CCP NCC: CLEARING & SETTLEMENT OVERVIEW

July, 2018
NCC’s FUNCTION IN MOEX GROUP INFRASTRUCTURE

INTERACTION STRUCTURE

Market participants (banks, brokers, trust funds) → MOEX → NCC → NSD

- MOEX: Exchange
- NCC: Clearing
- NSD: Settlement depositary & Settlement organization

COMMENTARIES

- Trading organization
- Listing
- Disclosure
- Determination of obligations
- Risk-management
- Trading and clearing accounts management
NCC’s CLEARING ACTIVITY

In 2013 NCC was recognized by Central Bank of Russia as qualified central counterparty (CCP).

CCP NCC

Clearing with CCP / without CCP on trades executed on:
- Securities market

Clearing with CCP on trades executed on:
- FX market & Precious metals market
- Derivatives market
- on-exchange Standardized Derivatives market

MOSCOW EXCHANGE

Moscow Exchange

National Mercantile Exchange

Clearing with CCP on trades executed on Commodities market (deliverable corn futures)

OTC trades

Clearing with CCP on trades executed on off-exchange Standardized Derivatives market

In 2013 NCC was recognized by Central Bank of Russia as qualified central counterparty (CCP).
The status of qualified CCP was granted by the Central Bank of Russia on October 18, 2013.

NCC is an active member of the European Association of Central Counterparty Clearing Houses (EACH).

On October 24, 2017 Analytical Credit Rating Agency (ACRA) affirmed NCC AAA (RU) rating, forecast ‘Stable’.

NCC is a member of the Global Association of Central Counterparties (CCP12).

On February 22, 2017 Fitch Ratings affirmed NCC Long-term foreign-currency Issuer Default Rating at «BBB-», local-currency Rating at «BBB», the outlooks on the both are Stable.

<table>
<thead>
<tr>
<th>Date</th>
<th>Rating action</th>
<th>Rating</th>
<th>Sovereign rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feb 22, 2017</td>
<td>Affirmed</td>
<td>BBB</td>
<td>BBB-</td>
</tr>
<tr>
<td>Oct 21, 2016</td>
<td>Affirmed</td>
<td>BBB</td>
<td>BBB-</td>
</tr>
<tr>
<td>Feb 24, 2016</td>
<td>Affirmed</td>
<td>BBB</td>
<td>BBB-</td>
</tr>
<tr>
<td>Mar 20, 2015</td>
<td>Affirmed</td>
<td>BBB</td>
<td>BBB-</td>
</tr>
<tr>
<td>Jan 16, 2015</td>
<td>Downgraded</td>
<td>BBB</td>
<td>BBB-</td>
</tr>
<tr>
<td>Mar 24, 2014</td>
<td>Affirmed</td>
<td>BBB</td>
<td>BBB</td>
</tr>
<tr>
<td>Dec 20, 2013</td>
<td>Upgraded</td>
<td>BBB</td>
<td>BBB</td>
</tr>
<tr>
<td>Dec 28, 2012</td>
<td>Assigned</td>
<td>BBB-</td>
<td>BBB</td>
</tr>
<tr>
<td>Categories:</td>
<td>Markets</td>
<td></td>
<td></td>
</tr>
<tr>
<td>------------</td>
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<td></td>
</tr>
<tr>
<td><strong>«A»</strong> Central Bank of Russia &amp; other legal entities to which a requirement on posting assets as collateral is not applicable, in accordance with the Law on Clearing</td>
<td>FX &amp; PM, Securities</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>«O»</strong> General Clearing Members, having an access to clearing with partial prefunding and acting as a clearing broker for more than 2 Trading Members</td>
<td>FX &amp; PM</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>«B»</strong> Individual Clearing Members, having an access to clearing with partial prefunding and having an opportunity to be a part for trades executed by not more than 2 Trading Members (either acting as a clearing broker or on the basis of agency contract*)</td>
<td>FX &amp; PM, Securities, Derivatives, Commodities, Standardised Derivatives</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>«C»</strong> Individual Clearing Members, having an access to clearing with full prefunding and having an opportunity to be a part for trades executed by not more than 2 Trading Members (acting on the basis of agency contract only*)</td>
<td>FX &amp; PM, Securities, Commodities</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
REQUIREMENTS TO CLEARING MEMBERS CATEGORIES

