



**THE CLEARING CORPORATION OF INDIA LTD**

**Risk Management Department**

**This has been superseded by Notification No. RMD/SEC/23/60 dated 08-Dec-2023 on Risk Management Processes and Margining Methodology**

**No. RMD/SEC/23/32**

**30<sup>th</sup> Oct '2023**

**FOR INFORMATION OF ALL MEMBERS**

**Securities Segment**

**Risk Management processes and Margining Methodology**

We invite your attention to the Bye laws, Rules and Regulations of The Clearing Corporation of India (CCIL) as amended in Oct' 2023. In terms of the new Chapters VA "Member Common Collateral (MCC) / Collateral" of CCIL's Rules and Chapter IX of CCIL's Bye-laws, CCIL shall henceforth maintain a Member Common Collateral (MCC) pool for each member / constituent (or a group of constituents). Pursuant to these changes, the Regulations of the Securities segment have also been amended with effect from 27/Nov/2023. As part of this revision, a new Chapter III titled 'Member Common Collateral / Collateral' (MCC) has been introduced in these Regulations. By virtue of these amendments, the erstwhile Settlement Guarantee Fund (SGF) of the Securities Segment which served as the common margin pool for various segments has been re-constituted as Member Common Collateral (hereinafter referred to as MCC). The purpose, composition, administration, utilisation etc. of the MCC are similar to those of the erstwhile SGF and no separate action is required from the members. Members are requested to take note that the existing risk management process and the margining methodology implemented in terms of the provisions of Chapter VI – "Limits and Margins" and Chapter VIII 'Risk 'Management' of the Regulations of the Securities Segment, remain unchanged. However, for ease of reference, we present below a compilation of all the risk management processes of the Securities Segment which have been notified at different points in time. The changes pertain to replacement of the text



‘Securities Segment SGF’ by the text MCC (i.e. Member Common Collateral) and the same are underlined / presented in strike through font.

---

## A. Initial Margin

1. The initial margin on the outstanding trade portfolios of the members / constituents is based on historical simulation based Value at Risk (VaR). Security-wise margin factors are arrived at 99% Confidence level using a holding period of 5 days. Margin factors are stepped up using multiplicands for semi-liquid and illiquid securities. The detailed approach for margin factor computation is presented in *Annexure A*
2. Initial Margin computation including offsets in margin shall be in terms of the provision of clause C 1 of Chapter VIII (Risk Management) of the Regulations of the Securities Segment.
3. Loss on offsetting trades shall be collected as part of Initial Margin and shall remain blocked till the MTM margin is collected.
4. In terms of para C 1.6 of Chapter VIII of the above mentioned Regulations, Initial Margin will be charged on first leg of Repo transactions till such first leg trades are netted by CCIL for settlement. After first leg trades are netted for settlement, the Initial Margin will be charged on the second leg of such Repo trades.
5. The margin is computed separately for Proprietary Trades of the Clearing Member and for trades of each of its Constituents; and no off set is provided between the Proprietary Trades and trades of Constituents or between trades of Constituents.
6. The Initial Margin computation process for yield based trades concluded in the When Issued market against new issuance of dated securities is described in Annexure E.
7. Step up in Initial Margin for weaker entities: In terms of para A(4) of Chapter VIII of the Regulations of the Securities Segment, CCIL may collect higher Initial



Margin from members having lower Counter-party Risk Assessment (CPRA) grades . The step-up applicable to a member shall also be applied to all constituents clearing trades through such a member.

