This has been Superseded by Notification No. RMD/SS/21/27 dated 01-Sept-2021 on Securities Segment Default Fund (revised and updated)

No. RMD/ CBLO/16/39 **25th Aug'16**

FOR INFORMATION OF ALL MEMBERS

CBLO Settlement Segment
Stress Test Methodology for Default fund

In terms of the provisions of Chapter XIV, "Default Fund" of the Regulations of the CBLO Segment, it has been decided that Clearing Corporation shall maintain a dedicated Default Fund in respect of its CBLO Segment.

2. As stated in Clause B therein, the size of the fund will be determined by the Clearing Corporation on the basis of Stress Tests conducted by it. The methodology followed for the process of stress test involves subjecting each Member's trade portfolio to different scenarios of risk.

3. The approach followed by CCIL for stress testing entails three parts:

a) Stress Scenario.
b) Simulation of values of trade portfolios and collaterals of all members (clearing participants) using Stress Scenarios.
c) Identification of the highest possible loss in the account of a member and its affiliates under stressed conditions and, also identification of possible loss under knock out effect under such scenario.

A. Stress Scenario:

i. Risk Factors considered for formulating stressed market conditions are as under:

a. Overnight MIBOR
b. Zero rates for under noted tenors:
1 month, 3 month, 6 month, 1 year, 3 year, 10 year, 20 year, 30 year zero rates. (In respect of zero rates for tenors of 3 Months and 6 Months, the higher

of the shift arrived from CCIL Zero Coupon Yield Curve and from MIBOR linked Swap rate is taken as reference.)

c. USD/INR spot rate, 1 month, 3 month, 6 month, 9 month & 1 year forward rates.

d. Swap rates for under noted tenors:
1 month, 2 month, 1 year, 2 year, 3 year, 5 year, 7 year and 10 year swap rates.

ii. Four highest movements in absolute terms (2 highest positive & 2 highest negative movements) in each of the risk factors are recorded.

iii. For each of such movement in each risk factor, corresponding movement observed in other risk factors on that date is also recorded.

iv. As each risk factor generates four scenarios, the total number of scenarios to be considered is 92 (i.e.23*4).

v. The changes in market risk factors corresponding to each of these scenarios are scaled up by 50% (to create an extreme but plausible environment)

vi. Scenarios are reviewed at the end of each month

[*Change in rate applicable for the respective risk factor has been termed henceforth as "Shift Parameter"*]

B**. Simulation of trade portfolios and collaterals of members under above-mentioned Stress Scenarios.**

1. Based on the scenarios generated above, stress-testing in CBLO Segment is carried out by following the under-mentioned steps;
   - Revaluation of outstanding trade positions under stress scenarios.
   - Revaluation of outstanding CBLO Holdings & Borrowings under stress scenarios.
   - Revaluation of Collaterals under charge against CBLO Borrowings under each stress scenario
   - Assessing Notional loss for each member under each scenario.
2. All outstanding trades of a member at the end of the trading session (but prior to settlement) are taken as the starting point. The stressed weighted average rates (WAR) are arrived at by incrementing the WAR (average yield of all CBLO maturing on same date) with the shift parameter for each stress scenario.

3. For stress test, next business day, except Saturday, is considered as Square-off date.
4. The outstanding trades are revalued using Stressed Weighted Average Rates (WAR) or Stressed ZCYC rates for the respective CBLO Instrument.
5. Profits/losses on the outstanding trade positions are arrived at by comparing the values based on deal rates with values based on Stressed rates as above.
6. Stressed MIBOR is arrived at using the MIBOR rate as on risk cover date, adjusted for the shift parameter applicable for each stress scenario.
7. CBLO borrowings maturing before square off date are revalued using Stressed MIBOR rate. CBLO borrowings maturing after square off date are revalued using stressed ZCYC rates. For CBLO holdings maturing before square off date, face values are considered without any discounting whereas for CBLO holdings maturing after square off date, such holdings are discounted using stressed ZCYC rate.
8. Securities deposited (encumbered) as collateral towards borrowings by the member are revalued using the stressed model price.
9. Net loss/profit in the account of each member using each scenario is arrived at by adding all of its profits on outstanding trade positions and present value of holdings, and deducting these from all its losses on outstanding trade positions and present value of borrowings.
10. Net loss so arrived at is compared with the revalued collateral under charge of the member (i.e. sum total of Initial Margin and revalued securities encumbered towards borrowings by the member) to assess the potential loss under stress scenario.

C. Highest possible loss from the default of a member and its affiliates will be taken as a component for arriving at the corpus for the Default Fund. It is also presumed that under such a stress event, if there is a default by a large market player, some entities classified in the high risk category as per CCIL's internal credit risk monitoring models, may also fail to honour their obligations (termed as Knock out Effect). Hence, to take care of this aspect, the 5 highest losses from among such entities under such scenario will also be taken as the other component of the required corpus of the Default Fund.

This notification shall be effective from **03rd October'2016 onwards**.

Yours faithfully,

For The Clearing Corporation of India Ltd.,

Sd/-

Managing Director