**Category «C>**
- ✅ Signing Clearing Membership Agreement
- ✅ Compliance with the Disclosure & Reporting requirements
- ✅ Compliance with the Financial solvency requirements
- ✅ Compliance with Technical access requirements
- ✅ Holding all necessary licenses
- ✅ Capital at least equal 1 bln RUB – for CM without appropriate license

**Category «B>**
- All requirements to category «C>», plus:
  - ✅ Having contributed to Default fund as appropriate
  - ✅ Capital at least equal 50 bln RUB for CM without appropriate license + rating not lower than:
    - Standard & Poor’s / Fitch: “BB-”
    - Moody’s: “Ba3”
  - ✅ Not bearing signs of financial standing weakening of company

**Category «O>**
- All requirements to category «B>»&«C>», plus:
  - ✅ Appropriate license
  - ✅ Capital at least equal 50 bln RUB
  - or 20 bln RUB + rating not lower than:
    - Standard & Poor’s / Fitch: “BB+”
    - Moody’s: “Ba1”
  - or 20 bln RUB + rating of supervising organization not lower than:
    - Standard & Poor’s / Fitch: “BB+”
    - Moody’s: “Ba1”
Guaranteed settlement of transactions and settlement:
- **NCC Clearing Bank is CCP for all trades**
- Trading member enters orders and makes trades with Clearing member’s Settlement Account.
- Clearing member becomes a party for such trades and is responsible for claims and obligations.
SETTLEMENT ACCOUNT

**Settlement account** – the clearing register, opened by the NCC in its internal accounting system in the name of Clearing Members

- Settlement accounts are intended to:
  - record collateral posted by Clearing Member
  - record all positions (claims / liabilities) under trades
  - monitor orders and calculate the Single limit*

- Settlement accounts have different types:
  - Proprietary operations (type S)
  - Client operations (type L)
  - Trust operations (type D)

- Main Settlement account opened to Clearing Member admitted to clearing services is proprietary by default (*type of Settlement code could be changed if required*)

- There are no restrictions in number of Settlement accounts, which could be opened to Clearing member

- Settlement account is used to post or withdraw funds to / from the NCC clearing accounts (in payment details)

- Withdrawal funds and transfer of funds between Settlement accounts is possible if it does not result in the Single limit becoming negative

- Trading limits may be set for every Settlement account

* **Single limit** – assessed value in RUB of all assets in collateral posted by Clearing member
FX MARKET TRADING HOURS

10:00

Until 10:45
TOD:
CNY, HKD, CHF, BYN, KZT.
O/N SWAPS (till 11:00)

Until 15:00
TOD:
EUR, UAH, GBP.
O/N SWAPS (till 15:15)

Until 18:00
TOD:
USD. O/N SWAP
(till 19:00)

Until 23:50
TOM, SWAPS,
Futures
**COLLATERAL MANAGEMENT**

- Combined collateral: cash funds may be posted in any currency (RUB, USD, EUR, GBP, CHF, HKD, CNY) or in precious metals (GLD, SLV) or their combination;
- Collateral is transferred to the NCC accounts (in accordance with the details placed on the NCC's website; the Settlement account must be included in the payment purpose);
- Collateral is sufficient & could be returned providing Single limit is positive;
- Collateral is returned upon request or with a standing instruction;
- Clearing members are able to:
  - withdraw funds to a client account;
  - use S.W.I.F.T. to communicate with the NCC

- Posting funds in any currency as collateral before entering an order: **USD, EUR, RUB, GBP, CHF, HKD, CNY**

- Determining final net obligations / net claims:
  - **at 11:00**
    - CNY, CHF, HKD
  - **at 15:15***
    - EUR, GBP
  - **at 19:00***
    - USD, RUB

* Applied to Clearing members that do not send request or standing order for early settlement
TIME SCHEDULE FOR SETTLEMENT

before 13:00
CNY

before 17:00*
EUR

before 20:00
USD, RUB

Participants

before 12:00**
CNY

On settlement day
EUR, USD, RUB

RETURN OF FUNDS

* Before 17:00 – CET in the summer; before 18:00 – CET in the winter.
Cut-off times for all FX are given on the next slide.