In addition to the CPRA grading linked margin step-up, the Clearing Corporation may also levy higher margins in case of any regulatory action against the member or deterioration in its financial position or some adverse market report. Such additional step-up factors if imposed on a Clearing Member, shall also apply to all its constituents. Alternatively, Constituent(s) may be charged a higher step-up factor than applicable for its Clearing Member

## **B. Mark to Market (MTM) Margin**

### **1. End of the day MTM margin**

- i. EOD MTM margin shall be computed in terms of the provisions of clause C 2 of Chapter VIII (Risk Management) of the Regulations of the Securities Segment.
- ii. MTM gains on trades in liquid or semi-liquid Government of India securities and T-Bills will be allowed to be set off against MTM losses on trades in any securities. However, to qualify for offset, such MTM gains will have to be on trades settling on same day as the trades with MTM loss or on any subsequent day. The criteria for classification of Government of India securities into liquid, semi-liquid & illiquid securities is stated in *Annexure A*
- iii. 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 and / or their constituent's margin account by 9-00 AM on the next business day. Failure by a member to replenish the margin shortfall in its account by 9-00 AM on the next business day will attract penalty as applicable.



- iv. The MTM Margin computation process for yield based trades concluded in the When Issued market against new issuance of dated securities is described in Annexure E
- v. The process for arriving at the end of the day MTM prices of government securities is as under:

The price of last trade (of face value Rs.5 crores and above) of the day reported / matched through NDS-OM will be taken as MTM price. If in the opinion of CCIL, the last trade doesn't reflect the fair market price of the security, the process followed will be as under:

- a) The weighted average price of the last 5 trades concluded in the last 1 hour will be considered.
- b) In case the number of trades done in the last hour of trading is less than 5, the weighted average price of last five trades of the day will be considered.
- c) In case the number of trades reported / matched through NDS-OM in a particular security is less than five for the day, the weighted average price of available trades in that security will be the basis for computation.
- d) For arriving at MTM price as above, only non-constituent trades will be considered
- e) In case there is no outright trade of face value Rs.5 Crores and above in a security or if, in the opinion of CCIL, none of the trades in the security reflect the prevailing market price of the security, the security will be treated as not traded on the day and its traded prices will not be considered for arriving MTM. Mark to Market price for such security will be based on the Internal Valuation Model of Clearing Corporation described in Annexure B of this Notification.

## **2. Intra day MTM margin**

In terms of Chapter VIII (C) 3.5 of Regulations for Securities segment, in case of any sudden volatility in interest rates/ bond prices during the day, which can substantially



erode the margins collected from the members, the Clearing Corporation may revalue all the outstanding trades of the members using latest available prices. If such revaluation indicates inadequacy of the margin in the account of a member beyond a level, the Clearing Corporation may impose additional Mark to Market margin equal to the amount of shortfall. The process to be followed will be as under:

a) The intra-day MTM prices for securities will be computed using intra-day Zero Coupon Yield Curve generated based on trades concluded/reported on NDS-OM till the time of intraday valuation. If there are no trades in a security, model price will be used in place of traded price [i.e. previous traded prices will not be repeated in case of intra-day MTM prices].

b) Outstanding trades as at the time of computation (including trades outstanding at previous EoD and new trades concluded/reported on the current day) will be valued using these intra-day MTM prices.

c) Notional MTM margin based on intra-day valuation as reduced by MTM Margin already collected will be taken as value depletion on trades.

d) Net MTM loss in the portfolio of a member will be sum of net MTM value depletion on outstanding trades, if any.

e) Volatility Margin (VM) collected, if any, will also be notionally added to Initial Margin for arriving at the applicability of Intraday MTM margin.

f) If the net MTM Loss arrived at as above exceeds 30% of Initial Margin and Volatility Margin (if applicable) collected at the time of computation of intraday MTM, such net MTM loss will be the Intra-day MTM margin payable by the member.

g) The processes of assessing applicability of intraday MTM margin as explained above will be carried out at 12.00 Noon and at 03:00 PM.

h) Moreover, Clearing Corporation, on volatile days, may collect intraday MTM margin at such other time of the day as required.

i) If applicable, the Intra-day MTM margin/Gain reduction is collected immediately. Upon imposition, if there is margin inadequacy/shortfall in MCC account of concerned



member, it shall be the responsibility of such member/s to replenish the shortfall within one hour from the time of imposition; else penal charges will be levied as applicable.

j) In case the intra-day MTM margin payable by a member at 03.00 PM is lower than the intra-day MTM margin already collected from the members based on prices at 12.00 noon, such excess intra-day MTM margin will be released by CCIL

### **C. Volatility Margin**

In terms of Chapter VIII (3) of Securities Settlement Regulations, Clearing Corporation may impose volatility margin in case of a sudden increase in volatility in interest rates and/or bond prices. Volatility Margin Is applied as a percentage of Initial Margin. The Methodology for assessment, Imposition and Withdrawal of Volatility Margin is described in Annexure C of this Notification.

