

**ASSESSMENT OF FMI PRINCIPLES  
FOR  
METROPOLITAN CLEARING CORPORATION  
OF INDIA LIMITED (MCCIL)**

### Principles related to CCP

Sr. no	Principles	Observance	
1)	Principle 1	Legal Basis	Broadly Observed
2)	Principle 2	Governance	Observed
3)	Principle 3	Framework for comprehensive management of risk	Observed
4)	Principle 4	Credit Risk	Broadly Observed
5)	Principle 5	Collateral	Broadly Observed
6)	Principle 6	Margin	Observed
7)	Principle 7	Liquidity Risk	Broadly Observed
8)	Principle 8	Settlement Finality	Broadly Observed
9)	Principle 9	Money Settlements	Partially Observed
10)	Principle 10	Physical deliveries	Observed
11)	Principle 11	Central securities depositories	Observed
12)	Principle 12	Exchange-of-value settlement systems	Observed
13)	Principle 13	Participant-Default rules and procedures	Broadly Observed
14)	Principle 14	Segregation and Portability	Partially Observed
15)	Principle 15	General business risk	Partially Observed
16)	Principle 16	Custody and investment risk	Broadly Observed
17)	Principle 17	Operational risk	Broadly Observed
18)	Principle 18	Access and participation requirements	Observed
19)	Principle 19	Tiered participation requirements	Broadly Observed
20)	Principle 20	FMI Links	Broadly Observed
21)	Principle 21	Efficiency and effectiveness	Observed
22)	Principle 22	Communication procedures and standards	Observed
23)	Principle 23	Disclosure of rules, key procedures and market data	Observed

## **Abbreviations**

CCP – Central Counter Party

CC – Clearing Corporation

CSD – Central Securities Depository

CM – Clearing Member

EWMA – Exponentially Weighted Moving Average

ERMS – Exchange Risk and management System

FDR – Fixed Deposit Receipt

FMI – Financial Market Infrastructure

IOSCO - International Organization of Securities Commissions

LVPS – Large Value Payment System

MCCIL – Metropolitan Clearing Corporation of India Limited

MSEI – Metropolitan Stock Exchange of India Limited

RAMS – Risk Analysis and Management System

SCRA – Securities Contract (Regulation) Act 1956

SEBI – Securities and Exchange Board of India

SECC – Securities Contracts (Regulation) (Stock Exchanges & Clearing Corporations) Regulations, 2012

SGF – Settlement Guarantee Fund

SPAN - Standardized Portfolio Analysis of Risk

SSS – Securities Settlement Systems

TM – Trading Member

VaR – Value at Risk

## **PRINCIPLE 1: LEGAL BASIS**

***An FMI should have a well-founded, clear, transparent, and enforceable legal basis for each material aspect of its activities in all relevant jurisdictions***

**KC 1.1** *The legal basis should provide a high degree of certainty for each material aspect of an FMI's activities in all relevant jurisdictions.*

### **Description**

MCCIL has several activities which require legal certainty.

These activities are as under -

- *Regulatory permissions to act as clearing corporation*
- *Eligible deals for settlements*
- *Eligibility criteria for Clearing Members*
- *Procedure of clearing and settlement of deals on different instruments; netting of obligations*
- *Deals between clearing members and constituents*
- *Settlement finality*
- *Applicability of settlement guarantee*
- *Handling of defaults*
- *Close-out procedures*
- *Supervision of Clearing Members, inspection and disciplinary actions*
- *Settlement of disputes and arbitration mechanism*
- *Margins and capital adequacy requirements*

Legal certainty to the above activities is derived from the Securities Contracts (Regulation) Act, 1956 (SCRA) and the Securities Contracts (Regulation) (Stock Exchanges and Clearing Corporations) Regulations, 2012. Further, MCCIL operates in India only and hence the laws of India alone are applicable to Clearing Corporation

**KC 1.2** *An FMI should have rules, procedures, and contracts that are clear, understandable, and consistent with relevant laws and regulations.*

### **Description**

The Rules, Regulations and Byelaws of the Clearing Corporation are framed in accordance with rules and guidelines prescribed by the regulator. The rules and bye-laws of the FMI are approved by SEBI. Further the Rules, Regulations and byelaws are reviewed and updated from time to time as and when any regulatory development takes place.

For the purpose of clarity and easy understanding MCCIL issues circulars from time to time in terms of the Rules, Regulations and Bye-laws, providing detailed explanation on the operational aspects.

**KC 1.3** *An FMI should be able to articulate the legal basis for its activities to relevant authorities, participants, and, where relevant, participants' customers, in a clear and understandable way.*

### **Description**

The bye-laws of the MCCIL is approved by the SEBI under the provisions of the Securities Contracts (Regulation) Act, 1956 (SCRA) and the Securities Contracts (Regulation) (Stock Exchanges and Clearing Corporations) Regulations, 2012. Further, MCCIL issues circulars

from time to time to ensure that participants clearly understand and comply with rules, regulations and bye-laws of the clearing corporation.

**KC 1.4** *An FMI should have rules, procedures, and contracts that are enforceable in all relevant jurisdictions. There should be a high degree of certainty that actions taken by the FMI under such rules and procedures will not be voided, reversed, or subject to stays.*

**Description**

The rules and bye-laws of FMI is approved by SEBI under the several provisions Securities Contracts (Regulation) Act, 1956 (SCRA) and the Securities Contracts (Regulation) (Stock Exchanges and Clearing Corporations) Regulations, 2012. Further any change or modification to such rules and bye-laws require approval from SEBI. Therefore, the said rules, byelaws and regulations have a legal status and hence there is a little chance that such rules, byelaws or regulations would be voided, reversed or stayed.

It is understood that while construing analogous provisions in the SCRA concerning bye-laws and rules of recognized stock exchanges, the Indian Supreme Court has clearly held that they have the force of law. Additionally default and insolvency procedures will be part of such bye-laws and rules is clearly contemplated in section 9(2) (k) of the SCRA.

Further, MCCIL only operates in India and therefore enforceability of its rules, bye-laws is restricted to India.

**KC 1.5** *An FMI conducting business in multiple jurisdictions should identify and mitigate the risks arising from any potential conflict of laws across jurisdictions.*

**Description**

Since MCCIL operates only in India, the key consideration is not applicable.

## **PRINCIPLE 2: GOVERNANCE**

***An FMI should have governance arrangements that are clear and transparent, promote the safety and efficiency of the FMI, and support the stability of the broader financial system, other relevant public interest considerations, and the objectives of relevant stakeholders.***

**KC 2.1** *An FMI should have objectives that place a high priority on the safety and efficiency of the FMI and explicitly support financial stability and other relevant public interest considerations.*

### **Description**

The Memorandum of Association of the FMI explicitly states the following-

- i) the FMI will act central counter party to all trades and provide full novation, to facilitate, set up and carry on the business of periodic clearing and settlement of deals on various securities; and
- ii) the FMI shall initiate, facilitate, promote, assist, undertake and manage all activities in relation to multi asset stock exchanges, money markets, financial markets, securities markets, capital markets, custodial and depository services including but not limited to taking measures for ensuring greater liquidity, facilitating intra and inter market dealings and generally to facilitate clearing and settlement of transactions in securities and instruments.

Till date, the FMI has successfully completed settlement of all transactions for which it acted as central counter party and offered clearing and settlement services, without any defaults and within the prescribed timelines. MCCIL is also notified as a Qualified Central Counter Party (QCCP) by the SEBI vide press release dated January 3, 2014. Safety and efficiency standards are sought to be maintained by the FMI by way of its quality and security policies.

Through the aforementioned policies, the FMI has committed itself to

- i) adopting the best clearing and settlement practices and Risk Management procedures by integrating innovative technology and human skills, for providing efficient clearing and settlement mechanism for clearing members; and
- ii) providing hassle-free and secure clearing and settlement platform to the members of the FMI. The FMI acts as the central counter party (CCP) and novates trades.

This is achieved with the aid of the Settlement Guarantee Fund (“SGF”), created and maintaining by the FMI for meeting any contingency of default by any constituent. The collaterals deposited by the constituent are also invoked in the event of his default. Public interest regarding safeguarding of collateral is achieved through maintaining client level details of collaterals and segregation of client and member collaterals.

**KC 2.2** *An FMI should have documented governance arrangements that provide clear and direct lines of responsibility and accountability. These arrangements should be disclosed to owners, relevant authorities, participants, and, at a more general level, the public.*

### **Description**

The main lines of responsibilities and accountability within the FMI are

- i) Clearing and Settlement;
- ii) Risk Management;

- iii) Compliance and
- iv) Finance and Accounting.

Each of these functions is headed by a functional head who reports to both the CEO & the Whole-time Director. The CEO and Whole-time Director in turn report to the Board. The FMI has a system of internal audit in place, the report of which is submitted to the Audit Committee on periodic basis for its review and suitable corrective actions, if required. In keeping with SEBI (SECC) Regulations, the FMI has constituted independent oversight committees of the governing board, each chaired by a public interest director, in order to address the possible conflicts of interest in respect of

- a. member regulation,
- b. listing functions,
- c. clearing & settlement functions,
- d. risk management and
- e. Trading and surveillance function.

These governance arrangements are disclosed in the Annual Report of the FMI.

**KC 2.3** *The roles and responsibilities of an FMI's board of directors (or equivalent) should be clearly specified, and there should be documented procedures for its functioning, including procedures to identify, address, and manage member conflicts of interest. The board should review both its overall performance and the performance of its individual board members regularly.*

**Description**

The Articles of Association of the FMI contain detailed provisions on the functions and roles and responsibilities of the Board of Directors. The Board is answerable to the shareholders at the annual general meeting of shareholders where the financial performance along with other matters is discussed. The performance of the executive directors is reviewed on periodic basis by the Compensation / Remuneration Committee as well as at the time of re-appointment, renewal of term or at the time of fixing or revision in the remuneration. Further such appointment, changes to the terms and remuneration are subject to prior approval of SEBI.

**KC 2.4** *The board should contain suitable members with the appropriate skills and incentives to fulfill its multiple roles. This typically requires the inclusion of non-executive board member(s).*

**Description**

The Clearing Corporation provides sitting fees to the board as well as travelling and other incidental expenses for attending the meetings of the Board. Pursuant to the SEBI (SECC) Regulations, the Clearing Corporation is prohibited from providing any monetary compensation to the public interest directors other than sitting fees. In accordance with SEBI (SECC) Regulations,

- i) the Chairperson of the Governing Board is elected from among the Public Interest Directors subject to prior approval of SEBI;
- ii) the total number of Public Interest Directors is at least two third of the Governing Board and
- iii) the total number of Shareholder Directors does not exceed one third;

- iv) clearing members or their associates and agents shall not be on the Governing Board of the FMI; and
- v) Employee directors are counted as Shareholder Directors.

The independence of the board members is assessed through the annual and on-going disclosures obtained as to change in directorships and other interests in other entities in which they may have any direct or indirect interest. Further, the Code for Directors adopted by the FMI contains various provisions for ensuring the independence of the board members.

**KC 2.5** *The roles and responsibilities of management should be clearly specified. An FMI's management should have the appropriate experience, a mix of skills, and the integrity necessary to discharge their responsibilities for the operation and risk management of the FMI.*

#### **Description**

The Management carries out the organizational objectives subject to superintendence, direction and control of the Board of Directors and in compliance with applicable law and regulatory instructions. The management performance is assessed every half-year. A certain component of the compensation payable to management personnel is linked to performance. The annual increment as well as promotions / recognitions are also performance linked. The report of the performance appraisal is placed before Compensation Committee and Board for approval. In case of Key Management Personnel, the compensation is paid subject to the approval of SEBI. A senior management person belonging to the clearing & settlement function or the risk management function is removed only post appeal to Oversight Committee or Risk Management Committee, respectively.

