**This has been Superseded by Notification No. RMD FX USDINR-20-01 dated 22-Jan-2020 on Extension of Online Exposure Check Session**

**No. RMD/FX/USD-INR/18/121** **01-12-2018**

**FOR INFORMATION OF ALL MEMBERS**

**Forex Segment**

**Risk Management Processes and Margining Methodology**

We invite attention to our notification no. RMD/FX/USD-INR/15/18 dated 03rd Mar'15 detailing the risk management processes in this segment. In terms of the said notification, if the aggregate MTM value of all settlement date-wise positions shows Mark to Market (MTM) gain, then the member's margin account is credited with the MTM gain amount. Members are hereby advised that the afore-mentioned process of crediting the MTM gain in this segment to the margin made available by the member has been revised. The consolidated risk management process has been detailed below and the changes being implemented have been underlined.

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## A. Composition of Settlement Guarantee Fund

[Reference Chapter III of the Regulations]

i. In terms of clause A of Chapter III, there is a separate Settlement Guarantee Fund (SGF) for the Forex Segment. The dedicated SGF is formed with contributions from members in the form of US Dollar cash. In terms of sub-clause B (iv) of Chapter V, the SGF contribution made by the member to avail Exposure Limits in USD and in INR is considered as Initial Margin.

ii. In case the US Dollar funds deposited by the member in its SGF account are higher than the Initial Margin requirement, such additional amount is treated as additional margin made available by the member to meet other margin requirements.

iii. In terms of sub clause I(1) of Chapter III of the Regulations, a member of this segment shall authorize Clearing Corporation to consider the unutilized portion of the balances in Securities Segment SGF of such member for meeting its margin obligation other than towards Initial Margin.

iv. Where the surplus balance in Securities Segment SGF is used to meet the Additional Initial Margin (which is denominated in USD), USD/Rupee Reference Rate announced by FBIL is the basis for computing the USD equivalent value of the securities (after application of appropriate haircut).

## B. Net Debit Cap and Exposure Limits

[Reference Chapter V, Clauses A&B of the Regulations]

i. Net Debit Caps (NDC) are set in US Dollar and in INR terms. NDC is applicable for each settlement date.

ii. Operating limits are expressed as Exposure Limits (EL) and EL is also set in both currencies. EL in USD is based on the balance of the member in its dedicated USD denominated Settlement Guarantee Fund (SGF) and the Initial Margin Factor applicable for the member as described in para C below. The EL in INR is similarly arrived at but after notionally converting the US Dollar balance in SGF into its Rupee equivalent at the applicable exchange rate. This exchange rate is revised by Clearing Corporation at six monthly intervals at the time of review of NDC of the members. Members are allowed to select lower EL than those set by CCIL for both US Dollar and for INR

iii. A member with higher credit rating may choose to avail higher limits up to specified ceilings for days other than the cash date in the Spot Window. The permissible higher limits are derived as under:

| Category of Members | On S- 2 Day | On S- 1 Day | On S Day |
|---|---|---|---|
| For Members with CCIL 1 & 2 ratings | 3 times EL | 2 times EL | EL |
| For Members with CCIL 3 & 4 ratings | 2 times EL | 2 times EL | EL |
| For Members with CCIL 5 & 6 ratings | 2 times EL | EL | EL |
| For Members with CCIL 7 & 8 ratings | EL | EL | EL |

A member desirous of availing such higher limit is required to request Clearing Corporation to permit utilisation of such higher limit. Clearing Corporation may approve such request subject to the member agreeing to adhere to the requirements stipulated in the Regulations.

## C. Initial Margin Factor

[Reference Chapter V Clause (C) of the Regulations]

i. Initial Margin Factor is set based on 3 day VaR of the USD-INR spot rate at 99% confidence interval with a 1000 day look back period, subject to a floor and is collected for 3 settlement dates in the spot window.

ii. The floor is set based on the 3 day VaR of the USD/INR spot rate at 99% confidence interval with a look-back period of 2,500 days immediately preceding the date of such review. The floor is reviewed at the end of every financial year and will also be reviewed in periods of high volatility and any change therein will be implemented after giving a notice of 7 business days.

iii. Initial Margin will be set at higher levels for entities having ratings below CCIL4.

iv. Initial Margin factor as defined in para C i above is reviewed by Clearing Corporation at the end of every month.