Volatility Margin, if applicable, will be imposed immediately after notifying to the members. Imposition of Volatility Margin may result in margin shortfall if available MCC balance is inadequate to cover the increased margin requirements. Failure by a member to replenish such shortfall in its account, within one hour from the time of imposition shall invite levy of penal charges, as applicable.

### **D. Exposure monitoring and margin management**

1. The trades received by CCIL from NDS-OM and from Clearcorp Repo Order Matching System (CROMS) trading systems are taken up for exposure check (i.e margin computation) online on a real-time basis.
2. Release of Margins: After the netting for settlement is completed, the margins due for trades settling on that day are arrived at by deducting margin obligations of the trades due for settlement on subsequent days from the total margin collected. Thereafter, as the settlement proceeds in stages, margins for trades settling on the day will be re-worked by taking outstanding settlement obligations into account. The process has been explained in the Annexure D to this Notification.



3. Any instance of shortfall in margins encountered intra-day arising out of an increased margin requirement from trades in Securities Segment is intimated to the members through an Intra-day Margin Shortfall Report made available through Reports browser.
4. CCIL IRIS provides members a secured access to trade level details and details of collaterals, margins requirements etc. on a real time basis whereby the margin positions can be monitored online. The utility also contains an online margin calculator to assess the margin requirements for proposed trades.
5. Clearing Corporation also provides SMS/e-mail alerts for high level of margin utilisation/margin shortfall to officials from member institutions who have registered for these services.
6. Members are requested to make use of the above mentioned facilities for keeping track of their margin requirements and avoid the possibility of margin shortfall and consequent penalty.

The revised approach, as above, shall be effective from **27<sup>th</sup> Nov'23** and supersedes the following Notifications issued by us.

| <b>S No</b> | <b>Notification No</b> | <b>Date</b> | <b>Subject</b>   |
|-------------|------------------------|-------------|--|
| 1           | RMD/WI/MF/07/22        | 30-Jun-07   | Margining process for When Issued trades   |
| 2           | CCIL/RMD-SS/09/04      | 20-Mar-09   | MTM margin on second leg repo  |
| 3           | RMD/SS/ 09/13          | 28-Aug-09   | Changes in Valuation Methodology, Computation of Margin Factors & Hair-cut Rates         |
| 4           | RMD/SS/IM/09/16        | 23-Oct-09   | Online margining & Prudent margin maintenance  |
| 5           | RMD/SS/10/02           | 14-Jan-10   | Changes in valuation methodology   |
| 6           | RMD/SS/12//18          | 11-Aug-12   | Change in margining (Margin on Repos, release of margin at each stage of settlement) etc |
| 7           | RMD/SS/13/22           | 24-Jun-13   | Margin maintenance   |
| 8           | RMD/SS/16/78           | 02-Dec-16   | Incremental MTM Margin   |



|    |                  |           |                                      |
|----|------------------|-----------|--------------------------------------|
| 9  | RMD/SS/VM/18/69  | 30-Jun-18 | VM margin methodology                |
| 10 | RMD/SS/19/05     | 01-Jan-19 | Intra day MTM                        |
| 11 | RMD/SS/19/07     | 14-Jan-19 | Computation of Mark to Market Prices |
| 12 | No. RMD/SS/22/31 | 22-Nov-22 | Approach for MF / HC                 |