**KC 2.6** *The board should establish a clear, documented risk-management framework that includes the FMI's risk-tolerance policy, assigns responsibilities and accountability for risk decisions, and addresses decision making in crises and emergencies. Governance arrangements should ensure that the risk-management and internal control functions have sufficient authority, independence, resources, and access to the board.*

The effectiveness of the risk management framework is assessed through periodical back-testing and stress-testing. The results are appraised by the Board and the following committees constituted by the Board

The Risk Management Committee with following terms of reference:

- i. Formulate a detailed risk management policy which shall be approved by the governing board.
- ii. The head of the risk management department shall report to the risk management committee and to the managing director of the recognized clearing corporation.
- iii. The risk management committee shall monitor implementation of the risk management policy and keep the Board and the governing board informed about its implementation and deviation, if any

The Audit Committee with following terms of reference:

- i. overseeing the Company's financial reporting process and the disclosure of its financial statements to ensure that the financial statement is correct, sufficient and credible;

- ii. recommending the appointment and removal of external auditors, fixation of audit fee and approval for payment to any other services; and
- iii. reviewing with the management, the annual financial statements before submission to the Board, focusing primarily on changes in accounting policies, significant adjustments arising out of audit findings and compliance with legal requirements and accounting standards concerning financial statements

**KC 2.7** *The board should ensure that the FMI's design, rules, overall strategy, and major decisions reflect appropriately the legitimate interests of its direct and indirect participants and other relevant stakeholders. Major decisions should be clearly disclosed to relevant stakeholders and, where there is a broad market impact, the public.*

**Description**

The FMI has constituted an Advisory Committee comprising of its Clearing Members as prescribed under the SEBI (SECC) Regulations. The Board is bound to discuss the recommendations of the Advisory Committee and the decisions of the Board along with the recommendations of the Advisory Committee are put up on the website of the FMI. The major decisions relating to risk management and operations are conveyed to the clearing members and general public through circulars issued by the FMI. These circulars are also put up on the website of the FMI.

### **PRINCIPLE 3: FRAMEWORK FOR THE COMPREHENSIVE MANAGEMENT OF RISKS**

***An FMI should have a sound risk-management framework for comprehensively managing legal, credit, liquidity, operational, and other risks.***

**KC 3.1** *An FMI should have risk-management policies, procedures, and systems that enable it to identify, measure, monitor, and manage the range of risks that arise in or are borne by the FMI. Risk-management frameworks should be subject to periodic review.*

#### **Description:**

The MCCIL has adopted a comprehensive risk management policy which is approved by the Risk Management Committee (RMC) of the company. The RMC members include Public Interest Directors of the company and external risk management experts.

Credit risk, price risk, liquidity risk, operational risk, legal risk and systemic risk are the main types of risks for MCCIL. The risk management framework adopted by MCCIL comprises of its rules, regulations and byelaws to identify, measure, monitor, and manage the range of risks that arise in the FMI.

The systems implemented by the clearing corporation are capable of monitoring the margins and positions at participant and constituent level. Exposures for margin computation and position limit monitoring are identified at individual constituent level as well as at participant level on aggregate basis. Participants can set limit for its constituents to prevent excessive exposures. Further, the systems are also capable to aggregate positions of any constituent across participants based on unique identifiers like PAN No.

MCCIL reviews its risk-management policies, procedures, and systems by taking into account fluctuation in risk intensity, changing environments and market practices.

**KC 3.2** *An FMI should provide incentives to participants and, where relevant, their customers to manage and contain the risks they pose to the FMI.*

#### **Description:**

Risk mitigation measures including margin requirements are specified for participants and customers. Inadequate collection of margin and violations attract penalties. These requirements act as incentives for participants and their customers to monitor and manage the risks they pose to the FMI. CC has provided interfaces to its participants wherein the participant can set collateral limits and loss limits for its constituents and monitor exposures of constituents.

Effectiveness of policies and systems are assessed through periodic back testing and stress testing techniques and also by monitoring the level of exceptions or shortfalls.

The Core Settlement Guarantee fund contributions made by the Clearing Members are directly proportional to their Risk Exposures, assessed as part of the Stress Tests.

**KC 3.3** *An FMI should regularly review the material risks it bears from and poses to other entities (such as other FMIs, settlement banks, liquidity providers, and service providers) as a result of interdependencies and develop appropriate risk-management tools to address these risks.*

#### **Description**

MCCIL uses Depositories and Clearing Banks for settlement of obligations with Clearing Members. Custodians are used for holding custody of collaterals on behalf of MCCIL. Legal, credit, liquidity, and operational risks are the materials risk arising out of these intermediaries. Requisite remedial / pre-empting clauses are incorporated in the contractual agreement with these intermediaries. Financial Conditions are specified for entry and on-going associations of these entities. Compliance to these conditions is assessed periodically. Business Impact Analysis of MCCIL gives special emphasis to operational risks in this regard.

Custodians, who hold custody of Collaterals on behalf of MCCIL, are subject to concurrent audits and system audits. Multiple entities are empanelled for providing services to MCCIL and its members so that the risk is dispersed and impact of failure of one entity shall be limited.

Through periodical evaluation of Business Impact Analysis, performance of the intermediary and its compliance to predefined criteria is monitored.

***KC 3.4** An FMI should identify scenarios that may potentially prevent it from being able to provide its critical operations and services as a going concern and assess the effectiveness of a full range of options for recovery or orderly wind-down. An FMI should prepare appropriate plans for its recovery or orderly wind-down based on the results of that assessment. Where applicable, an FMI should also provide relevant authorities with the information needed for purposes of resolution planning.*

#### **Description**

The Clearing Corporation has constituted a Risk Management Committee that formulates and implements risk management policy covering all risks associated with the Clearing Corporation. The said committee is also responsible for monitoring and periodic review of the Risk Management Policy.

The Risk Management Policy takes into account all risks that the Clearing Corporation may face such as Business Risk, Strategic Risk, Compliance Risk, etc.

The Clearing Corporation's recovery and wind-down would be governed under the provisions of Companies Act, 1956.

## **PRINCIPLE 4: CREDIT RISK**

*An FMI should effectively measure, monitor, and manage its credit exposures to participants and those arising from its payment, clearing, and settlement processes. An FMI should maintain sufficient financial resources to cover its credit exposure to each participant fully with a high degree of confidence. In addition, a CCP that is involved in activities with a more-complex risk profile or that is systemically important in multiple jurisdictions should maintain additional financial resources sufficient to cover a wide range of potential stress scenarios that should include, but not be limited to, the default of the two participants and their affiliates that would potentially cause the largest aggregate credit exposure to the CCP in extreme but plausible market conditions. All other CCPs should maintain additional financial resources sufficient to cover a wide range of potential stress scenarios that should include, but not be limited to, the default of the participant and its affiliates that would potentially cause the largest aggregate credit exposure to the CCP in extreme but plausible market conditions.*

*KC 4.1 An FMI should establish a robust framework to manage its credit exposures to its participants and the credit risks arising from its payment, clearing, and settlement processes. Credit exposure may arise from current exposures, potential future exposures, or both.*

### **Description**

MCCIL acts as a central counterparty to all trades and performs full novation. The risk to the clearing corporation is taken care of through efficient settlement system, robust risk management framework and a stringent margining mechanism. To safe guard against credit risk, the following measures have been implemented –

- Minimum Capital Requirements for clearing members.
- Liquid Assets – form of collateral deposited by members.
- Position Limits restrict concentration of positions which may affect market integrity.
- Margin requirements – Initial and Extreme Loss Margins
- Real-time monitoring of capital utilization
- Daily Mark to Market Settlement
- Enforcement of margin collection from clients
- Core Settlement Guarantee Fund (SGF)
- Back Testing to assess adequacy of margins
- Stress testing to assess adequacy of financial resources (SGF/Credit Lines/Insurance)
- Stringent penalty system in place discourage margin and pay-in shortages

*KC 4.2 An FMI should identify sources of credit risk, routinely measure and monitor credit exposures, and use appropriate risk-management tools to control these risks.*

### **Description**

MCCIL faces a credit risk from potential default by its participants (clearing members). CCP is also face credit risk from its settlement banks, issuer of collateral instruments and investment instruments. The credit exposures from participants are monitored in terms of value of unsettled open positions and unsettled obligations. The exposures are recalculated on a daily basis. In order to mitigate the credit risk from participants, positions are collateralized by margins and are also marked to market on an online real time basis.

Position limits are prescribed for preventing undesirable concentration at client as well as at participant level.

Scheduled commercial banks who are empanelled as settlement banks of the CCP are subject to financial and infrastructure criteria as defined by MCCIL. Compliance of the Banks with Financial Criteria shall be reviewed annually based on their financials as on March 31<sup>st</sup>. Credit risk with settlement banks are also measured as difference between funds to be received and funds to be paid out at each bank. To minimize the same MCCIL ensure smaller time gap between pay-in and pay out and use of interbank fund transfer facility provided by the Central Bank.

MCCIL follow prudential norms of Investment policy for Core SGF corpus to ensure that Core SGF corpus is invested in highly liquid financial instruments with minimal market and credit risk and is capable of being liquidated rapidly with minimal adverse price effect. Core SGF cash portion is invested in Fixed Deposit with Banks (only those banks which have a net worth of more than INR 500 Crores and are rated AAA) and units of money market/liquid mutual funds of top 5 Mutual Funds in terms of Assets under management subject to suitable transaction/investment limits and monitoring of the same. MCCIL ensures that the financial instruments in which the Core SGF corpus is invested remains sufficiently diversified at all times.

**KC 4.3** *A payment system or SSS should cover its current and, where they exist, potential future exposures to each participant fully with a high degree of confidence using collateral and other equivalent financial resources (see Principle 5 on collateral). In the case of a DNS payment system or DNS SSS in which there is no settlement guarantee but where its participants face credit exposures arising from its payment, clearing, and settlement processes, such an FMI should maintain, at a minimum, sufficient resources to cover the exposures of the two participants and their affiliates that would create the largest aggregate credit exposure in the system.*

#### **Description**

MCCIL carries out mark to market settlement on an end of day basis and mark to market monitoring on a real time basis. The mark to market settlement and margin take cares of the actual crystallized losses on the closed out position as well as the notional loss on the open position of the participant.

Initial margin rates are computed based on Exponentially Weighted Moving Average (EWMA) volatility of returns of the contract. Collection of margins based on the above methodology cover potential losses based on 99% value at risk over a one day time horizon. Clearing corporation revise the initial margin rates 5 times a day to account for the intraday price fluctuations of the contract. To cover extreme loss scenario there is extreme loss margin system in place.

Dedicated liquid financial resources in the form of Core SGF are maintained as per the SEBI guidelines to ensure seamless settlement even in case of defaults by members. 50% of the Core SGF requirement is contributed by Clearing Corporation and 25% by the Exchange. Minimum required contribution is decided based on stress test losses under extreme but plausible scenarios. MCCIL has considered scenarios in line with guidelines of the SEBI and as per the IOSCO principles

**KC 4.4** A CCP should cover its current and potential future exposures to each participant fully with a high degree of confidence using margin and other prefunded financial resources (see Principle 5 on collateral and Principle 6 on margin). In addition, a CCP that is involved in activities with a more-complex risk profile or that is systemically important in multiple jurisdictions should maintain additional financial resources to cover a wide range of potential stress scenarios that should include, but not be limited to, the default of the two participants and their affiliates that would potentially cause the largest aggregate credit exposure for the CCP in extreme but plausible market conditions. All other CCPs should maintain additional financial resources sufficient to cover a wide range of potential stress scenarios that should include, but not be limited to, the default of the participant and its affiliates that would potentially cause the largest aggregate credit exposure for the CCP in extreme but plausible market conditions. In all cases, a CCP should document its supporting rationale for, and should have appropriate governance arrangements relating to, the amount of total financial resources it maintains.

#### **Description**

Dedicated liquid financial resources in the form of Core SGF are maintained as per the SEBI guidelines to ensure seamless settlement even in case of defaults by members. 50% of the Core SGF requirement is contributed by Clearing Corporation and 25% by the Exchange. The remaining 25% of the Core SGF contribution is taken from the Clearing Members in the proportion of their risk exposures. The reserves and retained earnings of the CCP are also available to mitigate losses as part of the default waterfall. Further, MCCIL has taken an insurance cover of INR 40 crores to cover any loss that may arise because of default of participants.