## D. Additional Initial Margin

[Reference Chapter V(D)(ii)(a) of the Regulations]

i. Members who seek higher Exposure Limits as per para B above shall be able to avail such higher limits on providing additional initial margin over and above the initial margin made available by them to avail Exposure Limits as mentioned in para A(i) above.

ii. Members having positions in excess of the Exposure Limits in any currency on account of trades done in FX-Clear and/or FX-SWAP Dealing Systems shall also be required to deposit Additional Initial Margin.

iii. Initial margin obligation for members who have limit utilisations in excess of the EL will be computed by multiplying the applicable net exposure of the member in the spot window by 1/3$^{rd}$ of the margin factor applicable for the member for the spot date as per the process described in Clause E of Chapter VII. The applicable net exposure for this purpose will be the higher of:

   a. the net USD exposure for all the days in the Spot Window and

   b. the net USD exposure in the Spot Window after excluding such exposure on Cash Date.

   The margin obligation as above in excess of the Initial Margin for the exposure limits availed by the member in terms of Para A(i) above will be treated as Additional Initial Margin.

## E. Mark to Market Margin

[Reference Chapter V(D)(ii)(b) of the Regulations]

i. The closing spot rate of USD/INR, published by FEDAI on its website or on Reuters page “FXIR” is used as the MTM SPOT rate for margining in the Forex segment. In case the FEDAI closing spot rate is not available on aforesaid sources by 5.10 PM, the rate available on Reuter’s page “INR1F” at 5.00 PM will be taken as applicable closing spot rate under intimation to the members of this segment. MTM Cash and Tom rates is arrived at by subtracting Forward Premia of respective tenors available on Reuters page "INR 1F" at 5.00 PM to spot rate derived as above.

ii. If rates from above sources are unavailable or there is a valid reason to believe that any such rate as available does not represent the rate prevailing in the market, Clearing Corporation may use any or all rate (/s) from any other source. Use of any such rate (/s) will however be informed by Clearing Corporation to its members in this segment with the reason for such deviation.

iii. MTM margin computation is on net settlement date-wise positions for all accepted trades of the members. Full offsets are permitted between MTM gains and losses on different settlement dates.

iv. Intra-day trading loss is also collected as Mark to Market margin.

v. If the date of acceptance of the trade is not the same as the trade date then such acceptance would be subject to the member meeting its MTM margin obligation on such trade at the point of acceptance.

vi. MTM Margin is collected in the form of US Dollar cash, INR cash and Central Government Securities eligible for deposits into Settlement Guarantee Fund (SGF) in the Securities Segment. MTM margin so collected is released on successful completion of settlement.

vii. In terms of sub clause 7.8 of para C of Chapter VII of the Regulations, MTM margin on forward positions accepted for guaranteed settlement in the Forex Forwards segment is transferred to the Forex Settlement segment when such position enters spot window.

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## F. MTM Credits

[Reference Chapter VII(C)(8) of the Regulations]

i. If the aggregate MTM value of all settlement date-wise positions shows MTM gain, then the member's margin account will be credited with the MTM gain amount reduced by a haircut and the same will be allowed to be treated as Margin Made Available by the member. Such margin made available can be used against margin requirements in any other segment which draws margins from Securities Segment SGF. The hair-cut on MTM gains will be 5% and the same may be revised in the future after due notification.

ii. Such margin credit mentioned will be withdrawn on the day of settlement of the particular position having MTM gain. If there is a margin shortfall as a result of such withdrawal of margin credit on account of settlement, CCIL would hold back settlement proceeds to the extent of such shortfall in margin. Such withheld settlement proceeds will be released on replenishment of the margin shortfall.

iii. If the member fails to replenish the shortfall by the end of the day of such withholding, such withheld settlement proceeds may be credited by CCIL to the SGF account of the member in the Securities Settlement Segment without any further notice to the member.

