



Risk Management Department

No: RMD/DRV/25/31

01-Aug-2025

FOR INFORMATION OF ALL MEMBERS

**FX Options Segment
Default Handling Process**

1. Introduction

- 1.1. In terms of Chapter VII (Settlement Shortage and Defaults) of the Regulations of the FX Options Segment, the Clearing Corporation may declare a Clearing Member to be in default upon the occurrence of specified events, including failure to fulfil settlement obligations. Following such declaration, a structured default handling process shall be initiated, which includes notification to the Default Management Committee (DMC), risk-neutralization of the defaulter's portfolio, and restoration of a matched book through hedging and/or auction mechanisms.
- 1.2. The default handling framework applicable to the FX Options Segment has been laid out in detail in the Clearing Corporation's Regulations. The key steps involved in the process, including the timeline for actions, modes of risk mitigation, participant obligations, and the procedures for auction and loss allocation, are enumerated in the sections below.

2. Default Handling Process

2.1. Default Management Committee (DMC)

A Default Management Committee (DMC) comprising officials of DMC Members will be set up, in accordance with the provisions of para 2 (C) of Chapter VII of the Regulations of this segment, to assist the Clearing Corporation in the default handling process.

The Clearing Corporation, in accordance with the provisions of para 1(d) of Chapter XVI of the Regulations of this segment, shall invite seven Clearing Members to form the DMC. The



Clearing Corporation shall invite seven highest ranked Members on the basis of their average Initial Margin requirements in the preceding quarter at the time of DMC constitution, subject to at least one representation from the following categories: 1) PSU Bank, 2) Private Bank or Foreign Bank. Clearing Corporation may invite more than seven Members in the DMC if such inclusion is likely to strengthen the capabilities of the DMC.

2.2. Default handling will involve one or more steps mentioned below (depending upon the Defaulter's Portfolio, all steps may not be necessary):

- i. Declaration of Default and initiation of default handling process
- ii. Transfer of the constituent trades and margins to the Defaulter member (where one or more constituents of Defaulter member have also defaulted).
- iii. Porting of trades and margins of the Constituents of the Defaulter to another Clearing Member (where constituents have not defaulted)
- iv. Risk neutralization of Defaulter's Portfolio
- v. Establishment of a Matched Book, by one or more of the following default handling tools, viz. Sale, Auction, Allocation, Tear up
- vi. Assessment Calls for replenishment of Default Fund
- vii. Appropriation of resources to meet losses on Defaulter's Portfolio
- viii. Utilization of resources recovered from the Defaulter

2.3. Declaration of Default and initiation of default handling process

In the event of a default by a Member, the Clearing Corporation shall initiate the following actions:

- i. Declare the Member as a Defaulter in accordance with the provisions of para II (A) of Chapter VII of the Regulations of this segment.
- ii. Stop accepting trades from the Defaulter and its Constituents for clearing and settlement or may accept only such trades from the Defaulter and/or its Constituents that reduce the risk of the Defaulter's/Constituent's portfolio.
- iii. Convene meeting of the Default Management Committee (DMC) to assist the Clearing Corporation in default handling.
- iv. Initiate default handling procedures as detailed further in this notification.



2.4. Transfer of Constituent trades and margins in the name of the Defaulter and/or Porting of trades and margins of the Constituents of the Defaulter to another Clearing Member

i. Where one or more constituents of Defaulter member have also defaulted

The Clearing Corporation will transfer the portfolio and margins of the Constituents in the name of the Defaulter in accordance with para II (F) (b) upon intimation by the Clearing Member under provisions of para II (F) (a) of Chapter VII of the Regulations of this segment.

ii. Where constituents have not defaulted:

- The constituents may either arrange to avail clearing services of another Clearing Member(s) or close out (via reversal or cancellation) all their outstanding trades within 30 days.
- If the constituent is able to avail the clearing service of another Clearing Member and if such replacement Clearing Member undertakes to meet all the obligations of such constituent, then the Clearing Corporation shall port all outstanding positions and margins of the constituent to such replacement Clearing Member.
- If the constituent is unable to close out trades or secure a new Clearing Member within the 30-day period, the Corporation may initiate default handling procedures, including the close-out of the constituent's outstanding positions, in accordance with the applicable regulations.
- During the 30-day period, the rights and obligations of these constituents shall be as per the terms of the provisions of para (E1) (4)(g) of Chapter VII of the Regulations of this segment.

2.5. Risk neutralization of Defaulter's Portfolio in terms of para (E1) (2) of Chapter VII of the Regulations of this segment

The Clearing Corporation, in consultation with the DMC, may decide to reduce the market risk of the Defaulter's Portfolio by executing Hedge Trades. The Clearing Corporation, in



consultation with the DMC, may determine a “*Reserve Price*” for conducting the hedge. Such hedge transactions will be added to the Defaulter’s Portfolio¹.

2.6. Establishing a Matched Book

The Clearing Corporation will exclude all the trades constituting Defaulter’s Portfolio from its book of cleared trades. As stated in para (E1) (4)(a) of Chapter VII of the Regulations of this segment, such removal of the Defaulter’s trades will be deemed to have resulted in an unmatched book for the Clearing Corporation. The Clearing Corporation will then resort to one or more of the following methods for reestablishment of the Matched Book. An indicative flowchart summarizing the processes in this section is presented in Annexure 1.

