations to be made within the scope of the applicable collateral mechanism for the purposes of ensuring uninterrupted cash flow between the participants in case market participants are unable to fulfill their obligations or perform their activities regarding the market, and securing other market participants in their capacity as creditors, in case market participants fail to make their payments on time.

Scope

ARTICLE 2 – (1) This Procedure covers the implementation principles regarding the calculation of collaterals that must be provided by the market participants as required by the financial settlement transactions regarding the activities performed in the day-ahead market, the intraday market and the balancing power market.

Legal basis

ARTICLE 3 – (1) This Procedure has been prepared based on Article 124 and Provisional Article 33 of the Electricity Market Balancing and Settlement Regulation, and the Collateral Procedures and Principles.

Initial margin

ARTICLE 4 – (1)¹ The initial margin amount used in the calculation of the total collateral required to be submitted by a supply, aggregator, distribution and transmission license holder market participant shall be TRY 1,500,000.

(2) The initial margin amount used in the calculation of the total collateral required to be submitted by a generation license or OIZ generation license holder market participant shall be as follows:

a)² The initial margin is calculated by multiplying the market participant's total installed capacity in operation by 1,500 TL/MW.

b)³ The initial margin based on the total installed capacity in operation of a market participant is no less than TRY 100,000 and no more than TRY 1,500,000.

(3)⁴ The amounts set forth in this Article shall be updated at the rate of increase in the weighted average market clearing price (MCP) of the previous year compared to the weighted average MCP of the year preceding the previous year, if such an increase occurs. This update shall

¹ Amended pursuant to the Board Decision dated 10 January 2025 and numbered 2.

² Amended pursuant to the Board Decision dated 10 January 2025 and numbered 2.

³ Amended pursuant to the Board Decision dated 10 January 2025 and numbered 2.

⁴ Amended pursuant to the Board Decision dated 10 January 2025 and numbered 2.

be applied to the updated amounts each year. The updated amounts shall be used in margin calculations to be made as of the first business day of February of the relevant year.

Calculation of the required collateral amount for day-ahead and intraday market activities

ARTICLE 5 – (1)⁵ The collateral amount to be used in the calculation of the total collateral required from a market participant participating in the day-ahead or intraday market at any day in order to resume their day-ahead or intra-day market transactions shall be calculated as follows:

a) The latest days in which a market participant has received non-zero commercial transaction confirmations within the last 30 days, the “k” days, shall be separately determined for the day-ahead market and the intraday market. For the days in common, the net debt amount calculated by using the total purchase and sale amounts in the two markets shall be added together, whereas for the days not in common, the net debt amount calculated by using the total purchase and sale amounts in the relevant market shall be added together to calculate “GÖĞİ_{p,g}”, which denotes the collateral amount required to be provided.

b) If the number of days with non-zero commercial transaction confirmations within the last 30 days is less than “k” during the calculation, only these days shall be used in the collateral calculation.

(2)⁶ For holidays longer than two days, the number of “k” days shall be equal to one plus the number of non-business days. Otherwise, the number of “k” days in a risk period shall be three. If there is only one business day between two holidays, the number of “k” days shall be two plus the sum of the length of two holidays.

(3) In cases where the number of “k” days exceeds three, in the calculation of the total collateral to be provided on the business days before the holiday, 75% of the amount calculated pursuant to this Article shall be used. On the first business day following the holiday, 100% of the aforementioned amount shall be used.

(4)⁷ For the period designated by Board Decision within the scope of the eleventh paragraph of Article 132/D of the Electricity Market Balancing and Settlement Regulation (DÜY), the GÖĞİ collateral shall be applied as 0 (zero) for the category formed within the scope of sub-paragraphs (a), (b), (c) and (ç) of the second paragraph of Article 17 of DÜY.

Additional collateral

ARTICLE 6 – (1) The additional collateral used in the calculation of the total collateral required to be submitted by a market participant that consists of “imbalance collateral”, “risk collateral” and “YEK collateral”, shall be calculated as follows:

$$ET_{p,g} = DT_{f,a} + RT_{f,g} + [YT_{p,g} \times \max(KKB_{p,g}, 0.2)]$$

$$KKB_{p,g} = 1 - \frac{TKN_{p,g}}{\max TKN_g}$$

(2) The expressions used in these formulas shall have the following meanings:

$ET_{p,g}$ refers to the additional collateral (TRY) for the market participant “p”, calculated for day “g”;

$DT_{f,a}$ refers to the imbalance collateral (TRY) of the balancing responsible party “f”, for the month “a”, calculated in accordance with Article 7;

⁵ Amended pursuant to the Board Decision dated 24 February 2023 and numbered 12.

