From the Energy Market Regulatory Authority:

BOARD DECISION

Decision No: 38   **Decision Date:** 25/09/2020

In the Energy Market Regulatory Board meeting dated 25 September 2020, it has been resolved to approve the attached "Collateral Calculation Procedure".

COLLATERAL CALCULATION PROCEDURE

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) The initial margin amount used in the calculation of the total collateral required to be submitted by a supply license holder market participant shall be TRY 200,000.
(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) If the total installed capacity in operation of a market participant exceeds 1000 MW, the initial margin shall be TRY 200,000;
b) If the total installed capacity in operation of a market participant is between 50 MW and 1000 MW, the initial margin shall be calculated as installed capacity x 200 TRY/MW;

c) If the total installed capacity in operation of a market participant is below 50 MW, the initial margin shall be TRY 10,000.

(3) The initial margin amount to be used in the calculation of the total collateral required to be provided by a transmission license holder market participant shall be TRY 200,000.

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

ARTICLE 5 – (1) 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;

b) The "r" coefficient shall be calculated as "$r = (1+0.05 \times t)$", where "t" denotes the number of days a market participant has been in default in the last 30 days;

c) By multiplying the total net debt amount found in accordance with subparagraph (a) of this paragraph with the "r" coefficient calculated in accordance with subparagraph (b), "$\text{GÖGİ}_{p,g}$", which denotes the collateral amount required to be provided by the market participant "p" in order to operate in the day-ahead and/or intraday market on day "g", shall be found;

ç) 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) 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.

(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.

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:

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

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

(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;

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

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

KKB_{pg} 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";

$maxTKN_g$ 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) In case a market participant files an application in writing to the Market Operator regarding the metering data used in the additional collateral calculation, the additional collateral calculation may be updated if up-to-date metering data is obtained from the relevant meter reading institutions.

Imbalance collateral

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

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

$$MaksSMF_a = \max(AOSMF_i) \qquad i = a\text{-}1,\ a\text{-}2,\ a\text{-}3$$

$$AEDM_{i,f} = \sum_{t=1}^{m}\sum_{u=1}^{n}(EDM_{i,f,t,u} - DM_{i,f,t,u}) \qquad i = a\text{-}1,\ a\text{-}2,\ a\text{-}3$$

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

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

If, $\min(AEDM_{i,f}) \geq 0$, $DT_{f,a} = 0$.

(2) 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 3-month risk period;

$EDM_{i,f,t,u}$ refers to the 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 risk period;

$SMF_{i,t,u}$ 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;

$MaksSMF_a$ refers to the highest of the weighted averages (TRY/MWh) of the monthly system marginal prices in the past 3-month risk period used in the collateral calculation for the month "a";

$AEDM_{i,f}$ refers to the total energy imbalance volume (MWh) of the balancing responsible party "f", for the month "i";

$DM_{i,f,t,u}$ 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 risk period, calculated in accordance with Article 28 of the Electricity Market Ancillary Services Regulation;

$DT_{f,a}$ 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.

(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) The collateral in relation to the settlement of imbalances of a market participant who has not completed its third month of activity since its date of registration shall be calculated as follows:

a) As of the day of the imbalance collateral calculation, the imbalance collateral of market participants who have not completed their first month of activity since their date of registration shall not be calculated;

b) As of the day of the imbalance collateral calculation, the collateral amount requested from market participants who have not yet completed their second month of activity since their date of registration shall be calculated by multiplying the absolute value of the relevant market participant's imbalance volume for the previous month with the weighted average of the system marginal price for the previous month, if the market participant's imbalance volume for the previous month is negative. This calculated amount shall be multiplied by the risk coefficient. If the imbalance volume for the previous month is positive, no imbalance collateral shall be requested from the market participant;

c) As of the day of the imbalance collateral calculation, the collateral amount requested from market participants who have not yet completed their third month of activity since their date of registration shall be calculated by multiplying the absolute value of the lower of the participant's imbalance volumes in the past two months with the higher of the weighted averages of the system marginal price for the past two months, if the lower of the participant's imbalance volumes in the past two months is negative. Subsequently, this calculated amount shall be multiplied by the risk factor. If the lower of the participant's imbalance volumes in the past two months is positive, no imbalance collateral shall be requested from the participant.

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) Accordingly, if it is determined that the imbalance risk of the balancing responsible party has changed, the risk collateral calculation shall be made in accordance with the amount resulting from the multiplication of the anticipated imbalance volume with the AOSMF, which is used in the imbalance collateral calculations in accordance with Article 7 of this Procedure.

(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.

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.

(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) 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, average consumption values 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.

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;

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:

$$TT_{p,g} = \max(\ G\ddot{O}G\dot{I}_{p,g} \ , \ BT_{p,g} \ ) + ET_{p,g}$$

(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";

$G\ddot{O}G\dot{I}_{p,g}$ 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 imbalance collateral calculation
PROVISIONAL ARTICLE 1 – (1) In the calculations to be made within the scope of Article 7 from the first business day following the effective date of this Article until the December 2021 invoice payment due date , instead of "MaksSMF", the arithmetic average (TL/MWh) of the weighted average of the monthly system marginal prices (AOSMF) in the first 6-month risk period of the year shall be used.

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	
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Board of Directors Decisions Amending the Procedure	
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1- 23/11/2020	51
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