**For The Clearing Corporation of India Ltd**

**Sd/-**

**Managing Director**

\*\*\*\*\* \*\*\*\*\*





**Annexure A**

**Margin Factor Computation Process**

- i. Initial Margin is charged based on security wise margin factors computed using a Historical Simulation based Value at Risk (VaR) model with a 5 day Margin Period of Risk (MPOR) and a confidence level of 99%. Margin factors are stepped up using multiplicands for semi-liquid and illiquid securities. Anti-procyclicality measures are incorporated in the model.
- ii. The detailed model is as under:
  - i. The floor (minimum value) for 1 day VaR for securities in a tenor bucket shall be recalibrated to 95<sup>th</sup> percentile 1 day VaR values. If the VaR of the security is less than the floor value applicable for the security in particular tenor bucket then the floor value will be retained as the applicable VaR.
  - ii. The process followed to arrive at the floor shall be as under:
    - a) All securities will be divided into tenor-wise buckets based on residual maturity. Each tenor bucket will be divided into two categories:
      - 1) Category I - GOI Securities & T-Bills (Excluding Special Bonds)
      - 2) Category II - STRIPS
    - b) The tenor buckets will be 0-3 Months, 3M – 6M, 6M - 1 year, 1-3 years, 3-5 years, 5-10 years, 10-15 years, 15-20 years, 20-30 years and above 30 years.
    - c) The floor (minimum value) for 1 day VAR for securities in a tenor bucket will be set at 95<sup>th</sup> percentile VaR for the bucket in the 10 years preceding the date of the fortnightly revision of margin factors.
    - d) The floor (minimum value) as computed above for category I will be applicable to *all* securities (Central Government Securities, Treasury Bills and State Government Securities) falling in respective tenor buckets, except STRIPS. The floor values for STRIPS will be calculated separately under Category II.



4. The applicable margin factors for semi-liquid and illiquid securities shall be arrived at after applying the specified step-up factors as described below.

| S No | Process   | Description  |
|------|---|--|
| 1    | Margin Factor Computation   | <p><b>a) Margin factors will be stepped up for Government of India Securities and SDLs as under:</b></p> <p>i) For Liquid-Securities having average of more than ten trades (face value <math>\geq</math> Rs.5 Cr) per day during previous calendar month – at 5 day VaR</p> <p>ii) For Semi-liquid securities having average of 1-10 trades (of face value <math>\geq</math> Rs.5 crores) per day during previous calendar month - 1.5 times of 5 day VaR</p> <p>iii) For illiquid securities having average of less than 1 trade (of face value <math>\geq</math> Rs.5 crores) per day during previous calendar month - 2 times of 5 day VaR.</p> <p><b>b) Margin factors for Special Securities issued by Government of India will be stepped up as under:</b></p> <p>i) Securities having up to average 10 trades per day during previous calendar month – 1.5 times of 5 day VaR</p> <p>ii) Securities having less than average 10 trades per day during previous calendar month – 2 times of the respective 5 day VaR</p> <p>c) Margin factors of Floating Rate Bonds (FRBs) will be computed by treating the FRBs as fixed coupon bonds with the coupon equal to current coupon.</p> <p>In all cases in (a), (b) and (c) above, 0.25% will be added towards accrued coupon.</p> |
| 2    | Illiquidity multiplicands for margin factors of newly issued SDLs | Illiquidity based multiplicands for margin factors of newly issued SDLs will be arrived at after excluding the trades on the date of auction of the security and for seven days after the date of issue  |

iii. Margin factors are reset at fortnightly interval (on Reporting Fridays)



