MOSCOW EXCHANGE

New tools for risk management of clearing member' clients' positions on the derivatives market.

The new tools are designed to help the clearing members to manage risks of their clients' positions after changes of risk parameters in SPECTRA trading and clearing system. The tools also increase the level of risk protection of NCC.

The new risk management system tools

1) Client level (7-symbol code)

The new tools can be used by the clearing members to manage risks at the client level. In order to start using the system the clearing member should set the new risk parameters at the level of brokerage firm (BF). Parameters at the level of BF are applied to all clients of this BF.

After clearing session and changes of trade limits a prohibition to open new positions is automatically set for a client's account if the following conditions are simultaneously met for this account:

$$\begin{cases} Limits\_set = 1 \\ Prohibit\_state\_cl = 1 \\ FreeMoneyCl < -Pr\_coeff\_R * \max(Trade\_limit\_cl, 0) \le 0, \end{cases}$$

where:

Parameter	Value
Limits_set	Determines whether clearing member enabled trading limit check for the client's account: 1 – check enabled, 0 – check disabled
Prohibit_state_cl	The new parameter (used in the first version of the tools). Determines where the new tools are enabled: 1 – enabled, 0 - disabled
Pr_coeff_R	The new parameter (used in the first version of the tools). Determines how much negative free limit needs to be comparatively to the total trading limit in order for a prohibition to be set.
FreeMoneyCl	Free trading limit of the client's account
Trade_limit_cl[1]	Total trading limit of the client's account. Takes into account currency and shares, calculated using the standard methodology with "liquidity_ratio" coefficient

Imposed prohibitions cannot be removed by the clearing member directly. Instead every minute a check is carried out after which a prohibition is removed automatically if at least one of the following conditions is met:

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[1] Trade_limit_cl = Amount_money + min (Amount_pledge; max (0, Amount_money) * (1/liquidity_ratio -1)), if liquidity_ratio > 0 and liquidity_ratio <= 1;
Trade_limit = Amount_money + Amount_pledge, если liquidity_ratio = 0,
where Amount_money – total RUB value of all currencies, set for the client's account; Amount_pledge – total RUB value of shares, set for the client's account; liquidity_ratio – liquidity ratio, set for the client's account (default: 0.5).

$$\begin{bmatrix} FreeMoneyCl \geq 0 \\ Prohibit\_state\_cl = 0 \\ Limits\_set = 0 \end{bmatrix}$$

The clearing member also can:

1. Change the type of prohibition to the prohibition to add any new trading orders. To do this, participant needs to set the parameter Prohibit_type_cl to 1.
2. Order the exchange to automatically delete all active trading orders added from the client's account in case when a prohibition is imposed. To do this, clearing member needs to set the parameter Del_ord_cl to 1.

Parameter	Value
Prohibit_type_cl	Determines prohibition type: 0 – to open new positions, 1 – to add new orders
Del_ord_cl	Determines whether the exchange needs to delete orders when a prohibition is imposed to a client's account: 0 – do not delete, 1 – delete

2) Brokerage firm level (BF)

The new tools can be used by the clearing members to manage risks at the brokerage firm (BF) level. In order to start using the system the clearing member should set the new risk parameters. The new parameters are set for each BF account.

After clearing session and changes of trade limits a prohibition to open new positions is automatically set for a BF clearing account if the following conditions are simultaneously met:

$$\begin{cases} Prohibit\_state\_bf = 1 \\ FreeMoneyBF < -Pr\_coeff\_B * \max(Trade\_limit\_bf, 0), \end{cases}$$

where:

Parameter	Meaning
Prohibit_state_bf	The new parameter. Determines where the new tools are enabled for this BF: 1 – enabled, 0 - disabled
Pr_coeff_B	The new parameter. Determines how much negative free limit needs to be comparatively to the total trading limit in order for a prohibition to be set.
FreeMoneyBF	Free trading limit of the BF account
Trade_limit_bf[2]	Total trading limit of the client's account. Takes into account currency and shares, calculated using the standard methodology.

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[2] Trade_limit_cl = Amount_money + min (Amount_pledge; max (0, Amount_money)),
where Amount_money – total RUB value of all currencies, Amount_pledge – total RUB value of shares.

The conditions for the BF level are checked after setting prohibitions and deleting of orders (if necessary) of all the clients' account within this BF. Free trading limit of the BF account takes into account all changes that happened due to the possible deleting of orders.