⁶ Amended pursuant to the Board Decision dated 14 July 2023 and numbered 29.

⁷ Inserted pursuant to the Board Decision dated 1 July 2022 and numbered 26.

$RT_{f,g}$ refers to the risk collateral (TRY) of the balancing responsible party “f”, for the day “g”, calculated in accordance with Article 8;

$YT_{p,g}$ refers to the YEK collateral (TRY) of the market participant “p”, for the day “g”, calculated in accordance with Article 9;

$KKB_{p,g}$ refers to the coefficient valued between 0 (zero) and 1, determined to be used for the market participant “p”, on the day “g”;

$TKN_{p,g}$ refers to the latest credit score calculated by the Credit Reporting Agency (*Kredi Kayıt Bürosu*) to be used for the market participant “p”, on the day “g”;

$\max TKN_g$ refers to the latest maximum credit score determined by the Credit Reporting Agency (*Kredi Kayıt Bürosu*) to be used for the day “g”.

(3) The YEK collateral calculated on a market participant basis in accordance with the provisions of Article 9 shall be included in the calculation of the additional collateral of the relevant market participant.

(4) In case the market participant “p” in this formula is included in a balancing responsible group and is not the balancing responsible party, the collateral amounts regarding the settlement of imbalances and risk collateral amounts calculated for this market participant shall not be used in the calculation of the additional collateral of the relevant participant, due to the fact that the collateral amounts required from the relevant market participant in relation to the settlement of imbalances shall be covered by the relevant balancing responsible party.

(5)⁸ In case a market participant files an application in writing to the Market Operator regarding the metering data used in the additional collateral calculation or in case a meter reading institution issues a notification regarding increase or decrease in the consumption of the consumption facilities included in market participants’ portfolios, the additional collateral calculation may be updated if up-to-date metering data is obtained from the relevant meter reading institutions.

(6)⁹ In case the relevant meter reading institutions issue notification regarding the import-export meter data used in the additional collateral calculation or the allocated capacity, additional collateral calculation can be made using up-to-date data.

Imbalance collateral

ARTICLE 7 – (1)¹⁰ The imbalance collateral of a balancing responsible party shall be calculated as follows:

$$AOSMF_i = \frac{\sum_{f=1}^k \sum_{t=1}^m \sum_{u=1}^n (|EDM_{i,f,t,u}| \times SMF_{i,t,u})}{\sum_{f=1}^k \sum_{t=1}^m \sum_{u=1}^n |EDM_{i,f,t,u}|}$$

$$AROSMF_a = \frac{\sum_{i=1}^j AOSMF_i}{12}$$

$$AEDM_{i,f} = \sum_{t=1}^m \sum_{u=1}^n (EDM_{i,f,t,u} - DM_{i,f,t,u})$$

$$\text{If, } \min(AEDM_{i,f}) < 0$$

$$DT_{f,a} = RK \times AROSMF_a \times |\min(AEDM_{i,f})|$$

⁸ Amended pursuant to the Board Decision dated 20 January 2023 and numbered 2.

⁹ Inserted pursuant to the Board Decision dated 20 January 2023 and numbered 2.

¹⁰ Amended pursuant to the General Manager Approval dated 10 January 2022 and numbered 3379.

If, $\min(\text{AEDM}_{i,f}) \geq 0$, $\text{DT}_{f,a} = 0$.