iv. If the withheld proceeds are in the form of US Dollars and the shortfall remains un-replenished, by the end of the day of such withholding, CCIL may dispose of such amount of withheld US dollars as per the process outlined in Clause D (2) (f) of Chapter VI relating to defaults in the Regulations of the Forex

Settlement segment. The proceeds of such sale, if any will then be credited to the SGF account of the member in the Securities Settlement Segment.

v. In case any positions are cash settled after entering in spot window in terms of para C(5) of Chapter VII of the Regulations, Mark to Market loss if any in respect of such positions will be computed with reference to the rate used for cash settlement and will be collected as margin from the member whose positions are cash settled

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## G. Replenishment Level and Rejection Level

[Reference Chapter V(D)(i) of the Regulations]

If Additional Initial Margin (AIM) is payable in terms of para D above and the AIM requirement has reached 90% of the available margin net of the obligation towards MTM margin, then Clearing Corporation shall make a margin call to the member. Moreover, Clearing Corporation will stop acceptance of further trades if such trades will cause the total margin utilisation to exceed 95% of the margin made available for this segment. (i.e. if the available margin is lower than the amount of Total Margin x 100 / 95)

For example,

| **Particulars** | | **Rupees in Crores** |
|---|---|---|
| Margin Made available | A | 110 |
| Margin obligation on account of Additional Initial Margin | B | 90 |
| MTM margin obligation | C | 9.5 |
| Margin blocked towards MTM obligation | D = Cx10/9.5 | 10 |
| Available margin net of margin blocked towards MTM | E = A - D | 100 |
| AIM as a percentage of Margin Made available | (B / E)% | 90% |

This will result in the margin obligation on account of AIM (Rs. 90 Crores) being 90% of the net margin made available resulting in a margin call to the member requiring him to bring in additional margin.

In the above example, if the AIM reaches Rs. 95 Crores and MTM remains at 9.5, then the total margin obligation will be 104.5 which as a percentage of margin made available would be 104.5/110 i.e. 95%.

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## H. Frequency of exposure check

[Reference Chapter VII(C)(5) of the Regulations].

Exposure check in this segment is carried out on an online basis for trades reported by the members up to a cut-off time (ordinarily up to 6-00 PM). Any trade remaining un-accepted during on-line exposure check will be taken up for re-evaluation for exposure check on the next working day.

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## I. Incremental MTM Margin

[Reference Chapter V(D)(ii)(b)(iii) of the Regulations]

i. Increase in MTM margin obligation over the MTM margin obligation for the previous day is treated as incremental MTM margin.

ii. The amount of Incremental MTM margin will become payable at 9-00 A.M. of the next business day (including Saturdays). Thus while the margin will be debited / reduction in MTM gain will be effected immediately on assessment of the same at the end of the day, in case of a resultant shortfall in margin, Members are required to fund their margin account by 9-00 AM on the next business day. Failure to replenish the margin shortfall by 9-00 AM on the next business day will attract penalty in terms of para F(ii) of Chapter V of the Regulations of the Forex segment.

## J. Volatility Margin

**a) Volatility margin is imposed under the following conditions:**

(i) If the intra-day fluctuation in the USD/INR spot rate is observed to be equal to or in excess of the margin factor for one day; **OR/AND**

(ii) If the fluctuation in the USD/INR spot rates over the three (3) day assessment window (i.e. current day & two immediately preceding working days) is observed to be equal to or in excess of the margin factor for 3 days.

**b) The estimator values for assessing intra-day fluctuation are arrived as under:**

❖ **Intraday-day fluctuation for one day impact as mentioned in para a (i) above:**

i. **Estimator I** is taken as Intra-day difference between high and low rates as a percentage of the low rate.

ii. **Estimator II** is taken as the exchange rate fluctuation based on the higher of:

- The absolute of the difference between the closing Spot rate of the previous business day and the intraday high rate as a percentage of the closing Spot rate of the previous business day, **and**

- The absolute of the difference between the closing Spot rate of the previous business day and the intraday low rate as a percentage of the closing Spot rate of the previous business day

Higher of **Estimator I** and **Estimator II** is taken **as *Intra-day fluctuation to arrive at one day impact.***