2.6.1. Sale of Defaulter’s Portfolio

In terms of the provisions of para (E1) (4)(b) of Chapter VII of the Regulations of this segment, the Clearing Corporation in consultation with the DMC may seek to sell the Defaulter’s Portfolio to one or more non-defaulting Members at a price acceptable to the Clearing Corporation (agreed to in consultation with DMC). Such sale may be considered, if in the opinion of the Clearing Corporation, the portfolio of the Defaulter is too small to warrant an Auction or for such other reason, which in its opinion will help to expedite the restoration of the Matched Book as elaborated in para (E1) (4) of Chapter VII of the Regulations of this segment. However, if the probable loss on account of such sale exceeds the resources of the Defaulter, comprising its margins and Default Fund contributions, such sale shall not be undertaken and the auction process shall be initiated.

2.6.2. Auction

The Clearing Corporation, in consultation with the DMC, may decide to auction the Defaulter’s Portfolio to the non-defaulting Members, who are willing to buy a part/ full of the Defaulter’s Portfolio at prices established in such Auction.

¹ In rest of this notification, “Defaulter’s Portfolio” will mean Defaulter’s trades along with the trades of the Constituents that are transferred in the name of the Defaulter and the Hedge Trades.



2.6.2.1. Participation in Auction

- i. All Members of the segment, except for the Defaulter, shall be eligible to participate in the Auction.
- ii. In terms of the provisions of para (E1) (4)(d) of Chapter VII of the Regulations of this segment, a constituent who is permitted by the Clearing Corporation to participate in the Auction shall submit its Bids to its Clearing Member who shall then bid in the Auction on behalf of such constituent.

2.6.2.2. Auction Intimation

- i. The Clearing Corporation shall intimate about the initiation of the Auction process and other operational details to all the eligible Members through email. For this purpose, the Clearing Corporation shall refer to the email ids of concerned officials such as Communication Officer, Treasury Front Office Head and Chief Dealer Forex, which have been updated by the Member in CCIL's C Notice database ².
- ii. Also, it should be noted that in accordance with the provisions of para 5 of Chapter XVI of this segment, the DMC Member representatives, who are assisting the Clearing Corporation for default management, shall not be allowed to place bids in the Auctions, either directly or otherwise.

2.6.2.3. Auction Pools and Portfolio Units

- i. In terms of the provisions of para (E1) (4) of Chapter VII of the Regulations of this segment, for the purpose of auction, the trades constituting Defaulter's Portfolio may be split between two or more buckets, referred as Auction Pools. In case the trades in the portfolio are not split, then such a portfolio will constitute a single Auction Pool.
- ii. Each Auction Pool may be further divided into a number of identical auction-able units referred as Portfolio Units. The Clearing Corporation will determine the number of

² Members are required to periodically review the email addresses submitted by them with CCIL and ensure that these are UpToDate.



units in which the Auction Pool shall be sub-divided. The USD and INR amounts corresponding to each trade in the Auction Pool shall be then divided by this total number of units to derive a Portfolio Unit.

- iii. Minimum bid size (in terms of number of units) may be specified for the auction.
- iv. Price per unit can be negative (representing payment from Clearing Corporation to auction winner) or positive (representing payment from auction winner to Clearing Corporation).
- v. To ensure a fair and equitable auction, the Clearing Corporation may mask the defaulter's portfolio by either scaling it or by inviting bids for both the actual portfolio and its mirror opposite portfolio or such other means that it may feel necessary.

An illustration showing Defaulter's Portfolio, Auction Pools and Portfolio Units is presented in Annexure 2.

2.6.2.4. Auction design and Reserve Price

- i. A *Single-unit Auction* or a *Multi-unit Discriminatory Price Auction* will be conducted for each Auction Pool in accordance with the provisions of para (E1) (4)(d) of Chapter VII of the Regulations of this segment. In these auctions, considerations paid/received by the winning bidders are at prices at which the bidders have won their respective units fully/partially.
- ii. The Clearing Corporation, in consultation with the DMC, will determine the Reserve Price per Portfolio Unit for each Auction Pool, which would be the worst acceptable price to the Clearing Corporation for the auction. The Clearing Corporation may not disclose the Reserve Price to the Members.
- iii. The Members of the segment shall be notified about the schedule and other pertinent details of the auction before the commencement of the bidding process.

2.6.2.5. Bidding process

- i. Non defaulting Members shall bid in one or more Auction Pools in a prescribed format by specifying *number of Portfolio Units* (cannot be fractional units) and *price per*



Portfolio Unit (either payable by the Member to the Clearing Corporation or otherwise). Members shall be permitted to submit multiple bids.

- ii. Minimum bid size (in terms of number of units) may be specified for the auction.

A brief guidance on *how to price a Portfolio Unit* is also provided in Annexure 2.

