KELER CCP's Announcement – No. 48/2018.

Margin requirements

Energy Market

Effective from: 13 August 2018

Based on KELER CCP's General Business Rules, KELER CCP Ltd. has approved the below listed margin requirements for the Energy Market. The requirements will become **effective from 13 August 2018.**

Guarantee system for Spot Market

Energy market turnover margin

With regards to the determination of the spot energy market turnover margin KELER CCP applies, as a general rule, the values calculated by the European Commodity Clearing AG (ECC).

The method of ECC calculation is defined in the prevailing "ECC margining" document announced by ECC.

The values received from ECC will be continuously multiplied by KELER CCP with its own Internal Risk Factor.

- Internal Risk Factor: 1

  As long as the margin requirement calculated by ECC equals the minimum amount of the turnover margin internal risk factor will not be used.
- The currency of the margin value: EUR
- Accepted collaterals:
  - Up to the sum of ECC calculated margin: solely EUR
  - Beyond the sum of ECC calculated margin ("Internal Risk Factor"-1): any collateral included in the condition lists of KELER CCP (valued in HUF according to the current official currency exchange rate at the day of the calculation)
- **Minimum margin requirement is 30,000 EUR**

Main elements of turnover margin calculation method applied by ECC:

- Frequency of the margin revision: daily
- Considered period: last 250 days
- Elements of the sample: daily exposures in the period reviewed
- The Spot Margin is calculated as the maximum of:
  - a statistic (based on the arithmetic mean and the standard deviation with unique weights determined by ECC) of the past 250 daily exposures (the method of calculation and the parameters are on the web page of the ECC, under Risk Management/Margining),
  - a multiple of the maximum of the daily exposures over the past ECC business days,
  - **minimum margin requirement is 30,000 EUR**

Guarantee system for derivative market

Energy market initial margin

With regards to the determination of the derivative energy market initial margin KELER CCP applies, as a general rule, the values calculated by ECC.

The method of ECC calculation is defined in the prevailing "ECC margining" document announced by ECC.

The values received from ECC will be continuously multiplied by KELER CCP with its own Internal Risk Factor.

- Internal Risk Factor (in case of open positions): 1,1
- Internal Risk Factor (positions in the delivery period): 1
- The currency of the margin value: EUR
- Accepted collaterals:
  - Up to the sum of ECC calculated margin: solely EUR
  - Beyond the sum of ECC calculated margin ("Internal Risk Factor"-1): any collateral included in the condition lists (valued in HUF according to the current official currency exchange rate at the day of the calculation)

Main elements of energy market initial margin calculation method applied by ECC:

- Frequency of the margin revision: daily
- Considered period: last trading day
- Elements of the sample: open position on the last trading day
- Algorithm for defining the energy market initial margin
  - Net open position × contract size × initial margin parameter × expiry month factor
  - Other spread between products and expiries

The parameters required for calculation of the initial margin will be announced by ECC according to its rules. The parameters announced by ECC will be forwarded by KELER CCP to its clients.

Budapest, 13 August 2018

KELER CCP Ltd.