(2)¹¹ The expressions used in these formulas set out above shall have the following meanings:

AOSMF_i refers to the weighted average of the system marginal prices (TRY/MWh) for the month “i”, in the past 12-month risk period;

$\text{EDM}_{i,f,t,u}$ ¹² refers to the net total energy imbalance volume (MWh) of the balancing responsible party “f”, for the settlement period “u”, in the bidding zone “t”, for the month “i”, in the past 3-month risk period ;

$\text{SMF}_{i,t,u}$ refers to the system marginal price (TRY/MWh) for the settlement period “u”, in the bidding zone “t”, for the month “i”, in the risk period;

AROSMF_a refers to the arithmetic average of the weighted averages (TRY/MWh) of the monthly system marginal prices in the past 12-month risk period used in the collateral calculation for the month “a”;

$\text{AEDM}_{i,f}$ refers to the total energy imbalance volume (MWh) of the balancing responsible party “f”, for the month “i”;

$\text{DM}_{i,f,t,u}$ refers to the energy imbalance volume (MWh) of the balancing responsible party “f”, for all of its generation facilities providing secondary frequency control services under the balancing responsible group to which it is a party, for the settlement period “u” in which it has contributed to service, in the bidding zone “t”, for the month “i” in the past 3-month risk period, calculated in accordance with Article 28 of the Electricity Market Ancillary Services Regulation;

$\text{DT}_{f,a}$ refers to the imbalance collateral (TRY) of the balancing responsible party “f”, for the month “a”;

RK refers to the risk coefficient;

m refers to the number of offer regions determined for the relevant billing period;

n refers to the number of settlement periods in the relevant billing period;

k refers to the number of balancing responsible parties for the relevant billing period;

j refers to the past 12-month risk period.

(3) If there are corrections in the settlement data regarding the previous billing periods, which have been reflected to the invoices of market participants, the imbalance collateral of the balancing responsible party shall be calculated using up-to-date data. The imbalance collateral of the balancing responsible party shall be calculated by taking into account the data regarding the current market participants in the balancing responsible group.

(4) In the collateral calculations regarding the settlement of imbalances of a market participant, the highest of the monthly total energy deficit amounts in the past three months shall be taken into account.

(5)¹³ For the settlement periods in which the energy imbalance volume calculated is negative, the sum of the day-ahead market buy side outage volumes pertaining to all market participants in the balancing responsible group in accordance with Article 60 of the Electricity Market Balancing and Settlement Regulation (DÜY) shall be included in the calculations in a way to reduce the negative imbalance volume and the energy imbalance volume for the settlement period shall not be greater than zero.

¹¹ Amended pursuant to the General Manager Approval dated 10 January 2022 and numbered 3379.

¹² Amended pursuant to the Board Decision dated 10 January 2025 and numbered 2.

¹³ Inserted pursuant to the Board Decision dated 17 June 2022 and numbered 24.

Risk collateral

ARTICLE 8 – (1) For billing periods of a balancing responsible party regarding which the payment due date has not passed, in case the sum of the buy side bilateral agreement amounts, the purchase amounts in the power futures market, the purchase amounts in the day-ahead and intraday markets, the amount of DownReg orders in the balancing power market and the generation values of the generation facilities in the TEİAŞ Load Dispatch Information System (YTBS) of the market participants in a balancing responsible group does not counterbalance the sum of the sell side bilateral agreement amounts, the sales amounts in the power futures market, the sales amounts in the day-ahead and intraday markets and the amount of UpReg orders in the balancing power market of the relevant and the anticipated settlement withdrawal volumes of the same market participants; an increase in the imbalance amount of a balancing responsible party shall be predicted, and the relevant risk calculation shall be made accordingly.

(2) The following method shall be followed in the process of determining the anticipated imbalance volume of a market participant:

a) In order to determine the consumption values regarding each consumption point included in the relevant supplier's portfolio, the following values shall be used:

1) In case the consumption values of the relevant consumption point in the last billing period for which an invoice-based settlement notification has been published are registered in the MMS, these consumption values shall be used;

2) In case the relevant consumption point is an eligible consumer and the consumption values of the relevant consumption point in the last billing period for which an invoice-based settlement notification has been published are not registered in the MMS, the estimated annual total consumption values, which shall be recorded in the measurement point table in the MMS for each eligible consumer by meter reading institutions and which should be kept up-to-date, shall be used.

b) The regional total consumption values anticipated on a daily basis for all consumption points in the portfolio of the relevant market participant shall be designated by using the average consumption values determined on consumption point basis. The designated regional total consumption values shall be increased/decreased by the regional seasonality coefficients calculated in accordance with the third paragraph of this Article;

c) In case sum of the total consumption value determined on a daily basis (to which the regional seasonality coefficient is applied for the increase and/or decrease thereof), the sell side bilateral agreement amounts, the sales amounts in the power futures market, the sales amounts in the day-ahead and intraday markets and the amount of UpReg orders in the balancing power market of the relevant market participant exceeds the sum of the buy side bilateral agreement amounts, the purchase amounts in the power futures market, the purchase amounts in the day-ahead and intraday markets, the amount of DownReg orders in the balancing power market and the generation values in the YTBS of the participant, the market participant shall be deemed as risky.