2.6.2.6. Juniorisation Scheme

- i. The utilisation of non-defaulting Members' Default Fund contributions (in terms with para I(1)(d) of Chapter IX of Regulations of this segment) will be as per the Juniorisation Scheme, as provided for in para (E1) (6) of Chapter VII of the Regulations of this segment.
- ii. The Clearing Corporation shall compute its Member-wise *Expectations*, i.e., the number of units a Member is expected to win for each Auction Pool, and communicate the same to the Members before the commencement of auction. These Expectations will be computed for a Multi-unit Auction based on each Member's (including its Constituent's) average daily gross outstanding positions in the preceding three months to the date of default.
- iii. The Juniorisation Scheme is designed to rank the Members as per their performance in Auction. Juniorisation shall be based on the following two factors – (1) Member's performance in relation to the Expectation from the Member and (2) volume weighted average price of the Portfolio Units won by the Member in relation to the worst Reserve Price of such Auction Pool across the auctions held. At the end of one or two rounds of Auction, as the case may be, the Clearing Corporation will rank the performance of Members in each Auction Pool as per a Juniorisation Factor computed on the basis of the above two factors.
- iv. The non-defaulting Members' Default Fund contributions allocated to each Auction Pool will be appropriated sequentially on the basis of the above stated rankings – starting from the contributions of the junior-most ranked Member to that of the senior-most ranked Member, to the extent required. In an event, one or more Members are ranked equally, then the contributions of such Members shall be appropriated on a pro-rata basis, to the extent required.
- v. In case of a Single-unit Auction, expectations will not be applicable and the winning bidder would be ranked senior to all other Members who would all be ranked equally.

An illustration of Juniorisation Scheme is placed in Annexure 3.



2.6.3. Allocation of positions from Defaulter's Portfolio as per para (E1) (4)(e) of Chapter VII of the Regulations of this segment

Allocation of units (with negative mark to market value) from the Defaulter's Portfolio to non-defaulting Members may be required in the following cases:

- i. Sufficient valid bids are not received for complete liquidation of one or more Auction Pools after one or two rounds of auction, and/or
- ii. There is a shortfall in resources required for auction settlement on account of one or more participants failing to meet their Assessment Calls.

Allocation may be carried out on two categories of Members, viz.

- Members who did not meet their respective Expectations after one or two rounds of Auction (*category 1*), and/or,
- Members, who did not meet their Assessment Calls (*category 2*).

Allocation of units of Defaulter's Portfolio will be made to *category 2* Members, commensurate to their shortfall in meeting the Assessment Calls.

The remaining unsold units of Defaulter's Portfolio will be allocated to *category 1* Members, pro-rata, based on their shortfall in meeting *Expectations*. Allocation made to *category 1* Members will be capped at their Expectations. The units shall be allocated to these Members at a price determined by the Clearing Corporation in consultation with DMC.

2.6.4. Tear up as per para (E1) (4)(e) of Chapter VII of the Regulations of the segment

Tear up entails simultaneously terminating positions in the Defaulter's Portfolio and equivalent opposite positions of non-defaulting Members/Constituents on a pro-rata basis. Such pro-rata termination of trades could also result into amendment of trades of non-defaulting Members and Constituents such that the USD and INR amounts of impacted trades are reduced. Tear up may be used to establish Matched Book in the following cases:



- i. If there are unsold units of Defaulter's Portfolio after one or two rounds of auction and the Clearing Corporation decides not to allocate units in accordance with the Allocation process discussed above³ and/or,
- ii. If there is a margin shortfall on account of a member who has been allocated units in accordance with the Allocation process discussed above.

In the first case, trades on the opposite side of the unsold portion of the Defaulter's Portfolio will be torn up from the portfolios of the non-defaulting Members and Constituents on a pro-rata basis.

In the second case, in addition to the allocated trades, other trades of the Member (and equivalent opposite trades on non-defaulting Members/Constituents) may also be torn up, either partly or completely, and margins supporting such positions may be utilized to compensate (to the extent resources are available) the non-defaulting Members/Constituents. In case resources are inadequate, payments will be made on a pro-rata to such Members to the extent of available resources.

The positions being terminated will be at prices deemed fair by the Clearing Corporation in consultation with the DMC.

2.6.5. Booking of trades in the name of non-defaulting Members and Constituents

The trades assigned to the non-defaulting Members and Constituents on account of Auction allotment or Allocation and the trades undergoing amendment or termination on account of Tear-up shall be booked in the name of the respective non-defaulting Members and Constituents after the closure of market on the day of such Auction, Allocation and/or Tear-up of trades. Further, the margin requirements shall be determined based on such revised portfolios and shall be blocked from the MCC accounts of respective Members and Constituents at EOD.

2.7. Assessment Calls for replenishment of Default Fund made in terms of the provisions of para (E1) (5) of Chapter VII of the Regulations of this segment

³ The Clearing Corporation may decide against Allocation of the unsold Portfolio Units, if – (a) the Portfolio Units have a positive MTM value (gain), or (b) if the Portfolio Units are not fully hedged and in the opinion of the Clearing Corporation, such Allocation could have a relatively greater destabilising effect on the Allocatee Members than the effect that a Tear-up of trades could have on impacted Members/Constituents.



Assessment Calls for Default Fund replenishment shall be made to all the Members of the segment to the extent resource requirement, as determined by the Clearing Corporation, exceeds available resources and for refurbishment of Default Fund. Such Assessment Calls will be required to be met in *cash* only. Default Fund replenishment calls shall be made to the non-defaulting Members in proportion to their respective Default Fund contributions as per Clause J of Chapter IX of the Regulations of this segment. In the event of a member failing to meet the requirement, the Clearing Corporation may initiate appropriate actions against such Member, which could include Allocation of Portfolio Units, or tearing up its portfolio, partly or completely, and appropriating the margin resources.