MCCIL operates in the Indian securities and derivatives market regulated by the SEBI and therefore is not systematically important in multiple jurisdictions. MCCIL carries stress test and reverse stress test on a regular basis. Stress test to assess adequacy of financial resources is carried out on daily basis considering an extreme event of default by multiple participants of the CCP in different market scenario. The Minimum required contribution towards Core SGF is reviewed and updated every month.

The clearing and settlement functions of the CCP, involves high collateralization with adequate rules for default proceedings. Rules and byelaws of MCCIL provide detailed guidelines on default procedures and utilization of core SGF, Liquidity facilities, SGF, Stress testing and back testing results, trends in business volumes, margin requirements, components of SGF, number participants etc. which are reviewed by Governing Board and Executive Committee of the MCCIL.

**KC 4.5** A CCP should determine the amount and regularly test the sufficiency of its total financial resources available in the event of a default or multiple defaults in extreme but plausible market conditions through rigorous stress testing. A CCP should have clear procedures to report the results of its stress tests to appropriate decision makers at the CCP and to use these results to evaluate the adequacy of and adjust its total financial resources. Stress tests should be performed daily using standard and predetermined parameters and assumptions. On at least a monthly basis, a CCP should perform a comprehensive and thorough analysis of stress testing scenarios, models, and underlying parameters and assumptions used to ensure they are appropriate for determining the CCP's required level of default protection in light of current and evolving market conditions. A CCP should perform this analysis of stress

testing more frequently when the products cleared or markets served display high volatility, become less liquid, or when the size or concentration of positions held by a CCP's participants increases significantly. A full validation of a CCP's risk-management model should be performed at least annually.

**KC 4.6** In conducting stress testing, a CCP should consider the effect of a wide range of relevant stress scenarios in terms of both defaulters' positions and possible price changes in liquidation periods. Scenarios should include relevant peak historic price volatilities, shifts in other market factors such as price determinants and yield curves, multiple defaults over various time horizons, simultaneous pressures in funding and asset markets, and a spectrum of forward-looking stress scenarios in a variety of extreme but plausible market conditions.

**Description (Combined for 4.5 & 4.6)**

MCCIL has informed that stress testing is conducted in line with the recommendations of BIS & IOSCO to assess the robustness of the risk management framework of MCCIL to meet following objectives:

1. MCCIL has adequate financial resources to meet its obligation to make payments to non-defaulting participants on time.
2. There is a high degree of assurance that the MCCIL can draw on the anticipated value of its financial resources in the event of a default,
3. The financial resources of non-defaulting participants are insulated from being used for the purpose of default, a set guidelines of default waterfall is established for the purpose of remove the ambiguity in using financial resources in case of any default or market movement.

The following stress testing methodology and scenarios are considered to assess adequacy of financial resources of MCCIL to complete settlement without utilizing the contribution of non-defaulting members in extreme but plausible market conditions for Equity Cash Market.

- i. The day with highest settlement value in the review quarter was selected.
- ii. It was assumed that top ten members with the highest settlement pay-in obligation fail to meet the pay-in obligations.
- iii. It was assumed that the above members' open positions are closed out with further loss (equivalent to highest close to close variation observed during the previous one year) on net open positions.
- iv. The cumulative loss/default as mentioned in point ii & iii above are compared with the total collaterals collected from each of these members.
- v. In case, collaterals are found to be insufficient to cover the above computed stressed scenario loss; then expected risk for all such members were added up as expected loss.
- vi. Expected loss as computed above was compared with default risk mitigation layers of SGF viz., contribution towards SGF by Exchange, SGF Insurance and reserves & retained earnings of MCCIL.

Further based on the SEBI guidelines on Core SGF, the Clearing Corporation compute Core SGF requirement using the following methodology:

**Equity Cash Market**

#### Scenario 1: Default by 2 Brokers:

- 1) CC computes the 'Cumulative Funds pay-in', 'Cumulative Funds pay-out', 'Cumulative Securities pay-in' and 'Cumulative Securities pay-out' of all member as on the end of pay-in deadline on the 'S' day. For this purpose cumulative pay-in /payout of each member's trades include non-institutional trades as well as 2X% by value of those institutional trades which have not yet been confirmed by the custodian undertaken on 'S-2' day, 'S-1' day and on 'S' day till the pay-in deadline shall be considered. (X being the highest daily % by value of custodial rejects in the previous 12 months)
- 2) Any early pay-in of funds/securities are ignored for the calculation.
- 3) It shall be assumed that each clearing member would default in meeting its 'cumulative funds pay-in' and 'cumulative securities pay-in' obligations
- 4) It shall be assumed that the failure to bring in securities would result in financial close-out and the clearing corporation would suffer a loss of 20% (at the minimum) of the value of such securities pay-in obligation. The assumed loss on liquidation of securities that would have been paid-out to the defaulting member shall be –
  - a. Group 1 securities – 20%
  - b. Group 2 & 3 securities – 20% scaled up by root of 3.Gross loss due to member = (Funds pay-in) + (120% of securities pay-in) - (funds pay-out) - (liquidation value of securities pay-out)
- 5) Clearing corporation shall calculate the gross loss (as per 4 above) for each Clearing Member and assess that against the defaulting Clearing Members' required margins (In case of early pay-in, those margins which would have been applicable had the early pay-in was not made, to be considered. Excess collateral, if any, shall be ignored) and other mandatory deposits to find the credit exposure of CC towards each custodian. Equity scrips as collateral, if any, shall be valued with minimum 20% haircut.
- 6) Clearing Corporation shall calculate the total credit exposure due to default of the clearing member (based on residual loss calculated in 5 above) causing highest credit exposure

#### Scenario 2: Default by 1 Custodian

- 1) CC shall compute the 'Cumulative Funds pay-in', 'Cumulative Funds pay-out', 'Cumulative Securities pay-in' and 'Cumulative Securities pay-out' of all custodians as on the end of pay-in deadline on the 'S' day. For this purpose cumulative pay-in/payout of each custodian's trades (shall include those trades which have been confirmed by the custodian) undertaken on 'S-2' day, 'S-1' day and on 'S' day till the pay-in deadline shall be considered.
- 2) Any early pay-in of funds/securities shall be ignored.
- 3) It shall be assumed that each custodian would default in meeting its 'cumulative funds pay-in' and 'cumulative securities pay-in' obligation.
- 4) It shall be assumed that the failure to bring in securities would result in financial close-out and the clearing corporation would suffer a loss of 20% (at the minimum) of the value of such securities pay-in obligation. The assumed loss on liquidation of securities that would have been paid-out to the defaulting custodian shall be –
  - a. Group 1 securities – 20%
  - b. Group 2 & 3 securities – 20% scaled up by root of 3.

Gross loss due to custodian = (Funds pay-in) + (120% of securities pay-in) - (funds pay-out) - (liquidation value of securities pay-out)

- 5) Clearing corporation shall calculate the gross loss (as per 4 above) for each custodian and assess that against the defaulting custodians' required margins (In case of early pay-in, those margins which would have been applicable had the early pay-in was not made, to be considered. Excess collateral, if any, shall be ignored) and other mandatory deposits to find the credit exposure of CC towards each custodian. Equity scrips as collateral, if any, shall be valued with minimum 20% haircut.
- 6) Clearing Corporation shall calculate the total credit exposure due to default of the custodian (based on residual loss calculated in 5 above) causing highest credit exposure

### **Equity Derivatives and Currency Derivatives segments:**

The loss on closing out of client/proprietary positions shall be as per the following scenarios:

#### Hypothetical

Price movement in respect of each underlying to the extent of 1.5 times the normal price scan range (PSR) and 1.5 times the normal volatility scan range shall be considered.

- Scenario 1: Underlying price increasing by 1.5 PSR, volatility increasing by 1.5 VSR.
- Scenario 2: Underlying price decreasing by 1.5 PSR, volatility increasing by 1.5 VSR.

#### Historical:

Price movement in respect of each underlying over the last 10 years to be considered

The maximum percentage price movement shall be applied to the price on the day for which the stress test is being done:

- Scenario 3: Maximum percentage rise over a period of 1 day
- Scenario 4: Maximum percentage fall over a period of 1 day

All open positions shall be assumed to be squared up at the theoretical price corresponding to the revised prices of the underlying in each of the scenarios 1, 2, 3 and 4. The net profit/loss in squaring off the portfolio is to be calculated under each of the scenarios 1, 2, 3 and 4. For each clearing member, the credit exposure to CC shall be calculated as follows:

- a. The time of stress test shall be the time of pay-in deadline.
- b. It shall be assumed that clearing member will default at the time of pay-in.
- c. Loss shall be calculated at client portfolio level.
- d. For each client, residual loss shall be equal to → (loss due to close-out of client positions – margin supporting client positions)
- e. All residual losses (residual profits to be ignored) for all clients shall be grossed to compute total residual losses due to client positions.
- f. Loss due to close-out of proprietary positions shall be considered.
- g. Loss at (e) and loss at (f) and the net pay-in/pay-out requirement of the clearing member (pay-in and pay-out pertaining to requirements of both S-1 and S (till pay-in time) day to be reckoned) shall be assessed against required margins (excluding margin supporting client positions and excess collateral, if any) and other mandatory deposits of defaulting

member to calculate credit exposure of CC to the member. Equity scrips as collateral, if any, shall be valued with minimum 20% haircut.

For each of the scenarios 1, 2, 3 and 4, Clearing Corporation shall calculate the total credit exposure due to simultaneous default of at least 2 clearing members (and their associates) causing highest credit exposure.

Stress testing results are reviewed by the Risk Management Committee of the CCP. Stress test details are also shared with the Regulators.

MCCIL carries stress test and reverse stress test on a regular basis. Stress test to assess adequacy of financial resources is carried out on a quarterly and monthly basis considering an extreme event of default by multiple participants of the CCP in Equity cash, equity derivative and currency derivative market.

CCP carries out performance of its risk management model on a daily basis using the stress testing, reverse stress testing and back testing techniques. More rigorous stress tests are performed on a quarterly basis. Back testing results are shared with regulator on a half yearly basis.

**KC 4.7** *An FMI should establish explicit rules and procedures that address fully any credit losses it may face as a result of any individual or combined default among its participants with respect to any of their obligations to the FMI. These rules and procedures should address how potentially uncovered credit losses would be allocated, including the repayment of any funds an FMI may borrow from liquidity providers. These rules and procedures should also indicate the FMI's process to replenish any financial resources that the FMI may employ during a stress event, so that the FMI can continue to operate in a safe and sound manner.*

### **Description**

The default waterfall of MCCIL follows the SEBI guidelines in this regard and the resources available under each layer is clearly stated in the monthly disclosures publish by the Clearing Corporation through Circulars on the website. Various layers in the default waterfall are as follows:

1. Monies of defaulting member (including defaulting member's primary contribution to Core SGF(s) and excess monies of defaulter in other segments).
2. Insurance, if any.
3. CC resources (equal to 5% of the segment MRC). MRC stands for Minimum Required Contribution to the Core SGF.
4. Core SGF of the segment in the following order:
  - a. Penalties
  - b. CC contribution to the extent of at least 25% of the segment MRC
  - c. Remaining Core SGF: CC contribution, Stock Exchange contribution and non-defaulting members' primary contribution to Core SGF on pro-rata basis.
5. Proportion of remaining CC resources (excluding CC contribution to core SGFs of other segments) equal to ratio of segment MRC to sum of MRCs of all segments.
6. CC/SE contribution to Core SGFs of other segments (after meeting obligations of those segments) and remaining CC resources to that extent as approved by SEBI.
7. Capped additional contribution by non-defaulting members of the Segment.
8. Any remaining loss to be covered by way of pro-rata haircut to payouts.

