KELER CCP Ltd.'s Announcement (Vol. 48-2016) 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 Collective Guarantee Fund (CEEGEX KGA): in respect of CEEGEX settlement.**

Effective from: 1st November 2016

KELER CCP specifies the calculation method of guarantee funds (TEA, KGA, CEEGEX KGA) and the algorithm of the clearing members' contributions to the guarantee funds, which will be effective from **1st November 2016** as follows:

1. 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 the 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." [1]

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.

2. 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

2.1. Determination of the necessary size of the guarantee fund

$$DF = max\left\{\max_{[t,t-t_{125}]}(x_i)\,;min\left[\max_{[t,t-t_{125}]}(x_i) * p.k.;DF_{(CM-1)} * p2\right];\mu(x_i)_{[t,t-t_{125}]} + \alpha\,\sigma(x_i)_{[t,t-t_{125}]};DF_{(CM-1)} * p1\right\}$$

Where:

[1] Regulation (EU) No 648/2012 Article 42 (3)

- 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_{125}: the 125th 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 it 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.=2,4**
  - procyclicality correction (p.k): Its value equals the quotient of the average daily deviation of the BUX index in November and December 2008 (250 days lookback period) and the average daily deviation of the two whole months before the latest revision (250 days lookback period), rounded down to 1 decimal (but at least 1).

2.2. Determination of the Contributions of the single clearing members

Members' contribution rate[2]:

$$DF_{CM_i} = roundup(max\{DF * w_{CM_i}; DF_{Min}\}; -6)$$

where:

$$w_{CM_i} = \frac{IM_{CMi}}{\sum IM_{CM}}$$

- DF_{CM_i}: the amount of the contribution of the single members, rounded up to million HUF
- DF_{Min}: the minimum contribution to the guarantee fund
- DF: the necessary size of the default fund
- w_{CM_i} :the members' contribution rate

[2] $\sum DF_{CM_i} >$ DF, because of the rounding up method, the clearing members who pays the minimum contribution, and because of KELER CCP also pays the minimum contribution

- IM_{CMi} : the sum of the single clearing member's initial margin requirement in the previous month before the calculation with regards to the appropriate market (multinet spot, derivative, or CEEGEX derivative)
- $\sum IM_{CM}$:the sum of every clearing members' initial margin requirement in the previous month before the calculation with regards to the appropriate market (multinet, derivative, or CEEGEX derivative)

Parameters:

- the minimum contribution to the guarantee fund is 5 million HUF

Remarks:

- KELER CCP's contribution to the guarantee funds is the prevailing minimum contribution parameter
- The prevailing minimum size of the fund with regards to every guaranteed market (multinet, derivative, CEEGEX derivative) is the multiplication of the minimum contribution parameter and the number of the clearing members.

3. The backtest of the size of the guarantee funds

The regulations, regard to the size of the guarantee funds, require to conduct a back test on a daily basis to determine if the size of the guarantee fund is sufficient? If according to the backtest, the size of the guarantee fund is insufficient, then KELER CCP either decrees to conduct an extraordinary recalculation, or to collect supplementary margins from its clearing members.

3.1. Extraordinary recalculation of the guarantee funds

In case of the size of the guarantee fund is insufficient, KELER CCP can decree the extraordinary recalculation of the funds, in which case the calculating method is the same as the one applied during the regular calculation.
In case if there was supplementary margin collected from the clearing members, and at the same time an extraordinary recalculation of the guarantee funds is necessary, then the clearing member will get back its supplementary margins as soon as the clearing member fulfills the necessary contribution to the guarantee fund.

3.2. Imposing supplementary margins

In case of the size of the guarantee fund is insufficient KELER CCP can decree to impose supplementary margins from its clearing members among these principles:

- The stress scenarios are identified, which leads to the insufficient size of the guarantee fund
- The clearing members are identified whose exposures are the reason for the insufficiency based on the stress test results
- KELER CCP can order to collect supplementary margins from the identified clearing members, to terminate the insufficient size of the guarantee fund. The sum of the imposed supplementary margin is enough to cover the exposures calculated with different scenarios in the daily stress test.

Deadlines regard to the supplementary margin:

- The deadline to meet the supplementary margin requirements is the next settlement day.
- The amount of the supplementary margin can be modified on a daily basis, if necessary, and it is valid till the next change, or the new calculation (recalculation) of the guarantee fund.
- In other cases the blocked supplementary margin remains blocked for minimum 5 settlement days, and if the size of the guarantee fund is sufficient and the insufficiency is no longer available, then the blocking is resolved.

Budapest, 5th Ocotber2016

KELER CCP Ltd.