** Applied for one-time requests for return funds in CNY. Standing instructions are processed at 14:30.
**CUT-OFF TIMES FOR FX**

<table>
<thead>
<tr>
<th>Currency</th>
<th>Determination of Total Net Obligations / Total Net Claims</th>
<th>Fulfilment by Clearing Members their Total Net Obligations towards NCC</th>
</tr>
</thead>
<tbody>
<tr>
<td>HKD</td>
<td>11:00</td>
<td>12:00</td>
</tr>
<tr>
<td>BYN</td>
<td>11:00</td>
<td>12:00</td>
</tr>
<tr>
<td>KZT</td>
<td>11:00</td>
<td>12:00</td>
</tr>
<tr>
<td>CNY</td>
<td>11:00</td>
<td>13:00</td>
</tr>
<tr>
<td>CHF</td>
<td>11:00</td>
<td>13:00</td>
</tr>
<tr>
<td>TRY</td>
<td>11:00</td>
<td>14:00</td>
</tr>
<tr>
<td>EUR</td>
<td>15:15</td>
<td>17:00 (CET in the summer) 18:00 (CET in the winter)</td>
</tr>
<tr>
<td>GBP</td>
<td>15:15</td>
<td>17:00</td>
</tr>
<tr>
<td>USD</td>
<td>19:00</td>
<td>20:00</td>
</tr>
<tr>
<td>RUR</td>
<td>19:00</td>
<td>20:00</td>
</tr>
</tbody>
</table>
Clearing reports, requests, instructions, other types of electronic documents
- **XSD schemes** and **XSLT styles** are required
- MOEX cryptography certificates are required

Commonly used messages:
- MT202, 200, 292
- MT950, 900, 910, 920, 940

Partly Clearing reports
- Exchange of RMA-authorizations is required:
  - NCC BIC: **NCCBRUMM**

* Trading reports are produced and sent through EDI – by MOEX to Trading member
## CLEARING DEVELOPMENT: IMPACT FOREIGN INVESTORS

<table>
<thead>
<tr>
<th>№</th>
<th>Description</th>
<th>Market</th>
<th>Timeline</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Getting by Euroclear the status of Custodian</td>
<td>Securities market</td>
<td>March 2013</td>
</tr>
<tr>
<td>2</td>
<td>Trading and Clearing membership separation</td>
<td>FX market</td>
<td>June 2014</td>
</tr>
<tr>
<td>3</td>
<td>Implementing ‘Segregated client &amp; Portability’ model</td>
<td>FX, Securities, Derivatives markets</td>
<td>December 2014</td>
</tr>
<tr>
<td>4</td>
<td>Unified close-out netting &amp; Limitation of CCP’s responsibility in default-waterfall</td>
<td>All markets</td>
<td>August 2015</td>
</tr>
<tr>
<td>5</td>
<td>Increase of NCC’s dedicated capital &amp; MOEX’s contribution in default-waterfall</td>
<td>All markets</td>
<td>July 2016</td>
</tr>
<tr>
<td>6</td>
<td>Increase of CM’s contributions to Default funds</td>
<td>1. FX, Securities, Derivatives markets; 2. Standardised Derivatives market</td>
<td>1. December 2017 2. January 2018</td>
</tr>
<tr>
<td>7</td>
<td>Unified Collateral Pool</td>
<td>FX, Securities, Derivatives markets</td>
<td>1) December 2017 2) May 2018</td>
</tr>
<tr>
<td>8</td>
<td>Recognition as qualified CCP by ESMA</td>
<td>All markets</td>
<td>2018</td>
</tr>
<tr>
<td>9</td>
<td>Developing new mean of communication: web-interface ‘Clearing terminal’</td>
<td>All markets</td>
<td>2018</td>
</tr>
<tr>
<td>11</td>
<td>Developing ‘Segregated client’ existing model</td>
<td>All markets</td>
<td>2019</td>
</tr>
<tr>
<td>12</td>
<td>On-exchange MOEX FX trades &amp; off-exchange (executed in off-shore ECNs) trades netting</td>
<td>FX market &amp; OTC</td>
<td>2019</td>
</tr>
</tbody>
</table>
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