## **PRINCIPLE 5: COLLATERAL**

***An FMI that requires collateral to manage its or its participants' credit exposure should accept collateral with low credit, liquidity, and market risks. An FMI should also set and enforce appropriately conservative haircuts and concentration limits.***

***KC 5.1 An FMI should generally limit the assets it (routinely) accepts as collateral to those with low credit, liquidity, and market risks.***

### **Description**

The FMI maintains segment wise collateral with well-defined guidelines on type of securities to be accepted with special mention of capping on the basis of type of liquid or illiquid collateral or empanelled Banks. MCCIL periodically publishes the list of securities, Government Securities (G-Sec), Treasury Bills (T-Bills) that are accepted as collateral. The FMI has empanelled banks for issuance of bank guarantees and fixed deposits as collaterals. These banks are selected on the basis of certain prudential norms such as net worth and capital adequacy ratio. The FMI has in-built system validations that ensure that only eligible collateral shall be accepted.

***KC 5.2 An FMI should establish prudent valuation practices and develop haircuts that are regularly tested and take into account stressed market conditions.***

### **Description**

The FMI marks its collateral to the market on a daily basis. The minimum haircuts and the prices for valuation and selection criteria of eligible securities are prescribed by the SEBI. The FMI has prescribed security-wise limit based on liquidity of the security so as to ensure timely liquidation of such collaterals if warranted. The FMI can only use haircuts that are stricter than the ones prescribed by SEBI. The FMI has prescribed VaR based haircuts for collateral in the form of securities. For G-Sec and T-Bills, a haircut of 10% is applied. The haircuts are revised on a daily basis for equity shares based on the latest VaR rates which are computed with 99% confidence interval. On days of extreme volatility the impact on valuations are assessed separately for appropriate actions.

***KC 5.3 In order to reduce the need for pro-cyclical adjustments, an FMI should establish stable and conservative haircuts that are calibrated to include periods of stressed market conditions, to the extent practicable and prudent.***

### **Description**

The FMI uses VaR based haircuts with 99% confidence interval. Details of valuation have been described afore.

***KC 5.4 An FMI should avoid concentrated holdings of certain assets where this would significantly impair the ability to liquidate such assets quickly without significant adverse price effects.***

### **Description**

The FMI accepts collaterals which can be easily liquidated in the market. At least 50% of the total liquid assets is in the form of cash equivalents viz. cash, bank guarantee, fixed deposits, T-bills and dated government securities. . Units of money market mutual funds and units of gilt funds form part of the cash equivalent component of the liquid assets of a clearing

member. The unit is valued on the basis of its Net Asset Value after applying a haircut of 10% on the NAV and any exit load charged by the mutual fund. These units are marked to market on a daily basis. Further, prudential limits are prescribed for acceptance of collaterals at issuer level and at member level. Indicative limits are prescribed for maximum value of securities that can be accepted from any given participant based on average daily trading volume of the security accepted as collateral.

**KC 5.5** An FMI that accepts cross-border collateral should mitigate the risks associated with its use and ensures that the collateral can be used in a timely manner.

**Description**

The FMI does not accept foreign collateral and hence the above point is not applicable.

**KC 5.6** An FMI should use a collateral management system that is well-designed and operationally flexible.

**Description**

The FMI does not reuse non cash collateral. As per byelaw 5 (3) of Chapter 12 of the Bye laws the FMI shall have complete authority to pledge, re-pledge, hypothecate, transfer, create a security interest in, or assign any or all of the (i) Settlement Guarantee Fund cash, (ii) securities or other instruments in which settlement Guarantee fund cash is invested and (iii) qualifying securities pledged by a clearing member or letters of credit or any other instrument issued on behalf of a clearing member in favour of the Clearing Corporation towards deposit to the Settlement Guarantee Fund. MCCIL follow prudential norms of Investment policy for Core SGF corpus to ensure that Core SGF corpus is invested in highly liquid financial instruments with minimal market and credit risk and is capable of being liquidated rapidly with minimal adverse price effect. Core SGF cash portion is invested in Fixed Deposit with Banks (only those banks which have a net worth of more than INR 500 Crores and are rated AAA) and units of money market/liquid mutual funds of top 5 Mutual Funds in terms of Assets under management subject to suitable transaction/investment limits and monitoring of the same. MCCIL ensures that the financial instruments in which the Core SGF corpus is invested remains sufficiently diversified at all times.

The FMI calculates margins on an online real time basis. A CM is put in square off mode as and when the margin utilisation reaches the margin limit. All the information related to margin computation and margin call is provided online to the CM, so as to avoid any dispute during end of day margin call. The FMI requires each of CMs to do client margin reporting on a daily basis.

End of day MIS reports have detailed information on collaterals of the CMs, withdrawal requests. Information with respect to investment of collaterals, maturity is available with the management of the FMI.

## **PRINCIPLE 6: MARGIN**

***A CCP should cover its credit exposures to its participants for all products through an effective margin system that is risk-based and regularly reviewed.***

***K.C. 1*** A CCP should have a margin system that establishes margin levels commensurate with the risks and particular attributes of each product, portfolio, and market it serves.

### **Description**

SEBI has prescribed a risk management framework for the CCPs. The prescribed risk management framework is the minimum regulatory requirement which the CCPs must implement towards building a robust framework. CCPs are empowered to implement any additional requirement that it deems fit, upon its assessment of risk that may arise from time to time.

The CCP is required to setup a settlement guarantee fund which enables it to perform the duty of guarantee of settlement.

MCCIL has highlighted that the robust risk management framework and a stringent margining mechanism include monitoring minimum liquid net worth, monitoring collateral deposit towards margins, online levy of margins based on the client level positions, online monitoring of positions based on the collateral available for margins and pushing members in the automatic square-off mode on reaching available limits for trading etc. Further MCCIL has engaged in conducting back testing of its margining parameters as well conducting stress testing of the core settlement guarantee fund in order to assess sufficiency against extreme eventualities.

The margining framework involves collection of initial margin (Exponentially Weighted Moving Average, computed 5 times a day) and Extreme Loss Margin (computed on mark to market value of the gross open positions of clearing members). Initial margin requirement is computed at client level and aggregated at trading member and clearing member level. Further as a measure of precaution, in case the member breach pre-determined levels of his collateral by way of margins or mark-to-market losses, he is put on a square-off mode to reduce his open positions. Once the collateral is brought below the pre-determined levels the member is put back on the normal trading mode.

Another important role of a CCP is to determine credit exposure and margin requirements. To this end MCCIL has highlighted that margin requirements are determined based on factors like volatility of the product, size open position, liquidity/market impact cost of the product, settlement/expiry timelines, expected time to liquidate open position etc. In derivatives markets, open position of any given client on all products with same underlying is considered as a portfolio for computing the margin requirements. However if products have different expiries, calendar spread charges are levied on offsetting positions.

Collection of Margins is done on a continuous basis. Clearing Corporation monitors utilization of the liquid assets of the members towards margins and MTM losses on the real time basis. Alerts are sent to the members on reaching 60%, 75% and 90% utilization of the prescribed limits. In case of margins, limit prescribed is total liquid assets less regulatory deposits (such as minimum liquid net worth / base minimum capital). The maximum limit for MTM losses is 75% of margin limit. On violating the prescribed limits members are

automatically put in the 'square off mode' after which they can reduce open positions and are not allowed to take fresh positions.

A member shall be compulsorily placed in risk reduction mode when the member's margin utilization exceeds threshold limit (90% margin utilization in case of Equity Cash Market & Equity Derivatives Segment and 95% in case of Currency Derivatives Segment)

When a member moves in to risk reduction mode:

- All unexecuted orders shall be cancelled.
- Fresh orders placed by members shall be checked for sufficiency of margins and orders that do not satisfy sufficiency of margins will be rejected.
- Fresh orders can be placed for immediate or cancel (IOC) only
- Members will be able to trade in normal mode as and when the utilization goes 5% below the applicable threshold limits.

MCCIL has informed that all the rules and guidelines for margin requirement are available on its website.

**KC 6.2** *A CCP should have a reliable source of timely price data for its margin system. A CCP should also have procedures and sound valuation models for addressing circumstances in which pricing data are not readily available or reliable.*

#### **Description**

It is understood that MCCIL uses real time price data for margin system. End of day margin requirements are computed based on the settlement prices which are computed on a weighted average method for liquid products and based on a sound theoretical model for illiquid products.

Third party prices are taken through multiple venues to ensure consistency. Further time stamp of the price feed is referred for ensuring most recent price information. MCCIL has further informed that it uses Spot prices, MIFOR Rates, LIBOR rates and MIOIS rates for theoretical price computation. The RBI reference rates are considered for spot rate of currency and prices of designated exchange (National Stock Exchange of India) is taken for equity segment as spot price. Theoretical prices are computed based on predefined and disclosed formulae, using the reference rates and cross verified before applied for End of day processing and reports.

**KC 6.3** *A CCP should adopt initial margin models and parameters that are risk-based and generate margin requirements sufficient to cover its potential future exposure to participants in the interval between the last margin collection and the close out of positions following a participant default. Initial margin should meet an established single tailed confidence level of at least 99 percent with respect to the estimated distribution of future exposure. For a CCP that calculates margin at the portfolio level, this requirement applies to each portfolio's distribution of future exposure. For a CCP that calculates margin at more-granular levels, such as at the sub portfolio level or by product, the requirement must be met for the corresponding distributions of future exposure. The model should (a) use a conservative estimate of the time horizons for the effective hedging or close out of the particular types of products cleared by the CCP (including in stressed market conditions), (b) have an appropriate method for measuring credit exposure that accounts for relevant product risk factors and portfolio effects across products, and (c) to the extent.*

## **Description**

Initial margin rates are computed based on Exponentially Weighted Moving Average (EWMA) volatility of returns of the contract. Collection of margins based on the above methodology cover potential losses based on 99% value at risk over a one day time horizon. Clearing corporation revise the initial margin rates 5 times a day to account for the intraday price fluctuations of the contract.

Initial margin requirement is computed at client level and aggregated at trading member and clearing member level. Initial margins so computed are deducted from the liquid assets deposited by the clearing member on a real time basis.

Clearing Corporation collects extreme loss margins in addition to initial margins. The applicable extreme loss margin is computed on the mark to market value of the gross open positions of clearing members. Extreme loss margins are also deducted from the liquid assets deposited by the clearing member on a real time basis. Additionally Minimum initial margins and extreme loss margins are specified for every product to handle jump risks and extreme volatilities.

There is no specific sample period referred for historical data for its initial margin model. The model gives more weightage for recent trends in volatility. To compute initial volatility of a new derivative product, the price data of the underlying and other active derivative contracts on the same underlying is used.

Position limits are prescribed at participant level and constituent level to ensure that no entity has excessive positions which would be difficult to close out in a short period of time. Since MTM losses are computed and compared against collaterals of the participants on a real-time online basis, FMI is able to take a timely decision on closing out the open position.

Additionally with regard to wrong way risk the MCCIL specified issuer wise limit for acceptance of collaterals linking to the liquid assets for the segment, net worth of the issuer and liquidity of the instrument

**KC 6.4** *A CCP should mark participant positions to market and collect variation margin at least daily to limit the build-up of current exposures. A CCP should have the authority and operational capacity to make intraday margin calls and payments, both scheduled and unscheduled, to participants.*

## **Description**

MCCIL collects margin upfront from the members. In cases, where the utilization exceeds margin limit, member is asked to close out positions partially and/or bring fresh collaterals on an immediate basis. Further, MCCIL also collects mark-to-market on T+1 basis. MCCIL has specified in its rules and bye-laws that Clearing Members have to furnish and maintain such margins in such form and within such time as specified by MCCIL. Clearing Member are required to furnish margins either in the form of cash, deposit receipts, guarantee of a bank(s) and securities approved by the relevant authority or such other mode and subject to such terms and conditions as the MCCIL may specify from time to time.

**KC 6.5** *In calculating margin requirements, a CCP may allow offsets or reductions in required margin across products that it clears or between products that it and another CCP clear, if the risk of one product is significantly and reliably correlated with the risk of the other product.*

Where two or more CCPs are authorised to offer cross-margining, they must have appropriate safeguards and harmonised overall risk-management systems.