### **Internal Valuation Model for Valuation of Securities**

#### Brief Summary of the approach

- i. CCIL has developed a Zero Coupon Sovereign Rupee Yield Curve by following a parametric approach, based on Nelson-Siegel-Svensson (NSS) equation. For generation of the yield curve, CCIL uses the trade data for outright trades in Central Government Securities (other than special securities) and T- bills.
- ii. Model prices computed using the NSS yield curve as above, are adjusted for Illiquidity discounts in terms of yield/price spreads used for valuation. Uniform spreads are used for Special Securities issued by Central Government and for SDLs. Tenor-wise spreads are used for illiquid Central Government securities.
- iii. These illiquidity spreads are reviewed on a monthly basis.
- iv. Back testing of effectiveness of these illiquidity spread is carried out on a daily basis.
- v. On days when volatility margin is imposed due to increased volatility, prices are arrived at as explained above (using the Internal Valuation Model) is taken as MTM prices
- vi. YTM based yield spreads polled by FIMMDA are used in valuation of Floating Rate Bonds (FRBs). In the event of spread not being available on any day, Clearing Corporation may use spreads as it considers reasonable.
- vii. The Spreads used for valuation and the multiplicands used for arriving at Margin Factors will be subjected to a monthly review.



Detailed overview

| S No | Process                                | Process Description  |
|------|--|--|
|      | Valuation of Govt. of India Securities | <p>a) <b>For Securities maturing within a year and T-Bills –</b><br/>No yield spread (spread over zero coupon yields) will be applied.</p> <p><b>b) For Securities having at least 10 trades during previous month.</b></p> <p>i) Security-wise illiquidity discounts in rupee terms (LAF), based on average of daily difference between the model price and the weighted average price of the security during the previous month, will be arrived at the end of a month.</p> <p>ii) LAF arrived at in (i) above will be notified to the members before being brought into effect</p> <p>iii) In case of any sudden change in the market leading to a significant change in the spreads, LAF may be changed after duly notifying the members about such change.</p> <p><b>c) For Securities having less than 10 trades during the previous month –</b></p> <p>Tenor wise yield spreads (spread over zero coupon yields) for tenors 1-3 years, 3-5 years, 5-10 years, 10-20 years and above 20 years, will be arrived at by grouping the securities in different buckets based on residual maturity</p> <p>i) Tenor wise yield spreads will be arrived at based on trade data (excluding outliers) of securities belonging to the tenor buckets during a month. Such spreads will be used in the subsequent month. Trades on the date of auction of a security and for 7 days thereafter will not be considered for arriving at yield spread. The yield spreads so arrived at will be reviewed every month. For tenor</p> |



|  |                   |   |
|--|-------------------|---|
|  |                   | <p>buckets where there are no trades for arriving at yield spread, the spread used for such tenor during the previous month or spreads arrived at by interpolation or extrapolation, as appropriate will be used.</p> <p>ii) Yield spread arrived at in (i) above will be notified to the members before being brought into effect</p> <p>iii) Back-testing of effectiveness of using yield spread will be run and summary of results will be made available to the members on periodic basis.</p> <p>iv) In case of any sudden change in the market leading to a significant change in the spreads, yield spreads may be changed after duly notifying the members about such change.</p> <p>* When Issue trades will be included in the above analysis</p>   |
|  | Valuation of SDLs | <p>Yield spread (spread over zero coupon yields) would be used for adjustment towards illiquidity. The process will be as under:</p> <p>a) Uniform yield spread (spread over zero coupon yields) across tenors and states will be used to capture the impact of illiquidity etc.</p> <p>b) Yield spread will be arrived at based on trade data (excluding outliers) of SDLs during a month and will be used in the subsequent month. Trades in certain securities prices of which are not likely to be affected significantly due to illiquidity e.g. trades on the date of auction of a security and for 7 days thereafter, will not be considered for arriving at yield spread. The yield spread so arrived at will be reviewed every month.</p> <p>c) Yield spread arrived at in (b) above will be notified to the members before being brought into effect.</p> |