2.8. Appropriation of resources to meet losses on Defaulter's Portfolio as per para (E1) (6) of Chapter VII of the Regulations of the segment

After determination of the final allotment details (Auction allotment/ Allocation/ Tear-up) of Defaulter's Portfolio and settlement of interim cashflows, if any, the Clearing Corporation shall determine the total losses on Defaulter's Portfolio (which shall include the obligations arising out of liquidation of options portfolio), since the last successful MTM margin appropriation from the Defaulter's MCC account. In an event, the Defaulter's Portfolio is split into multiple Auction Pools, then the losses should be computed separately for each Auction Pool. In case of a gain in a particular Auction Pool, then such gain shall be treated as margin made available by the Defaulter.

Each layer of resources as mentioned in Para I (1) of Chapter IX of the Regulations of this segment, other than those collected towards MTM margins and Net Option Value (NOV) margin, shall be allocated to each Auction Pool in proportion to the losses in the Auction Pools. MTM margins and NOV margins shall be allocated as per the MTM losses/value of respective positions in each Auction Pool at the time of last successful MTM margin appropriation from the Defaulter's MCC account.

The losses corresponding to each Auction Pool shall be met using the resources in the order mentioned in Para I (1) of Chapter IX of the Regulations of this segment. Where losses are required to be met from the Default Fund contributions of non-defaulting Members in terms of



Para I (1)(d) of chapter IX of the Regulations of this segment, then such appropriation will be in accordance with the Juniorisation Scheme as discussed earlier in this notification.

Provided, however, if losses are required to be met from the Default Fund contribution of non-defaulting Members in terms of Para I (1)(f) of Chapter IX of the Regulations of this segment, then such utilisation of resources will be done in proportion of their required contributions to the Default Fund at the time of handling such default. Annexure 4 provides an illustration of how the resources are appropriated to meet losses on Defaulter's Portfolio.

2.9. Settlement of Auctions/ Allocation/ Tear up as per para (E1) (7) of Chapter VII of the Regulations of the segment

The Members and Constituents bidding for the positions in gain (i.e., when the bids are placed with the price *payable to* the Clearing Corporation) shall be required to make funds available as per their bids before placing the bids. Such funds will remain blocked till completion of auction proceedings. In case of Constituents, however, such prefunding should be done through their Clearing Members.

On account of Auction, Allocation or Tear-up, the Members could have funds payable or receivable and, margins payable or releasable. After determination of the final allotment details (Auction allotment/ Allocation/ Tear-up) of Defaulter's Portfolio, the Clearing Corporation shall determine the final funds and margin obligations of the Members and Constituents. Margins shall be blocked or released, as the case may be, from the Member's/Constituent's MCC account. Funds obligations shall be settled on the next business day as per the schedule notified by the Clearing Corporation at the time of the default management.

Funds receivable by the Members: Where a Member has funds receivable, then such amount shall be given as a credit to the Member's/Constituent's MCC account. Such credit shall be withdrawn before releasing the funds to the Member. However, in an event of a margin shortfall, then the funds payable amount to the extent of shortfall shall be withheld by the Clearing Corporation and continue to remain credited to the MCC account.



Funds payable by the Members: Where a Member/Constituent has funds payable obligation, then an equivalent margin shall be blocked from the Member's/Constituent's MCC account. Such margin shall be released on receipt of funds pay-in from the Member.

2.10. Settlement of interim cashflows

Any funds obligation payable by the Clearing Corporation on account of the cashflows becoming due during the default handling process will be handled by the Clearing Corporation by appropriating the defaulting Member's margins and other default handling resources. Any funds received on account of interim cashflows will be treated as margin made available by the Defaulter towards the default handling process.

2.11. Utilisation of resources recovered from the Defaulter in terms of the provisions of para (K) of Chapter VII (Default Fund) of the Regulations of this segment.

Resources recovered from the Defaulter shall be used to make good the losses incurred by the Members and the Clearing Corporation on account of the default of such Member. Such resources will be utilized as per the provisions of para (K) of Chapter IX (Default Fund) of the Regulations of this segment.

3. This notification comes into effect from **1st Sep, 2025**.

Yours faithfully,

For The Clearing Corporation of India Ltd.

