9-10 KELER CCP's Announcement

Requirements of Guarantee Funds

Regards to the

- Exchange Settlement Fund (TEA): in respect of multinet settlement
- Collective Guarantee Fund (KGA): in respect of derivative settlement
- CEEGEX / HUDEX/Gas Collective Guarantee Fund (CEEGEX / HUDEX/Gas KGA): in respect of CEEGEX and HUDEX/Gas market settlement
- Trading Platform Collective Guarantee Fund (TP KGA): in respect of Balancing and TP clearing

Effective from: 1 April 2025

I. TEA, KGA, CEEGEX / HUDEX/Gas Collective Guarantee Fund requirements

Introduction

Regulation (EU) No 648/2012 of the European Parliament and of the Council, and Commission delegated Regulation (EU) No 153/2013 defines mandatory standards with regards to the calculation of guarantee funds. According to these regulations the results of KELER CCP's daily stress tests are the basis of the calculation as follows:

The guarantee fund "shall at least enable the CCP to withstand, under extreme but plausible market conditions, the default of the clearing member to which it has the largest exposures or of the second and third largest clearing members, if the sum of their exposures is larger."

The exposures are the results of the daily stress test calculations, based on different scenarios of extreme but plausible market conditions. The amount of the exposures depends on the difference between the calculated variation margin and the initial margin.

Calculation method of the guarantee funds

The calculation is based on two steps:

- Determination of the necessary size of the guarantee fund
- Calculation of the contributions of the single clearing members

Frequency of the calculation:

- The size of the guaranteed fund is calculated on the first settlement day of the month.
- In case of insufficient size of the guarantee fund, KELER CCP can order extraordinary recalculation, anytime during the month.

Determination of the necessary size of the guarantee fund

$$DF = max\left\{\max_{[t,t-t_{63}]}(x_i); min\left[\max_{[t,t-t_{63}]}(x_i) * p.k.; DF_{(CM-1)} * p2\right]; \mu(x_i)_{[t,t-t_{63}]} + \alpha\,\sigma(x_i)_{[t,t-t_{63}]}; DF_{(CM-1)} * p1\right\}$$

Where:

- DF: The result of the calculation which determines the necessary size of the default fund
- $DF_{(CM-1)}$: the actual value of the guarantee fund, the day before the calculation is conducted
- t: the last trading day before the current calculation
- t_{63}: the 63rd trading day before the day of the current calculation
- x_i: the result of the daily stress tests, the amount of the default of the clearing member to which KELER CCP has the largest exposures or of the second and third largest clearing members, if the sum of their exposures is larger

- μ: expected value (calculated as arithmetic mean)
- σ: standard deviation

Other parameters:

- $\alpha = 3$
- p1 = 0,9
- p2 = 1,1
- p.k.:
  - For capital market (TEA, KGA)= 2,9
  - For HUDEX/Gas (CEEGEX / HUDEX/Gas KGA) = 2,5

Determination of the contributions of the single clearing members for TEA, KGA and CEEGEX / HUDEX/Gas KGA

Clearing Members' contribution:

$$DF_{CM_i} = \left\lceil \frac{max\{(DF - \sum_{i=1}^{n}(MC_i) * DF_{min}) * w_{CM_i}; DF_{min}\}}{\phi} \right\rceil * \phi$$

$$w_{CM_i} = \frac{\sum_{j=1}^{k} IM_{CM_{ij}}}{\sum_{j=1}^{k}\sum_{i=1}^{n}[(1 - MC_i) * IM_{CMi}]}$$

$$MC_i = \begin{cases} 1, ha \ \frac{\sum_{j=1}^{k} IM_{CM_{ij}}}{\sum_{j=1}^{k}\sum_{i=1}^{n} IM_{CM_{ij}}} \leq \frac{DF_{min}}{DF} \\ 0, ha \ \frac{\sum_{j=1}^{k} IM_{CM_{ij}}}{\sum_{j=1}^{k}\sum_{i=1}^{n} IM_{CM_{ij}}} > \frac{DF_{min}}{DF} \end{cases}$$

Where:

- DF_{CM_i}: the Default Fund contribution of i-th Clearing Member
- DF: the necessary size of the default fund calculated based on the algorithm
- MC_i: if the Clearing Member's contribution is the minimum, then its value is 1, otherwise it is 0
- DF_{min}: the minimum contribution to the Default Fund
- w_{CM_i}: the Clearing Member's contribution rate
- ϕ: in case of CEEGEX/HUDEX/Gas KGA the value is 1.000, in case of TEA and KGA the value is 1.000.000
- [ ]: the value inside the brackets is rounded up to the nearest integer
- i: i-th Clearing Member
- j: j-th settlement day
- n: number of Clearing Members
- k: the number of settlement days since the previous calendar month's first settlement day

- $IM_{CM_{ij}}$: i-th Clearing Member's initial margin requirement for the relevant market(s), on the j-th settlement day
- $\sum_{j=1}^{k}\sum_{i=1}^{n}[(1-MC_i)*IM_{CMi}]$: the initial margin requirements for the relevant market(s) of those Clearing Members who are not paying the minimum contribution (i.e. MC_i=0) accumulated over k days
- $\sum_{j=1}^{k}\sum_{i=1}^{n}IM_{CM_{ij}}$: the sum of all Clearing Members' initial margin requirements for the relevant market(s) accumulated over k days

Parameters:

- in case of CEEGEX / HUDEX/Gas KGA the minimum contribution to the default fund is 15.000 EUR
- in case of TEA and KGA the minimum contribution to the default fund is currently 5 million HUF

Remarks:

- The prevailing minimum size of the fund with regards to every guaranteed market (multinet, derivative, HUDEX/Gas derivative) is the multiplication of the minimum contribution parameter and the number of the clearing members.
- in case of TEA at the calculation of margin requirement the variation margin collateral is part of the Initial margin

II. TP Collective Guarantee Fund requirements

Determination of the necessary size of the TP Collective Guarantee Fund

The Determination of the size of the Trading Platform (TP) Collective Guarantee Fund is based on the maximum of the following components:

- Bottom-up approach: The sum of the Clearing Members' default fund contributions determine the final size of TP Collective Guarantee Fund.

- Top-down approach: The size of the Default Fund is determined first, which is the maximum of the stress test results for the previous 63 settlement days. This amount is divided between Clearing Members.

- Maximum decrease (Floor): A specific percentage of the effective Default Fund which is currently 90%. This amount is divided between Clearing Members.

$$TP\ KGA\ size = Max\ (Bottom-up\ approach; Top-down\ approach; Floor)$$

Determination of the Clearing Member contributions to the TP Collective Guarantee Fund

- Determination of Clearing Members contribution in case of the Bottom-up approach
    - Default Fund contribution is **11%**[1] of the average of the previous three months' calculated Balancing Clearing turnover margin for each Clearing member. Only Balancing Clearing turnover margin is used in the calculation, other margins or collateral requirements (e.g. Additional Financial Collateral) are not taken into account.
- Determination of Clearing Members contribution in case of the Top-down approach and Floor:

Clearing Members' contribution:

$$DF_{CM_i} = max\left\{\left(DF - \sum_{i=1}^{n}(MC_i) * DF_{min}\right) * w_{CM_i}; DF_{min}\right\}$$

$$w_{CM_i} = \frac{\sum_{j=1}^{k} TM_{CM_{ij}}}{\sum_{j=1}^{k}\sum_{i=1}^{n}[(1 - MC_i) * TM_{CMi}]}$$

$$MC_i = \begin{cases} 1, ha \ \dfrac{\sum_{j=1}^{k} TM_{CM_{ij}}}{\sum_{j=1}^{k}\sum_{i=1}^{n} TM_{CM_{ij}}} \leq \dfrac{DF_{min}}{DF} \\ 0, ha \ \dfrac{\sum_{j=1}^{k} TM_{CM_{ij}}}{\sum_{j=1}^{k}\sum_{i=1}^{n} TM_{CM_{ij}}} > \dfrac{DF_{min}}{DF} \end{cases}$$

Where:

- DF_{CM_i}: the Default Fund contribution of i-th Clearing Member
- DF: the necessary size of the default fund calculated based on the algorithm
- MC_i: if the Clearing Member's contribution is the minimum, then its value is 1, otherwise it is 0
- DF_{min}: the minimum contribution to the Default Fund
- w_{CM_i}: the Clearing Member's contribution rate
- [ ]: the value inside the brackets is rounded up to the nearest integer
- i: i-th Clearing Member
- j: j-th settlement day
- n: number of Clearing Members

[1] Reviewed yearly based on the previuos gas year.