|  |   |   |
|--|---|---|
|  |   | <p>d) Back-testing of effectiveness of using yield spread will be run and summary of results will be made available to the members on a periodic basis.</p> <p>e) In case of any sudden change in the market condition leading to a significant change in the spreads, yield spreads may be changed after duly notifying the members about such change.</p>   |
|  | <p>Valuation of Govt of India Special Securities (like Oil bonds, FCI bonds etc.)</p> | <p>Yield spread (spread over zero coupon yields) will be used for adjustment towards illiquidity. The process will be as under:</p> <p>a) Yield spread will be arrived at based on trade data (excluding outliers) in respect of Special Securities during a month and will be used in the subsequent month. The yield spread so arrived at will be reviewed every month.</p> <p>b) Yield spread arrived at in (a) above will be notified to the members before being brought into effect.</p> <p>c) Back-testing of effectiveness of using yield spread will be run and summary of results will be made available to the members on a periodic basis.</p> <p>d) In case of any sudden change in the market leading to a significant change in the spreads, yield spreads may be changed after duly notifying the members about such change</p> |
|  | <p>Valuation of Floating Rate Bonds issued by Government of India.</p>                | <p>YTM based yield spreads polled by FIMMDA for valuation of FRBs will be used for valuation. In the event of spread not being available on any day, Clearing Corporation may use spreads as it considers reasonable.</p>   |



**Securities Segment  
Volatility Margin**

**Methodology for Imposition and Withdrawal**

The updated methodology for identification of Volatility in the Securities Market for imposition of Volatility Margin and for identification of absence of volatility for withdrawal of volatility margin is as under:

- i. For tracking volatility, three most liquid securities will be identified based on analysis of trades during the previous month for tracking volatility.
- ii. At least one of the securities in the basket should be of long duration (at least of residual maturity of 20 years). If such a security is not in the list of 3 highest traded securities, the security having 3rd highest traded volume in the previous month will be replaced by the highest traded security with residual maturity of 20 years or more.
- iii. This process of identification of securities is to be reviewed after month-end and the members will be kept advised of the securities selected for this purpose.
- iv. Volatility margin to be imposed:
  - a. *If trades in two out of three securities indicate volatility,*
  - b. *If only two securities in the basket are traded and trades in any one of the securities indicate volatility,*
  - c. *If only one security in the basket is traded and trades in such security indicate volatility.*
- v. The estimator values for indication of volatility margin will be arrived at for each security as under:



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

b. **Estimator II** will be price fluctuation based on the higher of absolute of

-

$(\text{MTM price of previous day} - \text{low price of current day}) / \text{MTM price of previous day}$

and

$(\text{MTM price of previous day} - \text{high price of the day}) / \text{MTM price of previous day}$

**Higher of Estimator I and Estimator II of a Security will be the reference Estimator.**

- vi. Trigger price will be set at one day VaR of the respective security (multiplied by illiquidity multiplicand if any).
- vii. Trades in the identified securities received during the day will be monitored for deciding about imposition of volatility margin and also for withdrawal of such margin.
- viii. Volatility margin **will be imposed** if the estimator value reaches the trigger value and the quantum of volatility Margin will be as under:
  - a. *If Estimator value reaches 100 % of trigger value - 25% of margin factor*
  - b. *For every subsequent increase of 50% in estimator value over trigger value - additional 25% of margin factor.*
- ix. Volatility margin will be due for imposition from the time the estimator values exceeds the trigger price.
- x. Volatility Margin will be **completely withdrawn** at the time of End of the Day Risk valuation if the values of the Estimators are at less than the 60% of the 1-





day VaR (i.e. 60% of the trigger value) for one day for the securities which had earlier indicated increase in volatility and caused imposition of volatility margin.

- xi. **Partial withdrawal** of volatility margin may also be considered based on the process listed as under
  - a) Required Volatility Margin levels will be re-assessed for the current date and immediately previous business date as per the process detailed in annexure to the above-mentioned notification. Higher of the two values will be taken as reference level.
  - b) If the Volatility Margin already imposed is higher than the reference level as per (a) above, the Volatility Margin will be reduced to the reference level subject to a minimum of 25% of Initial Margin.
  
- xii. Volatility Margin, if applicable, will be imposed immediately after notifying to the members. Imposition of Volatility Margin may result in margin shortfall in the accounts of the members if available MCC balance is inadequate to cover the increased margin requirement. It would be the responsibility of the member to replenish the shortfall at the earliest. Penal charges will be levied if shortfall is not replenished within one hour from the time of imposition.