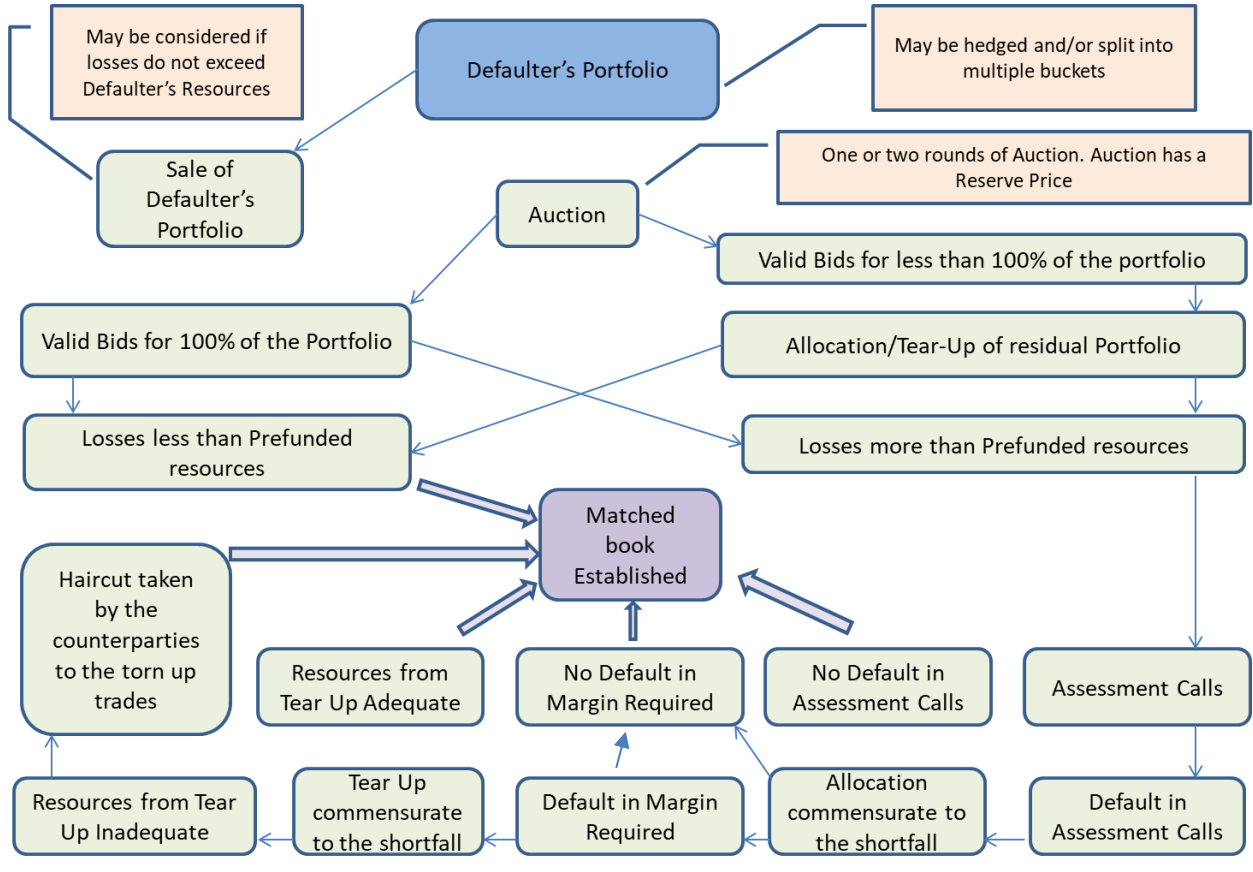
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Managing Director



Annexure 1

Indicative Flowchart of Default Handling Methodology





Annexure 2

An illustration showing Defaulter’s Portfolio, Auction Pools and Portfolio Units and a guidance on how to price a Portfolio Unit (of USD/INR FX Options)

1. The Defaulter’s Portfolio being auctioned could include several USD/INR options trades and/or USD/INR outright forward trades. The trade attributes would include Settlement date, USD amount, Trade type, Strike (for options trade), Traded rate (for forward trade), Buy/Sell etc. For example, consider the following five trades constituting the Defaulter’s Portfolio as on 30-Nov-2023 (only some relevant trade attributes are shown here).

Trade ID	Settlement Date	USD Amount (in Mio)	Strike/Trade rate	Buy/Sell	Trade Type	Currency Pair	Residual Maturity
T1	29-Dec-23	100	85.00	Buy	Call	USD/INR	1M
T2	12-Jan-24	200	84.50	Sell	Forward	USD/INR	1.5M
T3	31-Jan-24	300	83.75	Buy	Put	USD/INR	2M
T4	30-Jun-24	200	85.50	Sell	Call	USD/INR	8M
T5	30-Sep-24	300	86.70	Buy	Forward	USD/INR	11M

Table 1 – Defaulter’s Portfolio

2. For the purpose of the auction, these trades may be segregated into various residual maturity-based Auction Pools (e.g., trades with residual maturity between 0 to 6M in ‘Auction Pool 1’, trades with residual maturity between 6M to 13M in ‘Auction Pool 2’, and so on).

Trade ID	Settlement Date	USD Amount (in Mio)	Strike/Trade rate	Buy/Sell	Trade Type	Currency Pair	Residual Maturity	Auction Pool
T1	29-Dec-23	100	85.00	Buy	Call	USD/INR	1M	1
T2	12-Jan-24	200	84.50	Sell	Forward	USD/INR	1.5M	1
T3	31-Jan-24	300	83.75	Buy	Put	USD/INR	2M	1
T4	30-Jun-24	200	85.50	Sell	Call	USD/INR	8M	2
T5	30-Sep-24	300	86.70	Buy	Forward	USD/INR	11M	2

Table 2 – Auction Pools made from the Defaulter’s Portfolio



3. Each Auction Pool can then be auctioned either as a single unit or by conducting a multi-unit discriminatory price auction. In case of a multi-unit discriminatory price auction, the Auction Pools are further divided into identical small sized Portfolio Units. For example, if the ‘Auction Pool 1’ is to be divided into 100 units, then the USD amounts for each trade in that Auction Pool will be divided by 100. Similarly, if the ‘Auction Pool 2’ is to be divided into 200 units, then the USD amounts for each trade in that Auction Pool will be divided by 200. The resultant portfolios are referred as ‘Portfolio Units’.