### **Description**

MCCIL uses SPAN system of margining. SPAN system computes the margin requirement based on the expected loss on the portfolio of products held by the participant. Risk parameters used by SPAN system define the price scan range and volatility scan range for every asset constituted in the portfolio. Additional charges to be applied on offsetting positions with different expiries are defined as calendar spread charges. The rules for cross-margining facilities are prescribed by the regulator.

**KC 6.6** *A CCP should analyse and monitor its model performance and overall margin coverage by conducting rigorous daily backtesting and at least monthly, and more-frequent where appropriate, sensitivity analysis. A CCP should regularly conduct an assessment of the theoretical and empirical properties of its margin model for all products it clears. In conducting sensitivity analysis of the model's coverage, a CCP should take into account a wide range of parameters and assumptions that reflect possible market conditions, including the most-volatile periods that have been experienced by the markets it serves and extreme changes in the correlations between prices.*

### **Description**

MCCIL carries out back testing of margins for all products on a daily basis. Margins are revised five times on a trading day. As part of the back testing the margin computed at any point of time is compared against the price movement in the respective product from the point of previous settlement price to the point of next revision of margins.

Further, MCCIL has informed that it conducts stress test in line with the recommendations of BIS & IOSCO to assess the robustness of the risk management framework. The objectives specified for such stress testing are –

- MCCIL has adequate financial resources to meet its obligation to make payments to non-defaulting participants on time.
- There is a high degree of assurance that the MCCIL can draw on the anticipated value of its financial resources in the event of a default,
- The financial resources of non-defaulting participants are insulated from being used for the purpose of default.

The following methodology is followed to assess adequacy of financial resources of MCCIL to complete settlement without utilizing the SGF contribution of non-defaulting members in extreme but plausible market conditions.

- The day with highest settlement value in the review quarter was selected.
- It was assumed that top ten members with the highest settlement pay-in obligation fail to meet the pay-in obligations.
- It was assumed that the above members' open positions are closed out with further loss that is equivalent to highest close to close variation observed during the previous one year on net open positions.
- The cumulative loss/default as mentioned in point ii & iii above are compared with the total collaterals collected from each of these members.

- In case, collaterals are found to be insufficient to cover the above computed stressed scenario loss; then expected risk for all such members were added up as expected loss.

Expected loss as computed above was compared with default risk mitigation layers of SGF viz., contribution towards SGF by Exchange, SGF Insurance and reserves & retained earnings of MCCIL.

FMI submits the back testing results to the regulator (SEBI) on a half yearly basis.

**KC 6.7** *A CCP should regularly review and validate its margin system.*

**Description**

Adequacy of margins is assessed based on the continuous back testing carried out by FMI. The results of back testing are reviewed by the FMI, its Executive Committee of FMI and the Regulator on a periodic basis, at least once in six months. Any changes in the methodology would be subject to approval of the regulator and the Governing Board.

Further, the results of MCCIL's periodic review and validation of the margin methodology are disclosed to its Executive Committee of the FMI and to the Regulators.

## **PRINCIPLE 7: LIQUIDITY RISK**

***An FMI should effectively measure, monitor, and manage its liquidity risk. An FMI should maintain sufficient liquid resources in all relevant currencies to effect same-day and, where appropriate, intraday and multiday settlement of payment obligations with a high degree of confidence under a wide range of potential stress scenarios that should include, but not be limited to, the default of the participant and its affiliates that would generate the largest aggregate liquidity obligation for the FMI in extreme but plausible market conditions.***

**KC 7.1:** *An FMI should have a robust framework to manage its liquidity risks from its participants, settlement banks, nostro agents, custodian banks, liquidity providers, and other entities.*

### **Description**

Cash settlement of MTM and option premium is carried out on T+1 basis in cash in Indian Rupees and net obligations of participants are computed at the end of the day and collection of pay-in is carried out before the start of market on T+1 day at 8:30AM. Pay-out is carried out immediately after the pay-in on T+1 day. Daily average pay-in obligation across participants is between INR 5-10 Crores. MCCIL has appointed multiple settlement banks (12 banks) to carry out cash settlements with the participants. MCCIL has completed all settlements without default and delay. Clearing Corporation has also secured overdraft facility from its settlement banks amounting to INR 50 crores which is more than 3 times of the size of daily average pay-in obligation which may be adequate for meet any liquidity crunch.

CC ensures that it maintains sufficient liquid resources to manage liquidity risks from members, settlement banks and those generated by its investment policy. CC carries out daily test the adequacy of its liquidity arrangements in order to ensure that its liquid resources are adequate to meet simultaneous default of at least two clearing members and their associates that would generate the largest aggregate liquidity obligation for the CC in extreme but plausible market conditions and compare such obligation with the resources in the form of Cash and committed lines of credit available to CC.

**KC 7.2:** *An FMI should have effective operational and analytical tools to identify, measure, and monitor its settlement and funding flows on an ongoing and timely basis, including its use of intraday liquidity.*

### **Description**

With effective monitoring and settlement process MCCIL has continuously monitored trends in cash settlement obligations and obtains adequate liquidity support in the form of overdrafts from its settlement banks to ensure seamless completion of settlement.

**KC 7.3** *A payment system or SSS, including one employing a DNS mechanism, should maintain sufficient liquid resources in all relevant currencies to effect same-day settlement, and where appropriate intraday or multiday settlement, of payment obligations with a high degree of confidence under a wide range of potential stress scenarios that should include, but not be limited to, the default of the participant and its affiliates that would generate the largest aggregate payment obligation in extreme but plausible market conditions.*

### **Description**

MCCIL has adequate resources and security settlement system which may meet the payment obligation of participants. It has deployed the assets forming part of the settlement guarantee fund (SGF) in most liquid form of investment as per the investment policy of the company.

MCCIL follow prudential norms of Investment policy for Core SGF corpus to ensure that Core SGF corpus is invested in highly liquid financial instruments with minimal market and credit risk and is capable of being liquidated rapidly with minimal adverse price effect. Core SGF cash portion is invested in Fixed Deposit with Banks (only those banks which have a net worth of more than INR 500 Crores and are rated AAA) and units of money market/liquid mutual funds of top 5 Mutual Funds in terms of Assets under management subject to suitable transaction/investment limits and monitoring of the same. MCCIL ensures that the financial instruments in which the Core SGF corpus is invested remains sufficiently diversified at all times.

**KC 7.4:** *A CCP should maintain sufficient liquid resources in all relevant currencies to settle securities-related payments, make required variation margin payments, and meet other payment obligations on time with a high degree of confidence under a wide range of potential stress scenarios that should include, but not be limited to, the default of the participant and its affiliates that would generate the largest aggregate payment obligation to the CCP in extreme but plausible market conditions. In addition, a CCP that is involved in activities with a more-complex risk profile or that is systemically important in multiple jurisdictions should consider maintaining additional liquidity resources sufficient to cover a wider range of potential stress scenarios that should include, but not be limited to, the default of the two participants and their affiliates that would generate the largest aggregate payment obligation to the CCP in extreme but plausible market conditions.*

### **Description**

Stress testing is conducted in line with the recommendations of BIS & IOSCO to assess the robustness of the risk management framework of MCCIL to meet following objectives:

1. MCCIL has adequate financial resources to meet its obligation to make payments to non-defaulting participants on time.
2. There is a high degree of assurance that the MCCIL can draw on the anticipated value of its financial resources in the event of a default,
3. The financial resources of non-defaulting participants are insulated from being used for the purpose of default, a set guidelines of default waterfall is established for the purpose of remove the ambiguity in using financial resources in case of any default or market movement.

The following stress testing methodology and scenarios are considered to assess adequacy of financial resources of MCCIL to complete settlement without utilizing the contribution of non-defaulting members in extreme but plausible market conditions for Equity Cash Market.

- i. The day with highest settlement value in the review quarter is selected.
- ii. It is assumed that top ten members with the highest settlement pay-in obligation fail to meet the pay-in obligations.
- iii. It is assumed that the above members' open positions are closed out with further loss (equivalent to highest close to close variation observed during the previous one year) on net open positions.

- iv. The cumulative loss/default as mentioned in point ii & iii above are compared with the total collaterals collected from each of these members.
- v. In case, collaterals are found to be insufficient to cover the above computed stressed scenario loss; then expected risk for all such members were added up as expected loss.
- vi. Expected loss as computed above was compared with default risk mitigation layers of SGF viz., contribution towards SGF by Exchange, SGF Insurance and reserves & retained earnings of MCCIL.

Further, based on the SEBI guidelines on Core SGF, the Clearing Corporation compute Core SGF requirement using the following methodology:

### **Equity Cash Market**

Scenario 1: Default by 2 Brokers:

- 1) CC computes the 'Cumulative Funds pay-in', 'Cumulative Funds pay-out', 'Cumulative Securities pay-in' and 'Cumulative Securities pay-out' of all member as on the end of pay-in deadline on the 'S' day. For this purpose cumulative pay-in /payout of each member's trades include non-institutional trades as well as 2X% by value of those institutional trades which have not yet been confirmed by the custodian undertaken on 'S-2' day, 'S-1' day and on 'S' day till the pay-in deadline shall be considered. (X being the highest daily % by value of custodial rejects in the previous 12 months)
- 2) Any early pay-in of funds/securities are ignored for the calculation.
- 3) It shall be assumed that each clearing member would default in meeting its 'cumulative funds pay-in' and 'cumulative securities pay-in' obligations
- 4) It shall be assumed that the failure to bring in securities would result in financial close-out and the clearing corporation would suffer a loss of 20% (at the minimum) of the value of such securities pay-in obligation. The assumed loss on liquidation of securities that would have been paid-out to the defaulting member shall be –
  - a. Group 1 securities – 20%
  - b. Group 2 & 3 securities – 20% scaled up by root of 3.
 Gross loss due to member = (Funds pay-in) + (120% of securities pay-in) - (funds pay-out) - (liquidation value of securities pay-out)
- 5) Clearing corporation shall calculate the gross loss (as per 4 above) for each Clearing Member and assess that against the defaulting Clearing Members' required margins (In case of early pay-in, those margins which would have been applicable had the early pay-in was not made, to be considered. Excess collateral, if any, shall be ignored) and other mandatory deposits to find the credit exposure of CC towards each custodian. Equity scrips as collateral, if any, shall be valued with minimum 20% haircut.
- 6) Clearing Corporation shall calculate the total credit exposure due to default of the clearing member (based on residual loss calculated in 5 above) causing highest credit exposure

**Scenario 2:** Default by 1 Custodian

- 1) CC shall compute the 'Cumulative Funds pay-in', 'Cumulative Funds pay-out', 'Cumulative Securities pay-in' and 'Cumulative Securities pay-out' of all custodians as on the end of pay-in deadline on the 'S' day. For this purpose cumulative pay-in/payout of each

custodian's trades (shall include those trades which have been confirmed by the custodian) undertaken on 'S-2' day, 'S-1' day and on 'S' day till the pay-in deadline shall be considered.

- 2) Any early pay-in of funds/securities shall be ignored.
- 3) It shall be assumed that each custodian would default in meeting its 'cumulative funds pay-in' and 'cumulative securities pay-in' obligation.
- 4) It shall be assumed that the failure to bring in securities would result in financial close-out and the clearing corporation would suffer a loss of 20% (at the minimum) of the value of such securities pay-in obligation. The assumed loss on liquidation of securities that would have been paid-out to the defaulting custodian shall be –
  - a. Group 1 securities – 20%
  - b. Group 2 & 3 securities – 20% scaled up by root of 3.Gross loss due to custodian = (Funds pay-in) + (120% of securities pay-in) - (funds pay-out) - (liquidation value of securities pay-out)
- 5) Clearing corporation shall calculate the gross loss (as per 4 above) for each custodian and assess that against the defaulting custodians' required margins (In case of early pay-in, those margins which would have been applicable had the early pay-in was not made, to be considered. Excess collateral, if any, shall be ignored) and other mandatory deposits to find the credit exposure of CC towards each custodian. Equity scrips as collateral, if any, shall be valued with minimum 20% haircut.
- 6) Clearing Corporation shall calculate the total credit exposure due to default of the custodian (based on residual loss calculated in 5 above) causing highest credit exposure

#### **Equity Derivatives and Currency Derivatives segments:**

The loss on closing out of client/proprietary positions shall be as per the following scenarios:

Hypothetical

Price movement in respect of each underlying to the extent of 1.5 times the normal price scan range (PSR) and 1.5 times the normal volatility scan range shall be considered.