- k: number of settlement days since the last recalculation, EXCEPT if the current calculation is an extraordinary recalculation, then $k = 1$ (in this case only the result of the last turnover margin calculation is considered)
- $TM_{CM_{ij}}$: i-th Clearing Member's Balancing Clearing turnover margin requirement on the j-th settlement day
- $\sum_{j=1}^{k}\sum_{i=1}^{n}[(1 - MC_i) * TM_{CMi}]$: the Balancing Clearing turnover margin requirements of those Clearing Members who are not paying the minimum contribution (i.e. MC_i=0) accumulated over k days
- $\sum_{j=1}^{k}\sum_{i=1}^{n} TM_{CM_{ij}}$: the sum of all Clearing Members' Balancing Clearing turnover margin requirements accumulated over k days

Parameters:

- Minimum Default Fund contribution:
    - For Clearing Members participating only in Balancing Clearing: 15.000 EUR
    - For Clearing Members participating both in Balancing Clearing and Trading Platform: 30.000 EUR.

III.General Default Fund requirements

Measuring the adequacy of the Default Fund size

The regulations regarding the size of the Default Funds require stress testing on a daily basis to determine whether the size of the relevant Default Fund was sufficient. **If the size of the Default Fund was insufficient according to the stress tests, then KELER CCP either decrees to conduct an extraordinary recalculation of the Default Fund, or imposes additional financial collateral on one or more Clearing Members.**

Imposing additional financial collateral

In case the size of the Default Fund is insufficient KELER CCP is entitled to impose additional financial collateral on its Clearing Members among these principles:

- The stress scenarios are identified, which lead to the insufficient size of the Default Fund.
- The Clearing Members are identified whose exposures caused the insufficiency of the Default Fund
- KELER CCP imposes additional financial collateral on the identified Clearing Member(s) to cover the breach of the Default Fund.
- In case of TP KGA, if the insufficiency is not caused by specific Clearing Members, then the amount of the additional financial collateral is calculated based on the previous 3 months' average turnover margin requirements.

Deadlines of additional financial collateral settlement:

- The deadline to meet the additional financial collateral requirement is the following

settlement day after imposition.

- The amount of the additional financial collateral can be modified on a daily basis, if necessary. The amount is valid until its amendment, or the new calculation (recalculation) of the Default Fund.
- Even if the insufficiency of Default Fund is ceased, the additional financial collateral remains effective at least for 5 settlement days.

Extraordinary recalculation of the Default Funds

In case of the size of the Default Fund is inadequate for **TEA, KGA, CEEGEX / HUDEX/Gas KGA and TP KGA**, KELER CCP, based on its General Business Rules, can also decree the extraordinary recalculation of the Default Funds. In case of TEA, KGA and CEEGEX / HUDEX/Gas KGA the methodology is the same as the one applied during the regular calculation. In case of TP KGA the methodology is also similar, however only the Balancing Clearing turnover margin requirements calculated on the recalculation's day are taken into consideration for the determination of individual Clearing Member contributions. In case there was additional financial collateral imposed on Clearing Members, after the extraordinary recalculation of the relevant Default Fund, the additional financial collaterals are revoked as soon as the Clearing Members settle the difference between their new contribution and the existing one. Due date for the settlement of the additional Default Fund contribution is the following settlement day.

IV.Other provisions

KELER CCP has the right to amend this Announcement and publishes the amended Announcement on its website 5 days before the effectiveness.

Budapest, 17 March 2025

KELER CCP Ltd.