Trade ID	Settlement Date	USD Amount (in Mio)	Strike/Trade rate	Buy/Sell	Trade Type	Currency Pair	Residual Maturity	Auction Pool
T1	29-Dec-23	1	85.00	Buy	Call	USD/INR	1M	1
T2	12-Jan-24	2	84.50	Sell	Forward	USD/INR	1.5M	1
T3	31-Jan-24	3	83.75	Buy	Put	USD/INR	2M	1

Table 3(a) – Portfolio Unit of Auction Pool 1 (total 100 units to be auctioned)

Trade ID	Settlement Date	USD Amount (in Mio)	Strike/Trade rate	Buy/Sell	Trade Type	Currency Pair	Residual Maturity	Auction Pool
T4	30-Jun-24	1	85.50	Sell	Call	USD/INR	8M	2
T5	30-Sep-24	1.5	86.70	Buy	Forward	USD/INR	11M	2

Table 3(b) – Portfolio Unit of Auction Pool 2 (total 200 units to be auctioned)

4. Members are required to place bids by stating the number of Portfolio Units from the particular Auction Pool they are willing to buy. For example, a bid for 5 units from ‘Auction Pool 2’ would mean that the Member is willing to acquire the following trades.



Trade ID ⁴	Settlement Date	USD Amount (in Mio)	Strike/Trade rate	Buy/Sell	Trade Type	Currency Pair	Residual Maturity	Auction Pool
T4	30-Jun-24	1 x 5 = 5	85.50	Sell	Call	USD/INR	8M	2
T5	30-Sep-24	1.5 x 5 = 7.5	86.70	Buy	Forward	USD/INR	11M	2

Table 4 – Five Portfolio Units from Auction Pool 2

5. The bid should also contain the price at which the Member is willing to acquire the portfolio units along with the price direction, i.e., whether ‘to pay to CCIL’ or ‘to receive from CCIL’. This brings to the question – What should be the **bid price and price direction**?

Auction Pool	Bid Quantity	Bid Price	Price Direction
2	5	?	?

6. Determination of Bid Price

Trades from the Auction Pools will become part of the outstanding portfolio of the winning bidders after the auction. Settlement obligations corresponding to the allotted trades will be settled by the respective winning bidders on respective settlement dates. Therefore, the liquidation value of the Options (positive value for long options and negative value for short options) at the prevailing market price and the MTM gain or loss on the delta hedge forward trades (positive value for MTM gain and negative value for MTM loss) could be used as the basis for determining the value of a portfolio unit. , If the net of a portfolio unit is negative, then the participants bidding in the auction will want to be compensated in such a manner that – the value of allotted trades is equivalent to the value of similar trades entered into at the prevailing market rates.

Therefore, if the net value of the portfolio unit is negative, then the auction participants could place bids by quoting the price that they want to seek as a compensation from the Clearing

⁴ Please note that the trade IDs stated in tables are for merely indicating the linkage with the original trade in Defaulter’s Portfolio. The allotment of trades (as in table 4) shall be done by assigning a unique trade reference number to each trade in the Portfolio Unit (with Notional Principal multiplied by allocated units)



Corporation. If the net value of the portfolio unit is positive, then the auction participants could place bids by quoting the price that they are willing to pay to the Clearing Corporation.

In summary, to determine the bid price for a Portfolio Unit:

- i. Determine the net liquidation value of all Option positions in the Portfolio Unit.
 - ii. Determine mark to market (MTM) loss/gain for each forward trade in the Portfolio Unit
 - iii. Using the above values, determine the net value of the Portfolio Unit.
 - iv. If the net value of the Portfolio Unit is negative, then using this figure as a reference, decide a desirable price to be received from the Clearing Corporation for acquiring the Portfolio Units.
- or
- v. If the net value of the Portfolio Unit is positive, then using this figure as a reference, decide a desirable price to be paid to the Clearing Corporation for acquiring the Portfolio Units.

For example, if the Portfolio Unit in ‘Auction Pool 2’ has a net negative value of Rs. 50,000 then the Member could place a bid by quoting the price as Rs. 50,000 or higher⁵ and with the price direction as ‘receive from CCIL’.

Auction Pool	Bid Quantity	Bid Price	Price Direction
2	5	51,000	Receive from CCIL

Table 5 – Sample bid for five Portfolio Units from Auction Pool 2

If the above bid receives an allotment (as per the process explained below), then the Member will get the following trades in its book along with a cash payment of Rs 51,000 x 5 = Rs. 2,55,000.