- Scenario 1: Underlying price increasing by 1.5 PSR, volatility increasing by 1.5 VSR.
- Scenario 2: Underlying price decreasing by 1.5 PSR, volatility increasing by 1.5 VSR.

Historical

Price movement in respect of each underlying over the last 10 years to be considered.

The maximum percentage price movement shall be applied to the price on the day for which the stress test is being done:

- Scenario 3: Maximum percentage rise over a period of 1 day
- Scenario 4: Maximum percentage fall over a period of 1 day

All open positions shall be assumed to be squared up at the theoretical price corresponding to the revised prices of the underlying in each of the scenarios 1, 2, 3 and 4. The net profit/loss in squaring off the portfolio is to be calculated under each of the scenarios 1, 2, 3 and 4. For each clearing member, the credit exposure to CC shall be calculated as follows:

- a. The time of stress test shall be the time of pay-in deadline.
- b. It shall be assumed that clearing member will default at the time of pay-in.

- c. Loss shall be calculated at client portfolio level.
- d. For each client, residual loss shall be equal to → (loss due to close-out of client positions – margin supporting client positions)
- e. All residual losses (residual profits to be ignored) for all clients shall be grossed to compute total residual losses due to client positions.
- f. Loss due to close-out of proprietary positions shall be considered.
- g. Loss at (e) and loss at (f) and the net pay-in/pay-out requirement of the clearing member (pay-in and pay-out pertaining to requirements of both S-1 and S (till pay-in time) day to be reckoned) shall be assessed against required margins (excluding margin supporting client positions and excess collateral, if any) and other mandatory deposits of defaulting member to calculate credit exposure of CC to the member. Equity scrips as collateral, if any, shall be valued with minimum 20% haircut.

For each of the scenarios 1, 2, 3 and 4, Clearing Corporation shall calculate the total credit exposure due to simultaneous default of at least 2 clearing members (and their associates) causing highest credit exposure.

Stress testing results are reviewed by the Risk Management Committee of the CCP. Stress test details are also shared with the Regulators.

MCCIL carries stress test and reverse stress test on a regular basis. Stress test to assess adequacy of financial resources is carried out on a quarterly and monthly basis considering an extreme event of default by multiple participants of the CCP in Equity cash, equity derivative and currency derivative market.

CCP carries out performance of its risk management model on a daily basis using the stress testing, reverse stress testing and back testing techniques. More rigorous stress tests are performed on a quarterly basis. Back testing results are shared with regulator on a half yearly basis.

**KC 7.5:** *For the purpose of meeting its minimum liquid resource requirement, an FMI's qualifying liquid resources in each currency include cash at the central bank of issue and at creditworthy commercial banks, committed lines of credit, committed foreign exchange swaps, and committed repos, as well as highly marketable collateral held in custody and investments that are readily available and convertible into cash with prearranged and highly reliable funding arrangements, even in extreme but plausible market conditions. If an FMI has access to routine credit at the central bank of issue, the FMI may count such access as part of the minimum requirement to the extent it has collateral that is eligible for pledging to (or for conducting other appropriate forms of transactions with) the relevant central bank. All such resources should be available when needed*

**KC 7.6:** *An FMI may supplement its qualifying liquid resources with other forms of liquid resources. If the FMI does so, then these liquid resources should be in the form of assets that are likely to be saleable or acceptable as collateral for lines of credit, swaps, or repos on an ad hoc basis following a default, even if this cannot be reliably prearranged or guaranteed in extreme market conditions. Even if an FMI does not have access to routine central bank credit, it should still take account of what collateral is typically accepted by the relevant central bank, as such assets may be more likely to be liquid in stressed circumstances. An FMI should not assume the availability of emergency central bank credit as a part of its liquidity plan*

### **Description for 7.5 & 7.6**

Core Settlement Guarantee Fund (SGF) is maintained in Cash, Fixed Deposits and liquid mutual fund units (which invests in sovereign securities/money market instruments). Cash Component of core SGF is maintained in bank accounts and the remaining is invested in Liquid Mutual Funds and Fixed Deposits, which can be easily converted to cash, if need arises. Apart from the above the FMI has secured has overdraft facility from its settlement banks amounting to INR 50 Crores which is thrice the daily average pay-in obligation.

***KC 7.7:** An FMI should obtain a high degree of confidence, through rigorous due diligence, that each provider of its minimum required qualifying liquid resources, whether a participant of the FMI or an external party, has sufficient information to understand and to manage its associated liquidity risks, and that it has the capacity to perform as required under its commitment. Where relevant to assessing a liquidity provider's performance reliability with respect to a particular currency, a liquidity provider's potential access to credit from the central bank of issue may be taken into account. An FMI should regularly test its procedures for accessing its liquid resources at a liquidity provider*

### **Description**

MCCIL has prescribed the following criteria for the commercial bank to become a clearing bank.

#### Financial Criteria:

- Net worth (share capital + Reserves & Surplus) of Rs. 500 Cr.
- CRAR (Capital to Risk (Weighted) Assets Ratio) of the bank should be at least 9%.

#### Infrastructure Criteria:

- The bank should be agreeable to provide dedicated branch/ office in Mumbai which will be designated as the Central Clearing Bank Branch and shall also have wide branch network across India.
- The bank should have capabilities to ensure inter-city and inter-branch funds transfers on the same day for Clearing Corporation / it's clearing members / and their clients.
- The bank should provide Inter-bank Fund Transfer facilities and Electronic Funds Transfer facilities at the centres specified by the Reserve Bank of India.

Annually review of the bank financial criteria by the MCCIL and empanelment made on the basis of the approval of relevant authority.

- In case the bank is unable to meet the criteria, it shall not be allowed to open settlement account for new clearing members and existing members shall be intimated to transfer their settlement account to another clearing within 3 month from the date of such intimation.
- In case the bank is merged with / taken over by another bank, the new entity shall be allowed to continue as a clearing bank, subject to the abovementioned criteria.

Also, for overdraft arrangements, MCCIL share all relevant information required by the bank to understand the risk and manage associated liquidity risk.

Settlement banks have access to central bank credit facilities in various forms including repo, reverse repo, CBLO on Government Securities and corporate bonds.

**KC 7.8:** *An FMI with access to central bank accounts, payment services, or securities services should use these services, where practical, to enhance its management of liquidity risk.*

#### **Description**

MCCIL does not have access to accounts neither it is eligible to obtain access to accounts, payment services and securities services of central bank for settlements in Equity Cash Market , Equity Derivatives and Currency Derivatives.

CCP uses RTGS and Interbank fund transfer facilities offered by RBI through the settlement banks.

**KC 7.9** *An FMI should determine the amount and regularly test the sufficiency of its liquid resources through rigorous stress testing. An FMI should have clear procedures to report the results of its stress tests to appropriate decision makers at the FMI and to use these results to evaluate the adequacy of and adjust its liquidity risk-management framework. In conducting stress testing, an FMI should consider a wide range of relevant scenarios. Scenarios should include relevant peak historic price volatilities, shifts in other market factors such as price determinants and yield curves, multiple defaults over various time horizons, simultaneous pressures in funding and asset markets, and a spectrum of forward-looking stress scenarios in a variety of extreme but plausible market conditions. Scenarios should also take into account the design and operation of the FMI, include all entities that might pose material liquidity risks to the FMI (such as settlement banks, nostro agents, custodian banks, liquidity providers, and linked FMIs), and where appropriate, cover a multiday period. In all cases, an FMI should document its supporting rationale for, and should have appropriate governance arrangements relating to, the amount and form of total liquid resources it maintains.*

#### **Description**

Stress test is conducted in line with the recommendations of BIS & IOSCO to assess the robustness of the risk management framework of MCCIL to meet following:

- a. Adequate financial resources to meet its obligation.
- b. Test is ensuring that adequacy of liquid resources and the potential loss does not flow to non-defaulting participants.
- c. A high degree of assurance that the MCCIL can draw on the anticipated value of its financial resources in the event of a default.

Stress test and reverse stress test carried out on a regular basis. MCCIL has carried out the stress test on a quarterly basis by taking consideration with highest pay-in obligation in the respective quarter.

The size of overdraft facilities, SGF, Stress testing and back testing results , trends in business volumes, margin requirements, components of SGF, number of participants etc. are reviewed by the Governing Board and the Executive Committee of the FMI.

**KC 7.10** *An FMI should establish explicit rules and procedures that enable the FMI to effect same-day and, where appropriate, intraday and multiday settlement of payment obligations on time following any individual or combined default among its participants. These rules and procedures should address unforeseen and potentially uncovered liquidity shortfalls and should aim to avoid unwinding, revoking, or delaying the same-day settlement of payment obligations. These rules and procedures should also indicate the FMI's process to replenish any liquidity*

*resources it may employ during a stress event, so that it can continue to operate in a safe and sound manner*

### **Description**

The default waterfall of MCCIL follows the SEBI guidelines in this regard and the resources available under each layer are clearly stated in the monthly disclosures published by the Clearing Corporation through Circulars on the website. Various layers in the default waterfall are as follows:

1. Monies of defaulting member (including defaulting member's primary contribution to Core SGF(s) and excess monies of defaulter in other segments).
2. Insurance, if any.
3. CC resources (equal to 5% of the segment MRC).
4. Core SGF of the segment in the following order:
  - a. Penalties
  - b. CC contribution to the extent of at least 25% of the segment MRC
  - c. Remaining Core SGF: CC contribution, Stock Exchange contribution and non-defaulting members' primary contribution to Core SGF on pro-rata basis.
5. Proportion of remaining CC resources (excluding CC contribution to core SGFs of other segments) equal to ratio of segment MRC to sum of MRCs of all segments.
6. CC/SE contribution to Core SGFs of other segments (after meeting obligations of those segments) and remaining CC resources to that extent as approved by SEBI.
7. Capped additional contribution by non-defaulting members of the Segment.
8. Any remaining loss to be covered by way of pro-rata haircut to payouts.

## **PRINCIPLE 8: SETTLEMENT FINALITY**

***An FMI should provide clear and certain final settlement, at a minimum by the end of the value date. Where necessary or preferable, an FMI should provide final settlement intraday or in real time.***

**KC 8.1** *An FMI's rules and procedures should clearly define the point at which settlement is final.*

### **Description**

The Securities Contracts (Regulation) (Stock Exchanges and Clearing Corporations) Regulations, 2012 defines Settlement and netting as follows:

Regulation 2(1) (j) : "netting" means the determination by Clearing Corporation of net payment or delivery obligations of the clearing members of a recognised clearing corporation by setting off or adjustment of the inter se obligations or claims arising out of buying and selling of securities including the claims and obligations arising out of the termination by the Clearing Corporation or Stock Exchange, in such circumstances as the Clearing Corporation may specify in bye-laws, of the transactions admitted for settlement at a future date, so that only a net claim be demanded, or a net obligation be owed."

Regulation 44 A: Settlement and netting

(1) The payment and settlement in respect of a transaction in a recognized stock exchange and recognized clearing corporation shall be determined in accordance with the netting or gross procedure as specified in the bye-laws of such recognized stock exchange and recognized clearing corporation, with the prior approval of the Securities and Exchange Board of India.

(2) Payment and settlement in respect of a transaction between parties referred to in sub-regulation (1), effected under the bye-laws of a recognized stock exchange or recognized clearing corporation, shall be final, irrevocable and binding on such parties.