❖ **For three day intraday-day fluctuation as mentioned in para a (ii) above.**

iii. **Estimator III** would be the maximum possible loss over the three (3) day assessment window (i.e. current day and two immediately preceding working days) and the same is arrived at as described below:

The higher of the following two ratios is determined for each day of the three day assessment window

- Difference of the highest spot rate of each day and the lowest spot rate of the current day, divided by lower of the two rates under consideration
- Difference of the lowest spot rate of each date and the highest spot rate of the current day, divided by the lower of the two rates under consideration

**iv.** The sum of the three (3) ratios [as determined in 'a' above] is computed and is termed as **Estimator III**

**c) *Percentage of Volatility Margin to be imposed is arrived at as under:***

(i) If VM is triggered on account of intra-day fluctuations in terms of para a (i) above, the applicable VM for each day will be one (1) day Exchange rate fluctuation (i.e. higher of Estimator I and II) minus corresponding margin factor for one day, rounded upward to next higher multiple of 0.25%.

(ii) If VM is triggered on account of exchange rate fluctuations over a three (3) day period in terms of para A (ii) above, the applicable VM for each day will be equal to (value of Estimator III minus the corresponding margin factor for three (3) days)/3 and rounded upward to next higher multiple of 0.25%.

*If both conditions are satisfied then higher of C (i) and C (ii) above would be the applicable VM for the day*

d) Volatility Margin would be **completely withdrawn** if three (3) day impact in the spot window is 0.75% below the margin factor for three (3) days **AND** one (1) day impact is also 0.25% lower than the margin factor for one (1) day.

e) Partial withdrawal of volatility margin would also be considered based on the process listed as under:

I. Required Volatility Margin levels are re-assessed for the current date and immediately previous business date as per the process detailed in annexure to this notification. Higher of the two values is taken as reference level.
II. If the Volatility Margin already imposed is higher than the reference level as per (I) above, the Volatility Margin will be reduced to the reference level subject to a minimum of 0.25% per settlement date.

f) Volatility Margin, if applicable, is imposed immediately after notifying the members. Imposition of volatility margin would effectively amount to a corresponding increase in the Margin Factor and would result in reduction of Exposure Limit. If it is observed that the reduced exposure limit of the member is inadequate to cover the trades already accepted for settlement in the spot window or there is a margin shortfall to meet any other form of margin requirement for the segment due to such imposition, it would be the responsibility of the member to replenish the shortfall at the earliest. Penal charges are levied if shortfall is not replenished within one hour from the time of imposition.

## K. Intra-day MTM margin

[Reference Chapter V(D)(ii) (b) of the Regulations]

1. Irrespective of whether Volatility Margin is imposed or not, on any day of high volatility, if loss in portfolio value of a member is higher than 50% of Initial Margin (including additional initial margin and volatility margin) already collected, such loss may also be collected by Clearing Corporation as MTM margin on intraday basis
2. Applicability of intra-day MTM margin will be first assessed at 12.00 noon using the rates available on Reuters page “INR 1F”. Additionally, the applicability of intra-day MTM margin will be re-assessed at 3.00 PM taking exchange rates prevailing at that time.
3. Moreover, Clearing Corporation may, on volatile days collect intra day MTM margin at such other time of the day as required
4. If applicable, the Intra-day MTM margin will be collected after one hour from the time of notifying the members. Upon imposition of intra-day MTM margin, if there is margin inadequacy, penal charges will be levied for such margin shortfall. It shall also be the responsibility of the members to replenish the shortfall at the earliest
5. In case the intra-day MTM margin payable by a member at 3.00 PM is lower than the intra-day MTM margin already collected from the members based on rates at 12.00 noon, such excess intra-day MTM margin will be released by CCIL

This notification comes into effect from **07/Jan/2019** and supersedes our Notification No. RMD/FX/USD-INR/15/18 dated 3rd Mar'2015, RMD/FX-FF/13/79 dated 2nd Dec'2016, RMD/FX/USD-INR/16/56 dated 5th Oct'2016 and RMD/FX/VM/18/68 dated 30th Jun'18 in this regard.

Yours faithfully,

**For The Clearing Corporation of India Ltd.,**

**Sd/-**
**Managing Director**