Trade ID	Settlement Date	USD Amount (in Mio)	Strike/Trade rate	Buy/Sell	Trade Type	Currency Pair	Residual Maturity	Auction Pool
N1	30-Jun-24	5	85.50	Sell	Call	USD/INR	8M	2

⁵ Quoting a price that is equal to the MTM value of the Portfolio Unit is equivalent to entering into the trades in the Portfolio Unit at the prevailing market rates. But it is expected that a bidder will seek some premium for participating in the Auction and will therefore seek higher compensation for taking over Defaulter’s trades. However, it should be noted that if sufficient valid bids are not received for the Default’s Portfolio, then the Clearing Corporation could allocate the units to the Members that did not meet the expectations and this allocation will be at a price determined by the Clearing Corporation. Further, the Default Fund contributions of the Members performing poorly in the auction will also be at the risk of being Juniorised. Therefore, it is in the best interest of the auction participants to bid competitively and in the process, the participants could also place bids at the prices which are lower than the MTM value of the Portfolio Unit that has MTM loss and vice-versa.



Trade ID	Settlement Date	USD Amount (in Mio)	Strike/Trade rate	Buy/Sell	Trade Type	Currency Pair	Residual Maturity	Auction Pool
N2	30-Sep-24	7.5	86.70	Buy	Forward	USD/INR	11M	2

Table 6 – Allotment of five Portfolio Units from Auction Pool 2 in the book of the winning bidder

7. Auction Allotment process

The collected bids will go through a validation process. In case of Auction Pool with negative valuation, the bids with prices which are greater than the Reserve Price⁶ for the Auction Pool will be considered as bids in violation of Reserve Price. Similarly, in case of Auction Pool with positive valuation, the bids where the Members are offering to pay less than the Reserve Price for the Auction Pool will be considered to be in violation of Reserve Price. The bids in violation of Reserve Price will be disqualified.

Valid bids will be considered for allotment. In case of Auction Pools with negative valuation, the allotment will be made in ascending order of prices (payable by CCIL), till the units in Auction Pools are exhausted. In case of Auction Pools with positive valuation, the allotment will be made in descending order of prices (receivable by CCIL), till the units in Auction Pools are exhausted.

⁶ Reserve price is the worst-case price that is acceptable to CCIL. In case of a Portfolio Unit with MTM Loss, the reserve price will correspond to the highest price that CCIL is willing to pay for that unit. In case of a Portfolio Unit with MTM Gain, the reserve price will correspond to the lowest price that CCIL is willing to receive for that unit. Reserve price may or may not be disclosed to the auction participants.



Annexure 3

An illustration of Juniorisation methodology

1. Assumptions:

- i. There are 7 Members P, Q, R, S, T, U and V and there is only one Auction Pool. The number of units each Member is expected to win is as shown in the table below.
- ii. The units won by each Member in the two auctions and the corresponding Volume weighted average price for the units won are as shown in the table below.
- iii. The Reserve Price per unit for various Auction Pools in first and second auction is as shown in the table below.

2. Juniorisation:

- i. Members are first categorized in two categories viz. Category A and Category B.
 - a) Category A comprises Members who have won equal or a greater number of units than their expected number of units.
 - b) Category B comprises Members who have won lesser number of units than their expected number of units.
- ii. Category A Members will be ranked higher to all Category B Members and the two categories are in turn ranked within themselves as per the following Juniorisation Factor (JF):
 - a) Category A: $JF = \Delta P \text{ Cumulative} * \text{Excess}$
 - b) Category B: $JF = \Delta P \text{ Cumulative} / |\text{Deficit}|$

where,

- $\text{Excess/Deficit} = \text{Total units won across the auctions} - \text{Expected Number of units to be won}$
- $\Delta P_{\text{Cumulative}} = \frac{\sum_{i=1}^2 [\text{Volume Weighted Average Price}_i - \text{Min}(\text{Reserve Price}_1, \text{Reserve Price}_2)] \times \text{Units Won}_i}{\sum_{i=1}^2 \text{Units Won}_i}$

and 'i' is the auction number

Higher the Juniorisation Factor within a category, the more senior the Member would be ranked.

- iii. If the Juniorisation Factors for two or more number of Members are equal, then the Members are ranked according to their Excess/Deficit i.e.
 - a) Category A: Higher the Excess, the more senior the Member would be ranked.
 - b) Category B: Lower the Deficit, the more senior the Member would be ranked.



- iv. If there is still a tie after step (iii) above, then the Members are ranked according to their ΔP Cumulative. Higher the ΔP Cumulative, the more senior the Member would be ranked.
- v. If there is still a tie after step (iv) above, then the concerned Members would be ranked equally.

Members	Expected no. of Units	Auction 1			Auction 2			Excess/(Deficit)	P Cumulative	Member Category	JF	Rank
		RP ₁ - >	- 11.25	□ P ₁	RP ₂ ->	-15.19	□ P ₂					
		Units Won	VWA P		Units Won	VWA P						
P	8	10	-6.00	9.19	0	NA	0.00	2	9.1900	A	18.3800	2
Q	16	16	-7.20	7.99	0	NA	0.00	0	7.9900	A	0.0000	5
R	64	20	-7.30	7.89	45	-14.00	1.19	1	3.2515	A	3.2515	4
S	32	10	-6.30	8.89	24	-14.50	0.69	2	3.1018	A	6.2035	3
T	40	20	-7.10	8.09	10	-12.00	3.19	-10	6.4567	B	0.6457	7
U	0	5	-7.10	8.09	0	NA	0.00	5	8.0900	A	40.4500	1
V	0	0	NA	0.00	0	NA	0.00	0	0.0000	A	0.0000	6