(3) When a settlement has become final and irrevocable, the right of the recognized stock exchange or the recognized clearing corporation, as the case may be, to appropriate any collaterals or deposits or margins contributed by the trading member, clearing member or client towards its settlement or other obligations in accordance with the bye-laws of the recognised stock exchange or recognized clearing corporation shall take priority over any other liability of or claim against the said trading member, clearing member or client, as the case may be.

Explanation. – For removal of doubts, it is hereby declared that the settlement, whether gross or net, referred to in this regulation is final and irrevocable as soon as the money, securities or other transactions payable as a result of such settlement is determined, whether or not such money, securities or other transactions is actually paid.

Chapter VII of the Bye-laws provides that all dealings of the Clearing Corporation shall be inviolable and shall be cleared and settled in accordance with Bye-laws, Rules and Regulations.

Moreover, provisions related to discharge of a payment, transfer instruction, or other obligation between the FMI and its participants, or between participants are clearly laid down in Chapter VII of the Bye-Laws of MCCIL and Chapters 5 & 6 of Regulations of MCCIL.

As regards Insolvency, the Securities Contracts (Regulation) (Stock Exchanges and Clearing Corporations) Regulations, 2012 under Regulation 44B states the following:

The right of recognised clearing corporation(s) to recover the dues from its clearing members, arising from the discharge of their clearing and settlement functions, from the collaterals, deposits and the assets of the clearing members, shall have priority over any other liability of or claim against the clearing members. "

Further Chapter XI of the Byelaws of MCCIL, provides that a member shall be declared defaulter if he/it files a petition before a court of competent jurisdiction for adjudication of himself/itself as an insolvent; or he/it has been adjudicated as an Insolvent by a court of competent jurisdiction.

After being declared as a defaulter, the procedure to be followed for discharge of obligations of a participant is prescribed under Chapter XI of the Byelaws of MCCIL

MCCIL carries out settlement of deals carried out in the MSEI. MCCIL does not deal with cross-border participants.

Provisions related to discharge of a payment, transfer instruction, or other obligation between the FMI and its participants, or between participants are clearly laid down in Chapter VII of the Bye-Laws of MCCIL and Chapters 5 & 6 of Regulations of MCCIL.

*KC 8.2 An FMI should complete final settlement no later than the end of the value date, and preferably intraday or in real time, to reduce settlement risk. An LVPS or SSS should consider adopting RTGS or multiple-batch processing during the settlement day.*

#### **Description**

MCCIL carries out settlement of deals carried out in the MSEI. Settlement of obligations in derivative segment is carried out on T+1 basis (except final settlement in CD segment which is carried out on T+2 day basis). Settlement in Equity Cash Market is conducted on a T+2 day basis. FMI has never experienced any deferral of final settlement.

If a participant does not have enough funds at the settlement time then such outstanding shortage is blocked from the available deposit and a separate batch file is sent for collection of shortages. Required funds for pay-out are provided through the SGF or overdraft facility, which is replenished on collection of shortages. If shortages are continued till end of day, the shortages are adjusted from the cash portion of liquid assets maintained by the participant or by liquidation of collaterals maintained by the participant. Shortfall in securities pay-in is closed out by auction or financial close out. Account balances are made available to participants through online interfaces and end of day files.

MCCIL is not an LVPS.

*KC 8.3 An FMI should clearly define the point after which unsettled payments, transfer instructions, or other obligations may not be revoked by a participant.*

#### **Description**

The Securities Contracts (Regulation) (Stock Exchanges and Clearing Corporations) Regulations, states the following:

Regulation 2(1) (j) : "netting" means the determination by Clearing Corporation of net payment or delivery obligations of the clearing members of a recognised clearing

corporation by setting off or adjustment of the inter se obligations or claims arising out of buying and selling of securities including the claims and obligations arising out of the termination by the Clearing Corporation or Stock Exchange, in such circumstances as the Clearing Corporation may specify in bye-laws, of the transactions admitted for settlement at a future date, so that only a net claim be demanded, or a net obligation be owed."

#### Regulation 44 A: Settlement and netting

(1) The payment and settlement in respect of a transaction in a recognized stock exchange and recognized clearing corporation shall be determined in accordance with the netting or gross procedure as specified in the bye-laws of such recognized stock exchange and recognized clearing corporation, with the prior approval of the Securities and Exchange Board of India.

(2) Payment and settlement in respect of a transaction between parties referred to in sub-regulation (1), effected under the bye-laws of a recognized stock exchange or recognized clearing corporation, shall be final, irrevocable and binding on such parties.

(3) When a settlement has become final and irrevocable, the right of the recognized stock exchange or the recognized clearing corporation, as the case may be, to appropriate any collaterals or deposits or margins contributed by the trading member, clearing member or client towards its settlement or other obligations in accordance with the bye-laws of the recognised stock exchange or recognized clearing corporation shall take priority over any other liability of or claim against the said trading member, clearing member or client, as the case may be.

Explanation. – For removal of doubts, it is hereby declared that the settlement, whether gross or net, referred to in this regulation is final and irrevocable as soon as the money, securities or other transactions payable as a result of such settlement is determined, whether or not such money, securities or other transactions is actually paid.

The Settlement Bank accounts have a standing instruction to debit/block the funds available towards the obligation and could be released only after the confirmation from clearing corporation.

Chapter VII of the Bye-laws under byelaw no. 5 provides for circumstances under which an admitted deal can be annulled by the FMI.

MCCIL defines the information regarding settlement finality in its Rules, Regulations, byelaws and the Circulars issued from time to time. Rules, Regulations, byelaws and the Circulars of MCCIL are disclosed to its participants through its website [www.msei.in](http://www.msei.in). Circulars of MCCIL are sent to the participants in their registered email ids.

## **PRINCIPLE 9: MONEY SETTLEMENTS**

***An FMI should conduct its money settlements in central bank money where practical and available. If central bank money is not used, an FMI should minimize and strictly control the credit and liquidity risks arising from the use of commercial bank money.***

**KC 9.1** *An FMI should conduct its money settlements in central bank money, where practical and available, to avoid credit and liquidity risks.*

### **Description**

All fund settlement transactions are settled in the domestic currency, namely, the Indian Rupee. The cash settlement agents are scheduled commercial banks, registered as banking companies and regulated by the Central Bank of India, namely, the Reserve Bank of India (RBI). Net worth and Capital Adequacy Ratio are among the financial criteria considered while selecting the settlement banks. Infrastructure criteria like wherewithal to ensure inter-city and inter-branch funds transfers on the same day for the FMI as well as for the market participants is also insisted upon. The FMI is required to adhere to RBI's master circulars on new capital adequacy frameworks, management of credit, market and operational risks, which are periodically updated.

**KC 9.2** *If central bank money is not used, an FMI should conduct its money settlements using a settlement asset with little or no credit or liquidity risk.*

### **Description**

In the pay-in and pay-out activities are carried out on the same day. The time delay between pay-in and pay-out is kept minimal (typically 1 hour) to reduce exposure of settlement assets (cash) with settlement banks. Also, the number of settlement banks is kept above 12 to guard against liquidity and credit risks of individual settlement banks.

**KC 9.3** *If an FMI settles in commercial bank money, it should monitor, manage, and limit its credit and liquidity risks arising from the commercial settlement banks. In particular, an FMI should establish and monitor adherence to strict criteria for its settlement banks that take account of, among other things, their regulation and supervision, creditworthiness, capitalization, access to liquidity, and operational reliability. An FMI should also monitor and manage the concentration of credit and liquidity exposures to its commercial settlement banks.*

### **Description**

The settlement banks are required to have a minimum net worth of INR 5 billion and a Capital to Risk adequacy Ratio (CRAR) of 9%. These banks are also required to ensure inter-city and inter-branch funds transfers on the same day via electronic fund transfer mechanisms. An agreement is entered between the FMI and the settlement bank which clearly defines the obligations of the settlement bank. The FMI monitors the performance of settlement banks on a continuous basis. Financial health of clearing banks are assessed on an annual basis based on the audited annual financial reports

**KC 9.4** *If an FMI conducts money settlements on its own books, it should minimize and strictly control its credit and liquidity risks.*

**Description**

FMI does not act as a cash settlement agent. Money settlements are effected in cash through the bank accounts maintained with settlement banks.

**KC 9.5** *An FMI's legal agreements with any settlement banks should state clearly when transfers on the books of individual settlement banks are expected to occur, that transfers are to be final when effected, and that funds received should be transferable as soon as possible, at a minimum by the end of the day and ideally intraday, in order to enable the FMI and its participants to manage credit and liquidity risks.*

**Description**

As per the FMI's agreement with the settlement banks, the banks are required to process the fund settlement instructions received from the FMI from time to time. Once the funds are received in the account of FMI from the settlement bank, the same is transferable on an intraday or end of day basis.

## **PRINCIPLE 10: PHYSICAL DELIVERIES**

**An FMI should clearly state its obligations with respect to the delivery of physical instruments or commodities and should identify, monitor, and manage the risks associated with such physical deliveries.**

*KC-10.1 An FMI's rules should clearly state its obligations with respect to the delivery of physical instruments or commodities.*

### **Description:**

MCCIL does not accept physical delivery for any asset class. With respect to settlement of securities, MCCIL has defined the rights, responsibilities and obligations of all parties through the bye laws, rules and regulations as well as through various circulars issued from time to time.

*KC-10.2 An FMI should identify, monitor, and manage the risks and costs associated with the storage and delivery of physical instruments or commodities.*

### **Description:**

Currently MCCIL does not accept physical deliveries.

**PRINCIPLE 11: CENTRAL SECURITIES DEPOSITORIES**

**A CSD should have appropriate rules and procedures to help ensure the integrity of securities issues and minimise and manage the risks associated with the safekeeping and transfer of securities. A CSD should maintain securities in an immobilised or dematerialised form for their transfer by book entry.**

Not Applicable to MCCIL.

## PRINCIPLE 12: EXCHANGE-OF-VALUE SETTLEMENT SYSTEMS

**If an FMI settles transactions that involve the settlement of two linked obligations (for example, securities or foreign exchange transactions), it should eliminate principal risk by conditioning the final settlement of one obligation upon the final settlement of the other.**

KC-12.1 An FMI that is an exchange-of-value settlement system should eliminate principal risk by ensuring that the final settlement of one obligation occurs if and only if the final settlement of the linked obligation also occurs, regardless of whether the FMI settles on a gross or net basis and when finality occurs.

### **Description:**

MCCIL has implemented the DVP-III settlement mechanism which is designed to take care of risks associated with lined obligation. MCCIL's regulations and bye-laws provide for the settlement of funds and securities. The pay-ins of funds and securities precede the pay-outs of funds and securities. **PRINCIPLE 13: PARTICIPANT –DEFAULT RULES AND PROCEDURES**

***An FMI should have effective and clearly defined rules and procedures to manage a participant default. These rules and procedures should be designed to ensure that the FMI can take timely action to contain losses and liquidity pressures and continue to meet its obligations.***

*KC-13.1 An FMI should have default rules and procedures that enable the FMI to continue to meet its obligations in the event of a participant default and that address the replenishment of resources following a default.*

### **Description:**

The FMI's rules and procedures clearly mention the rules and procedures to meet the obligations in case of a participant default. In case of Clearing member is declared a defaulter and fails to meet the clearing and settlement obligations the relevant authority may utilize the Settlement Guarantee Fund (SGF) and other monies to the extent necessary to eliminate the obligation. The default waterfall of MCCIL follows the SEBI guidelines in this regard and the resources available under each layer are clearly stated in the monthly disclosures published by the Clearing Corporation through Circulars on the website. The flow of utilization of SGF and other monies to the extent necessary to eliminate the obligation are given below :

1. Monies of defaulting member (including defaulting member's primary contribution to Core SGF(s) and excess monies of defaulter in other segments).
2. Insurance, if any.
3. CC resources (equal to 5% of the segment MRC).
4. Core SGF of the segment in the following order:
  - a. Penalties
  - b. CC contribution to the extent of at least 25% of the segment MRC
  - c. Remaining Core SGF: CC contribution, Stock Exchange contribution and non-defaulting members' primary contribution to Core SGF on pro-rata basis.
5. Proportion of remaining CC resources (excluding CC contribution to core SGFs of other segments) equal to ratio of segment MRC to sum of MRCs of all segments.