Imposed prohibitions cannot be removed by the clearing member directly. Instead every minute a check is carried out after which a prohibition is removed automatically if at least one of the follow conditions is met:

$$\left[\begin{array}{l} FreeMoneyBF \geq 0 \\ Prohibit\_state\_bf = 0 \end{array}\right.$$

The clearing member also can:

1. Change the type of prohibition to the prohibition to add any new trading orders. To do this, participant needs to set the parameter Prohibit_type_bf to 1.
2. Order the exchange to automatically delete all active trading orders added from the BF account in case when a prohibition is imposed. To do this, clearing member needs to set the parameter Del_ord_bf to 1.

Parameter	Meaning
Prohibit_type_bf	The new parameter. Determines prohibition type: 0 – prohibition to open new positions, 1 – prohibition to add new orders
Del_ord_bf	The new parameter. Determines whether the exchange needs to delete orders when a prohibition is imposed to a client's account: 0 – do not delete, 1 – delete

Setting parameters Prohibit_state, Prohibit_coeff, Prohibit_type, Del_ord:

Setting of the new risk parameters can be done by submitting a form via Electronic Document Interchange system.

The form fields (in Russian) needs to be filled with the following information:

Field	Value
Код Брокерской фирмы	BF account code (format: XXYY000)
Уровень ограничений	Prohibition level: 1 – prohibitions can be set to the BF account. Remaining fields contain values of parameters Prohibit_state_bf, Pr_coeff_B, Prohibit_type_bf and Del_ord_bf 0 – prohibitions can be set to the clients' account within the BF. Remaining fields contain values of parameters Prohibit_state_cl, Pr_coeff_R, Prohibit_type_cl, Del_ord_cl
Установить/снять ограничения	Enable / disable the automatic prohibition system. Corresponding parameter: Prohibit_state_* 1 – enable setting of prohibitions 0 – disable setting of prohibitions
Значение коэффициента	Corresponding parameter Pr_coeff*.

Pr_coeffB / Pr_coeffR	Can be set to a non-negative numeric value with a precision of 2 digits after decimal point
Тип ограничения	Corresponding parameter: Prohibit_type_* 1 – use prohibition to add any new orders 0 – use prohibition to open new positions
Необходимость удаления Активных заявок	Corresponding parameter: Del_ord_* 1 – delete orders when prohibition is set 0 – do not delete orders

The initial values of the parameters Prohibit_state_cl, Prohibit_coeff_cl are the values that are already in use (were 0 by default). The initial values of the other parameters are 0. Thus by default the new tools are disabled.

Actions that may be undertaken by a clearing member if a prohibition was automatically set:

- With prohibition to open new positions a client is able close-out his or her position or remove active on his own. This will reduce the collateral requirement for his or her position. After the free trading limit becomes non-negative prohibition will be lifted automatically within a minute.
- Clearing member's risk manager may take control over the client's position. The following actions may be carried out:
    1. Set the additional prohibition for the client within Moscow Exchange (if client is using DMA) or prohibition on clients trading acitivity within clearing member's software (if client access exchange via clearing member's software);
    2. Set the trading limit for the client's account large enough for FreeMoney to be positive. The prohibition will be automatically lifted;
    3. Close-out position / delete orders / carry out other risk-management procedures;
    4. Lift extra prohibitions set at step 1.

Protection on the level of a settlement account

NCC controls protection on the level of settlement account.

After clearing session and changes of trade limits a prohibition to add any new orders is automatically set for a settlement account if the following condition is met:

$$FreeMoneyRK < -Pr\_coeffSC * \max(Trade\_limit\_rk, 0)$$

Where:

Parameter	Meaning
Prohibit_coeff_rk	The new parameter. Determines how much negative free limit needs to be comparatively to the total trading limit in order for a prohibition to be set.
FreeMoneyRK	Free trading limit of the settlement account
Trade_limit_rk[3]	Total trading limit of the client's account. Takes into account currency and shares, calculated using the standard methodology.

Indicative value $Prohibit\_coeff\_rk = 5$. The exact value is to be published at the NCC website.

The prohibition is removed within one minute, if $FreeMoneyRK \geq 0$

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[3] Trade_limit_rk = Amount_money + min (Amount_pledge; max (0, Amount_money))
where Amount_money − − total RUB value of all currencies, Amount_pledge − total RUB value of shares.