**Process to be followed for release of margins due on trades settling on the day**

| <b>Particulars:</b>  |                      | <b>Scenario 1<br/>Rs.</b> | <b>Scenario 2<br/>Rs.</b> |
|--|----------------------|---------------------------|---------------------------|
| Total Margin obligation including margin on trades settling on the day   | <b>A</b>             | 100                       | 200                       |
| Margin Obligation on residual trades (i.e excluding trades settling on the day but including 2 <sup>nd</sup> leg Repo trades where first leg has settled on the day) | <b>B</b>             | 110                       | 85                        |
| Margin due for release on trades settling on the day (i.e. current day)  | <b>C = A -<br/>B</b> | <b>0 #</b>                | <b>115 ##</b>             |

# In scenario 1, the margin on residual trades including 2<sup>nd</sup> leg Repo trades is higher than the total margin charged at present. Hence the margin eligible for release on trades settling today is Nil. Moreover, additional margin of Rs.10 will be blocked at this stage.

## In scenario 2, the margin due for release on settlement of trades which are due for settlement on the current day is Rs. 115 Crores. At each stage in the settlement process, CCIL will evaluate the member's outstanding trades positions and release margins not required to be blocked.

The margin release process would be as under:

**1) At the time of netting of trades for settlement for the day:**

If at netting the member only has a resultant receivable and no payable obligation then the entire margin on trades settling on the day will be released immediately.



**2) On completion of settlement of funds payable at settlement bank for members who had a funds payable and settling their funds leg at Settlement bank**

- a. If such member has no securities payable then the entire margin on account of trades settling on the day will be released at this point.
- b. If such a member has any securities payable due then the outstanding trades position of the member will be notionally valued as under:
  - i. Securities payable will be valued at their MTM prices and adjusted upwards by margin factor for such securities.
  - ii. Securities receivable will be valued at the MTM price and adjusted downwards by margin factor for such securities.
  - iii. (i) and (ii) above will be netted together to arrive at the net notional payable or receivable. If the resultant is a net notional receivable then the entire margin on account of trades settling on the day will be released.
  - iv. If the resultant is a net notional payable then the corresponding portion of the margin on account of trades settling on the day remains blocked and the balance is released.
    1. For example, If the net notional payable is less than the margin on account of trades settling today, say it is Rs 100 crores then margin of Rs 15 crores will be released at this stage.
    2. For example, If the net notional payable is greater than the margin on account of trades settling today, say it is Rs 120 Crores then no margin is released on account of trades settling today.

**3) On completion of securities payable at RBI**

- a. If such member has no funds payable then the entire margin on account of trades settling today is released at this point
- b. If such a member has any funds payable due and if the amount of such funds payable is less than the margin on account of trades settling today,



say it is Rs 100 crores then margin of Rs 15 crores will be released at this stage and the balance will be released on the completion of funds settlement at RBI.

- c. If such a member has any funds payable due and if the amount of such funds payable is greater than the margin on account of trades settling today, say it is Rs 120. Crores then no margin is released on account of trades settling today.
- d. If the member has a funds payable and also a Securities Receivable, then Securities receivables are valued at the MTM price and adjusted downwards by the applicable margin factor. The Securities Receivable and the funds payable above are netted together to arrive at the net notional payable or receivable. The margin is then released in the manner specified in para 2(iv) above.

#### **4) On completion of funds payable at RBI**

On successful completion of funds payable at RBI there is no other payable pending and all margin on account of trades settling on the current day will be released.



**Securities Segment**

**E1: Trades done in 'When Issued' market –Margining Process**

1. As the trading on such securities is based on yield (YTM), the price at which final exchange will happen in respect of such trades will get crystallised only after the coupon for the newly issued security is decided by RBI based on the auction results (usually a day prior to the date of issue). The price of the security therefore will not be available in respect of any trade in such security during the period of trading in When Issued market.
  