RP₁ = Reserve Price in the first Auction

RP₂ = Reserve Price in the Second Auction

VWAP = Volume Weighted Average Price, i.e., Price weighted by the number of units won at each price

JF = Juniorisation Factor

ΔP_i = Volume Weighted Average Price_i – Min(Reserve Price₁, Reserve Price₂)



Annexure 4

An illustration showing appropriation of resources to meet losses on Defaulter’s Portfolio

1. Assumptions:
 - i. There are four Auction Pools numbered 1, 2, 3 and 4 and seven Members named P, Q, R, S, T, U and V.
 - ii. The total losses in all the four Auction Pools are as shown in Figure 1(a) below.
 - iii. Prefunded Default Handling Resources are shown in Figure 1(b) below.
 - iv. Default Fund contributions of non-defaulting Members is shown in Figure 1(c) below.

2. Order of appropriation of resources in accordance with the default waterfall:
 - i. Appropriation of Defaulter’s Resources is shown in Figure 2(a) below.
 - ii. Appropriation of Tranche 1 of the Clearing Corporation’s contribution from the Settlement Reserve Fund earmarked for the segment is shown in Figure 2(b) below.
 - iii. Appropriation of Non-Defaulters’ Default Fund contributions is shown in Figure 2(c) below.

3. Balance Resources:
 - i. Figure 3(a) shows the remaining prefunded resources.

Figure 1(a): Pool-wise Losses					
Pool →	1	2	3	4	Total
Accumulated losses	1200	900	150	50	2300
Proportion of ‘Default Handling Resources’ distribution	52.17%	39.13%	6.52%	2.17%	100%

Figure 1(b) Resources available	
Defaulter's Resources (Margins and Default Fund contributions)	200
Tranche 1 of CCIL’s SIG	375
Non-Defaulters’ Resources (break-up shown in Fig. 1(c) below)	2500
Tranche 2 of CCIL’s SIG	250
Total prefunded resources	3325

Figure 1(c): Non-Defaulters’ DF contributions			
P	100	T	500
Q	200	U	600
R	300	V	400
S	400		
Total			2500



Figure 2(a): Appropriation of Defaulter's Resources					
Pool →	1	2	3	4	Total
Losses outstanding	1200.00	900.00	150.00	50.00	2300
Resources used	104.35	78.26	13.04	4.35	200
Losses carried to next layer	1095.65	821.74	136.96	45.65	2100

Figure 2(b): Appropriation of Tranche 1 of CCIL's SIG					
Pool →	1	2	3	4	Total
Losses outstanding	1095.65	821.74	136.96	45.65	2100
Resources used	195.65	146.74	24.46	8.15	375
Losses carried to next layer	900.00	675.00	112.50	37.50	1725

Figure 2(c): Appropriation of Non-Defaulters' Default Fund contributions

Auction Rank Matrix (Pool-wise)				
Members	1	2	3	4
P	5	2	5	1
Q	6	5	3	7
R	1	4	1	6
S	2	3	2	3
T	4	7	4	2
U	7	1	7	4
V	3	6	6	5

Resources Available (Pool-wise)					
Members	1	2	3	4	Total
P	52.17	39.13	6.52	2.17	100
Q	104.35	78.26	13.04	4.35	200
R	156.52	117.39	19.57	6.52	300
S	208.70	156.52	26.09	8.70	400
T	260.87	195.65	32.61	10.87	500
U	313.04	234.78	39.13	13.04	600
V	208.70	156.52	26.09	8.70	400
	1304.35	978.26	163.04	54.35	2500



Resources used Rank-wise					
Ranks	1	2	3	4	Total
7	313.04	195.65	39.13	4.35	
6	104.35	156.52	26.09	6.52	
5	52.17	78.26	6.52	8.70	
4	260.87	117.39	32.61	13.04	
3	169.57	127.17	8.15	4.89	
2	0.00	0.00	0.00	0.00	
1	0.00	0.00	0.00	0.00	
Resources used	900.00	675.00	112.50	37.50	1,725.00
Losses carried to next layer	0.00	0.00	0.00	0.00	0.00

Resources used Member-wise					
Members	1	2	3	4	Total
P	52.17	0.00	6.52	0.00	58.70
Q	104.35	78.26	8.15	4.35	195.11
R	0.00	117.39	0.00	6.52	123.91
S	0.00	127.17	0.00	4.89	132.07
T	260.87	195.65	32.61	0.00	489.13
U	313.04	0.00	39.13	13.04	365.22
V	169.57	156.52	26.09	8.70	360.87
Total	900.00	675.00	112.50	37.50	1,725.00

Members	Contributions not utilised
P	41.30
Q	4.89
R	176.09
S	267.93
T	10.87
U	234.78
V	39.13
Sub-total (a)	775.00
Tranche 1 of CCIL's SIG (b)	250.00
Total (a+b)	1,025.00

In the above illustration, the losses were met by sequentially appropriating Defaulter's resources, Tranche 1 of CCIL's SIG and a portion of non-defaulting Members' Default Fund contributions. In case the losses were to exceed these layers, then the further layers of resources available for appropriation would include Tranche 2 of CCIL's SIG and then Assessment Calls made for replenishment of Default Fund contributions on a pro-rata basis.