ç)^{14 15} Accordingly, if it is determined that the imbalance risk of the balancing responsible party has changed, the risk collateral shall be calculated based on the amount resulting from multiplying the said imbalance volume by:

1) the arithmetic average of the positive imbalance prices for the calculation day, if the anticipated imbalance volume is positive, or

¹⁴ Amended pursuant to the Board Decision dated 14 July 2023 and numbered 29.

¹⁵ Amended pursuant to the Board Decision dated 10 January 2025 and numbered 2.

2) the arithmetic average of the negative imbalance prices for the calculation day, if the anticipated imbalance volume is negative.

(3) The Regional Seasonality Coefficients for distribution regions and transmission regions shall be calculated as follows:

a) The regional consumption amount for a billing period shall be found by calculating the arithmetic average of the regional consumption amounts in the past two years for the billing period corresponding to the same month;

b) The seasonality coefficient for the latest advance payment period shall be calculated by taking the ratio of the average regional consumption amount calculated in accordance with subparagraph (a) for the billing period in which the relevant advance payment period is included, to the average regional consumption amount calculated for the last billing period for which the invoice-based settlement notification has been published as of the relevant advance payment period.

(4) The Regional Seasonality Coefficients shall be updated by the Market Operator as often as necessary, and shall be announced to the market participants via the MMS.

(5) In case generation data of a generation facility cannot be obtained from YTBS, 85% of the installed capacity in operation of the relevant facility shall be used in the calculation of the risk collateral.

(6) Until the necessary infrastructure systems are completed, in determining the generation volume to be used in the calculation of the risk collateral pursuant to this Article, the generation volume that can be achieved by taking into account the 85% of the installed capacity in operation shall be used instead of the generation values found in the YTBS.

(7) The purchase and sale volumes made by the Market Operator in the power futures markets within the scope of default management on behalf of the market participants defaulting in the relevant market shall also be included in the risk collateral calculation.

(8)¹⁶ In calculation of the risk collateral, if the daily risk amount calculated for the relevant advance payment period within the scope of the the first paragraph is negative, the sum of the day-ahead market buy side outage volumes pertaining to all market participants in the balancing responsible group pursuant to Article 60 of the DUY shall be lowered by such amount at most, in a way to reduce this amount.

(9)¹⁷ Accordingly, if it is determined that the imbalance risk of the balancing responsible party has changed and the anticipated imbalance volume is negative; where the anticipated imbalance volume is equal to or greater than thirty-five percent of the sum of (i) the sales volumes for the relevant day and (ii) the total consumption value determined on a daily basis and subject to a regional seasonality coefficient applied in the direction of increase and/or decrease, the daily risk amount calculated for the relevant day under subparagraph (ç) of paragraph two shall be increased by fifty percent.

YEK collateral

ARTICLE 9 – (1) For billing periods regarding which the payment due date has not passed, the calculation of the YEK Collateral shall be made with respect to the YEKDEM amounts calculated for the settlement withdrawal volumes within the scope of supply obligation, which are included in the Regulation on the Certification and Support of Renewable Energy Resources (YEKDEM Regulation) and prescribed to be reflected to the invoice of the market participant.

¹⁶ Amended pursuant to the Board Decision dated 17 June 2022 and numbered 24.

¹⁷ Amended pursuant to the Board Decision dated 14 October 2024 and numbered 13171.