2. In the circumstances, for When Issued trades in dated securities, exposure check process will be run with a minor modification of our existing margining model for the Securities Segment. The process followed will be as under:
  - a) For the purpose of computation of Initial Margin, any trade in such security will be notionally taken at face value during the period of the trading in When Issued market.
  - b) Basis Point Value (BPV) will be arrived at for each such security a day prior to the first trading day in the When Issued market. For the first day, BPV will be computed on the basis of notional yield for the tenor of the security, estimated out of the yield curve, On subsequent days, BPV will be computed on the basis of MTM yield arrived out of the trades on such days.
  - c) MTM yield will be arrived at by following a process similar to the process used for computation of MTM price for Government Securities except that the traded yields will be used as references as against traded prices. In case there is no trade in the security in When Issued Market on a day, the MTM Yield of the previous day will be repeated.



- d) In case of trades by a member in opposite direction (i.e. for a member having both buy and sale trades in same security), offset will be allowed as in case of other trades in the Securities Segment. Loss, if any, for such group of trades will be computed using latest BPV for the security [Computation of loss explained in the annexure E2].
  - e) MTM Margin on the outstanding trades will be computed using the MTM yield and BPV applicable for the day. [Computation of MTM margin explained in the annexure E2]
  - f) Such yield based trades will be converted to price after the auction results are known. Thereafter, at the time of day end re-computation of margin, these trades will be subjected to margining process based on such crystalised prices, using the usual margining process for the Securities Segment.
3. Margining on When Issued trades against new issuance of T bills however will continue to be as per the existing process.

**E 2: Computation of Loss on Offsetting trades:**

Basis Point Value (BPV) = 0.136655      Notional coupon = 6.00%

(Rs. in crores)

| SR. NO        | BUY (FV)        | SALE (FV)       | TRADED YIELD | WEIGHTED YIELD   | PROFIT/ (LOSS) ON OFFSETTING TRADES |
|---------------|-----------------|-----------------|--------------|------------------|-------------------------------------|
| 1             | 1,000.00        | -               | 5.750%       | 57.5000          |                                     |
| 2             | -               | 500.00          | 5.760%       | (28.8000)        |                                     |
| 3             | -               | 500.00          | 5.750%       | (28.7500)        |                                     |
| 4             | 250.00          | -               | 5.750%       | 14.3750          |                                     |
| 5             | 250.00          | -               | 5.760%       | 14.4000          |                                     |
| 6 (PART)      | -               | 500.00          | 5.760%       | (28.8000)        |                                     |
|               | <b>1,500.00</b> | <b>1,500.00</b> |              | <b>-0.00500%</b> | <b>(1.02491) #</b>                  |
| 6 (REMAINING) | -               | 500.00          | 5.760%       | (28.8000)        |                                     |
| 7             | -               | 500.00          | 5.765%       | (28.8250)        |                                     |

 #  $1500/100 * (0.005\% / 0.01\%) * 0.136655$ 
**Computation of MTM Margin on trades outstanding at EOD:**

Basis Point Value (BPV) = 0.140386      MTM Yield = 5.745%

MTM Computation

(Rs. in crores)

| SR. NO   | BUY (FV) | SALE (FV) | TRADED YIELD | MTM YIELD | MTM (LOSS)/ PROFIT |
|--|----------|-----------|--------------|-----------|--------------------|
| 1  | 1,000.00 | -         | 5.750%       | 5.745%    | 0.70193            |
| 2  | -        | 500.00    | 5.760%       | 5.745%    | (1.05289)          |
| 3  | -        | 500.00    | 5.750%       | 5.745%    | (0.35097)          |
| 4  | 250.00   | -         | 5.750%       | 5.745%    | 0.17548            |
| 5  | 250.00   | -         | 5.760%       | 5.745%    | 0.52645            |
| 6  | -        | 1,000.00  | 5.760%       | 5.745%    | (2.10579)          |
| 7  | -        | 500.00    | 5.765%       | 5.745%    | (1.40386)          |
| <b>Net Profit / (Loss) to be collected as MTM Margin</b> |          |           |              |           | <b>(3.50965)</b>   |