(2) The YEK Collateral shall be calculated by multiplying the total consumption amount anticipated on a daily basis, which shall be calculated in accordance with this Article and to which regional seasonality coefficient shall be applied, with the YEKDEM unit cost set forth in accordance with the relevant provisions of the YEKDEM Regulation. The calculated YEK Collateral shall be increased/decreased in proportion to the KKB coefficient calculated on a participant basis in accordance with the first paragraph of Article 6. The KKB coefficient shall be accepted as 1 (one) for market participants who do not consent to the sharing of their TKN data calculated by the Credit Reporting Agency (*Kredi Kayıt Bürosu*).

(3) The following method shall be followed in the process of determining the settlement withdrawal volume of a market participant under supply obligation:

a) In case the consumption values of the consumption points within the scope of supply obligation included in the portfolio of the relevant market participant in the last billing period for which an invoice-based settlement notification has been published are registered in the MMS, these consumption values shall be used;

b)¹⁸ In case the consumption values of the consumption points within the scope of supply obligation included in the portfolio of the relevant market participant in the last billing period for which an invoice-based settlement notification has been published are not registered in the MMS, the estimated annual average total consumption values, which should be kept up to date, recorded by meter reading institutions in the measurement point table in the MMS for each consumption point within the scope of supply obligation shall be used.

(4) The regional total consumption values anticipated on a daily basis shall be designated for all consumption points within the scope of supply obligation included in the portfolio of the relevant market participant by using the average consumption values determined on a consumption point basis within the scope of supply obligation. The designated regional total consumption values shall be increased/decreased by the regional seasonality coefficients calculated in accordance with the third paragraph of Article 8.

(5) For billing periods regarding which the payment due date has not passed, the YEKDEM unit cost set forth for the settlement withdrawal volume within the scope of the supply obligation and determined by a Board Decision in accordance with the relevant provisions of the YEKDEM Regulation shall be used in the calculation of the YEK Collateral with respect to the YEKDEM amounts envisaged to be reflected to the invoice of the market participant and calculated for the settlement withdrawal volume within the scope of supply obligation.

(6)¹⁹ If the projected YEKDEM unit cost is negative, the projected YEKDEM unit cost for the calculation of the YEK Collateral shall be taken as 0 (zero).

Calculation of total collateral

ARTICLE 10 – (1) The collateral categories required to be provided by a market participant shall be calculated as follows:

a) The initial margin shall be calculated within the periods specified in Article 9 of the Collateral Procedures and Principles;

b) The collateral required for the Day-Ahead and Intraday Markets shall be calculated on a daily basis;

c) The imbalance collateral shall be calculated on a monthly basis;

ç) The risk collateral shall be calculated on a daily basis;

¹⁸ Amended pursuant to the Board Decision dated 10 January 2025 and numbered 2.

¹⁹ Inserted pursuant to the General Manager Approval dated 10 January 2022 and numbered 3379.

d) The YEK collateral shall be calculated on a daily basis.

(2) The total collateral required to be provided by a market participant on any given day shall be calculated as follows:

$$TT_{p,g} = \max(GÖGİ_{p,g} , BT_{p,g}) + ET_{p,g}$$

(3) The expressions used in the formula set out above shall have the following meanings:

$TT_{p,g}$ refers to the total collateral (TRY) required to be provided by the market participant “p”, on the day “g”;

$GÖGİ_{p,g}$ refers to the collateral (TRY) required to be provided by the market participant “p”, participating in the day-ahead or intraday market on the day “g”, in order to be able to operate in the day-ahead or intraday market, calculated in accordance with Article 5;

$ET_{p,g}$ refers to the additional collateral (TRY) of the market participant “p”, calculated for the day “g”;

$BT_{p,g}$ refers to the initial margin (TRY) of the market participant “p” for the day “g”.

Repealed procedure

ARTICLE 11 – (1) Collateral Calculation Procedure, which had entered into force pursuant to the Board of Directors Decision No. 29 and dated 28/05/2016, has been repealed.

Provisional calculation of imbalance collateral

PROVISIONAL ARTICLE 1 – (1) In the calculations to be made within the scope of Article 7 as from the following business day of the effective date of this Article until the payment due date for the December 2021 billing period, the arithmetic average (TL/MWh) of the weighted average of the monthly system marginal prices (AOSMF) for the risk period covering the first 6 months of the year shall be used instead of “MaksSMF”.

Provisional calculation of additional collateral

PROVISIONAL ARTICLE 2^{20, 21, 22} – (1) In the calculations to be made within the scope of Article 6 as of the effective date of this Article until the invoice deadline for December 2026, the additional collateral shall be applied as 0 (zero) for the energy generation company which is obliged to supply energy within the scope of the ninth, eleventh and twelfth paragraphs of Article 26 of the Electricity Market Law No. 6446 and the System Operator.

Provisional “r” coefficient application

PROVISIONAL ARTICLE 3²³ –

Provisional calculation of additional collateral for distribution and assigned supply companies

PROVISIONAL ARTICLE 4²⁴ –

Imbalance volumes appraised over the market clearing price

²⁰ Amended pursuant to the Board Decision dated 20 January 2023 and numbered 2.

²¹ Amended pursuant to the Board Decision dated 22 December 2023 and numbered 57.

²² Amended pursuant to the Board Decision dated 10 January 2025 and numbered 2.

²³ Repealed pursuant to the Board Decision dated 24 February 2023 and numbered 12.

²⁴ Repealed pursuant to the General Manager Approval dated 17 August 2023 and numbered 10002.

PROVISIONAL ARTICLE 5^{25, 26} - The imbalance volumes appraised over the market clearing price within the scope of Article 3 of the Board Decision dated 9 February 2023 and numbered 11629 and Article 2 of the Board Decision dated 16 February 2023 and numbered 11652 shall not be taken into account in the imbalance collateral calculations to be made until the fourth billing period following the end of the term of the state of emergency, if it has a decreasing effect on the imbalance collateral amounts.

In case the daily imbalance volume calculated by dividing the total imbalance volumes which fall within the scope of the first paragraph pertaining to the last billing period for which a settlement notification has been published, into the number of days in the relevant billing period is negative, the relevant imbalance volume shall be taken into account in the risk collateral calculation by being deducted from the daily negative risk volumes calculated during the term of the state of emergency and provided that it is limited to the said volume at most.

Provisional calculation of additional collateral for distribution and assigned supply companies

PROVISIONAL ARTICLE 6²⁷ - (1) The lower of the following additional collateral amounts shall be requested to be paid until the invoice payment deadline pertaining to December 2023 from distribution companies that carry out distribution activities within the scope of Article 9 of the Electricity Market Law No. 6446 and the category formed under the scope of subparagraphs (a), (b), (c) and (ç) of the second paragraph of Article 17 of DUY:

- a) The additional collateral amount they are required to hold as of 11:00 on 18/08/2023,
- b) The amount derived by deducting the underpaid advance receivables pursuant to the eighth paragraph of Article 11 of the Collateral Procedures and Principles from the additional collateral amount calculated pursuant to Article 6.

Provisional Initial Collateral

PROVISIONAL ARTICLE 7²⁸ - (1) The initial collateral amount to be calculated for market participants holding an aggregator license shall be 200,000 TL until 3/3/2025.

Enforcement

ARTICLE 12 – This Procedure shall enter into force on 27/01/2021.

Execution

ARTICLE 13 – (1) The provisions of this Procedure shall be executed by the General Director of the Energy Markets Operator Company of Turkey.

Board of Directors Decision Effecting the Procedure	
Dated	Numbered
25/09/2020	38
Board of Directors Decisions Amending the Procedure	
Dated	Numbered

²⁵ Inserted pursuant to the Board Decision dated 12 April 2023 and numbered 21.

²⁶ Inserted pursuant to the General Manager Approval dated 5 May 2023 and numbered 8993.

²⁷ Inserted pursuant to the General Manager Approval dated 17 August 2023 and numbered 10002.

²⁸ Amended pursuant to the Board Decision dated 10 January 2025 and numbered 2.

1-	23/11/2020	51
2-	22/2/2021	9
3-	2/8/2021	1598
4-	7/9/2021	31
5-	10/1/2022	3379
6-	17/6/2022	24
7-	1/7/2022	26
8-	15/08/2022	5843
9-	19/08/2022	31
10-	23/09/2022	38
11-	28/11/2022	51
12-	20/01/2023	2
13-	24/02/2023	12
14-	12/04/2023	21
15-	5/05/2023	8993
16-	14/07/2023	29
17-	17/08/2023	10002
18-	22/12/2023	57
19-	14/10/2024	13171
20-	10/01/2025	2