6. CC/SE contribution to Core SGFs of other segments (after meeting obligations of those segments) and remaining CC resources to that extent as approved by SEBI.
7. Capped additional contribution by non-defaulting members of the Segment.
8. Any remaining loss to be covered by way of pro-rata haircut to payouts.

MCCIL rules also contain procedures for closing out the open positions of a defaulting member and satisfying any resulting losses. The rule book of clearing corporation clearly given the guideline for management of transactions at different stages of processing and the relevant authority shall call in and realize the securities deposits. Details of the sequencing of the actions mentioned below:

1. In the event of non-performance of clearing member of his obligations or his being declared as defaulter, such clearing member shall submit to the clearing corporation, a statement containing a list of client codes, names of the clients, open positions of each client, client-wise margin amount due and paid to the clearing corporation, client-wise settlement amount payable to/receivable from the clearing corporation and client-wise settlement amount paid to the clearing corporation. The clearing member shall also specifically attribute such failure/shortage/default in payment of margins and/or settlement dues either to himself or his clients' and the amount of such shortage/default.
2. The Clearing Corporation shall use such statement provided by the Clearing Member for appropriating the margin monies with the Clearing Corporation towards the dues of the Clearing Corporation to the extent of shortage/default of obligations and for the purpose of settling the amounts due to clients', as the case may be, unless the contrary is proved to the satisfaction of the Clearing Corporation/Defaulters' Committee.
3. The Clearing Corporation shall appropriate the margin monies with the Clearing Corporation for settling the dues of the clients' before settling the dues of the Clearing Members.
4. Notwithstanding the above, in the event of any Clearing Member being declared as a defaulter, the statement, furnished by the Trading Member to such Clearing Member, providing the amounts paid by Trading Member on his own account or is paid on behalf of his clients' shall be conclusive and binding on himself, his Clearing Member and all his clients' unless the contrary is proved to the satisfaction of the Clearing Corporation/Defaulters' Committee.
5. Upon the failure of a Clearing Member to comply with any of the provisions relating to margins, clearing/exposure limits, daily mark to market settlement and final settlement, failure to fulfil the terms and conditions subject to which the transactions in Derivatives Contracts have been made or for such other reasons as the relevant authority may specify from time to time, the relevant authority may:
  - transfer all or any of the open positions of clients or such other open positions of the defaulting clearing member as may be decided from time to time to any other Clearing Member who agrees to accept such transfer subject to such terms and conditions as may be specified by the relevant authority from time to time and / or
  - Close-out all or any of the open positions by buying- in or selling out against the defaulting Clearing Member.

6. In respect of Derivatives Contracts settled through the Clearing Corporation, the Clearing Corporation shall be entitled to closing out against the party in default. In such cases no notice of closing-out shall be given to the Clearing Member against whom the closing-out is to be effected. Without prejudice to the generality of the above provision, closing-out without notice may be affected in cases specified in the relative Regulation or in such other cases as the relevant authority may from time to time specify in addition thereto or in modification or substitution thereof.
7. If a Clearing Member is declared a defaulter the Clearing Corporation shall determine all outstanding obligations by closing-out all open positions against him in accordance with the Bye Laws and Regulations relating to default.

**KC 13.2** *An FMI should be well prepared to implement its default rules and procedures, including the exercise of any appropriate discretionary procedures provided in its rules.*

**Description**

MCCIL has adequate provisions in its rules and bye-laws to implement its default rules and procedures. MCCIL ensures that the rules specific to margin, deposits, investor protection funds are followed. The continual internal and external audit sessions are in place to ensure the adherence of the same. MCCIL reviews its internal processes to manage default at regular intervals. The continual internal and external audit sessions are in place to ensure the adherence of the same.

**KC13.3** *An FMI should make key aspects of its default rules and procedures available to the public.*

**Description**

The rules, byelaws, regulations and circulars issued in terms of the rules, byelaws, and regulations are available and published in the website [www.msei.in](http://www.msei.in)

**KC13.4** *An FMI should engage with its participants and other relevant stakeholders in the periodic testing and review of its default procedures to ensure that they are practical and effective.*

**Description**

The stress testing of the risk management of MCCIL to meet following objectives:

- a. MCCIL has adequate financial resources to meet its obligation to make payments to non-defaulting participants on time.
- b. There is a high degree of assurance that the MCCIL can draw on the anticipated value of its financial resources in the event of a default,
- c. The financial resources of non-defaulting participants are insulated from being used for the purpose of default.

The following methodology is followed to assess adequacy of financial resources of MCCIL to complete settlement without utilizing the SGF contribution of Non-defaulting members in extreme but plausible market conditions.

1. The day with highest settlement value in the review quarter was selected.

2. It was assumed that top ten members with the highest settlement pay-in obligation fail to meet the pay-in obligations.
3. It was assumed that the above members' open positions are closed out with further loss that is equivalent to highest close to close variation observed during the previous one year on net open positions.
4. The cumulative loss/default as mentioned in point ii & iii above are compared with the total collaterals collected from each of these members.
5. In case, collaterals are found to be insufficient to cover the above computed stressed scenario loss; then expected risk for all such members were added up as expected loss.
6. Expected loss as computed above was compared with default risk mitigation layers of SGF viz., contribution towards SGF by Exchange, SGF Insurance and reserves & retained earnings of MCCIL.

Further, based on the SEBI guidelines on Core SGF, the Clearing Corporation compute Core SGF requirement using the following methodology:

### **Equity Cash Market**

Scenario 1: Default by 2 Brokers:

- 1) CC computes the 'Cumulative Funds pay-in', 'Cumulative Funds pay-out', 'Cumulative Securities pay-in' and 'Cumulative Securities pay-out' of all member as on the end of pay-in deadline on the 'S' day. For this purpose cumulative pay-in /payout of each member's trades include non-institutional trades as well as 2X% by value of those institutional trades which have not yet been confirmed by the custodian undertaken on 'S-2' day, 'S-1' day and on 'S' day till the pay-in deadline shall be considered. (X being the highest daily % by value of custodial rejects in the previous 12 months)
- 2) Any early pay-in of funds/securities are ignored for the calculation.
- 3) It shall be assumed that each clearing member would default in meeting its 'cumulative funds pay-in' and 'cumulative securities pay-in' obligations
- 4) It shall be assumed that the failure to bring in securities would result in financial close-out and the clearing corporation would suffer a loss of 20% (at the minimum) of the value of such securities pay-in obligation. The assumed loss on liquidation of securities that would have been paid-out to the defaulting member shall be –
  - a. Group 1 securities – 20%
  - b. Group 2 & 3 securities – 20% scaled up by root of 3.
 Gross loss due to member = (Funds pay-in) + (120% of securities pay-in) - (funds pay-out) - (liquidation value of securities pay-out)
- 5) Clearing corporation shall calculate the gross loss (as per 4 above) for each Clearing Member and assess that against the defaulting Clearing Members' required margins (In case of early pay-in, those margins which would have been applicable had the early pay-in was not made, to be considered. Excess collateral, if any, shall be ignored) and other mandatory deposits to find the credit exposure of CC towards each custodian. Equity scrips as collateral, if any, shall be valued with minimum 20% haircut.
- 6) Clearing Corporation shall calculate the total credit exposure due to default of the clearing member (based on residual loss calculated in 5 above) causing highest credit exposure

## Scenario 2: Default by 1 Custodian

- 1) CC shall compute the 'Cumulative Funds pay-in', 'Cumulative Funds pay-out', 'Cumulative Securities pay-in' and 'Cumulative Securities pay-out' of all custodians as on the end of pay-in deadline on the 'S' day. For this purpose cumulative pay-in/payout of each custodian's trades (shall include those trades which have been confirmed by the custodian) undertaken on 'S-2' day, 'S-1' day and on 'S' day till the pay-in deadline shall be considered.
- 2) Any early pay-in of funds/securities shall be ignored.
- 3) It shall be assumed that each custodian would default in meeting its 'cumulative funds pay-in' and 'cumulative securities pay-in' obligation.
- 4) It shall be assumed that the failure to bring in securities would result in financial close-out and the clearing corporation would suffer a loss of 20% (at the minimum) of the value of such securities pay-in obligation. The assumed loss on liquidation of securities that would have been paid-out to the defaulting custodian shall be –
  - a. Group 1 securities – 20%
  - b. Group 2 & 3 securities – 20% scaled up by root of 3.Gross loss due to custodian = (Funds pay-in) + (120% of securities pay-in) - (funds pay-out) - (liquidation value of securities pay-out)
- 5) Clearing corporation shall calculate the gross loss (as per 4 above) for each custodian and assess that against the defaulting custodians' required margins (In case of early pay-in, those margins which would have been applicable had the early pay-in was not made, to be considered. Excess collateral, if any, shall be ignored) and other mandatory deposits to find the credit exposure of CC towards each custodian. Equity scrips as collateral, if any, shall be valued with minimum 20% haircut.
- 6) Clearing Corporation shall calculate the total credit exposure due to default of the custodian (based on residual loss calculated in 5 above) causing highest credit exposure

### **Equity Derivatives and Currency Derivatives segments:**

The loss on closing out of client/proprietary positions shall be as per the following scenarios:

#### Hypothetical

Price movement in respect of each underlying to the extent of 1.5 times the normal price scan range (PSR) and 1.5 times the normal volatility scan range shall be considered.

- Scenario 1: Underlying price increasing by 1.5 PSR, volatility increasing by 1.5 VSR.
- Scenario 2: Underlying price decreasing by 1.5 PSR, volatility increasing by 1.5 VSR.

#### Historical:

Price movement in respect of each underlying over the last 10 years to be considered.

The maximum percentage price movement shall be applied to the price on the day for which the stress test is being done:

- Scenario 3: Maximum percentage rise over a period of 1 day
- Scenario 4: Maximum percentage fall over a period of 1 day

All open positions shall be assumed to be squared up at the theoretical price corresponding to the revised prices of the underlying in each of the scenarios 1, 2, 3 and 4. The net

profit/loss in squaring off the portfolio is to be calculated under each of the scenarios 1, 2, 3 and 4. For each clearing member, the credit exposure to CC shall be calculated as follows:

- a. The time of stress test shall be the time of pay-in deadline.
- b. It shall be assumed that clearing member will default at the time of pay-in.
- c. Loss shall be calculated at client portfolio level.
- d. For each client, residual loss shall be equal to → (loss due to close-out of client positions – margin supporting client positions)
- e. All residual losses (residual profits to be ignored) for all clients shall be grossed to compute total residual losses due to client positions.
- f. Loss due to close-out of proprietary positions shall be considered.
- g. Loss at (e) and loss at (f) and the net pay-in/pay-out requirement of the clearing member (pay-in and pay-out pertaining to requirements of both S-1 and S (till pay-in time) day to be reckoned) shall be assessed against required margins (excluding margin supporting client positions and excess collateral, if any) and other mandatory deposits of defaulting member to calculate credit exposure of CC to the member. Equity scrips as collateral, if any, shall be valued with minimum 20% haircut.

For each of the scenarios 1, 2, 3 and 4, Clearing Corporation shall calculate the total credit exposure due to simultaneous default of at least 2 clearing members (and their associates) causing highest credit exposure.

## **PRINCIPLE 14: SEGREGATION AND PORTABILITY**

***A CCP should have rules and procedures that enable the segregation and portability of positions of a participant's customers and the collateral provided to the CCP with respect to those positions.***

***KC 14.1:*** A CCP should, at a minimum, have segregation and portability arrangements that effectively protect a participant's customers' positions and related collateral from the default or insolvency of that participant. If the CCP additionally offers protection of such customer positions and collateral against the concurrent default of the participant and a fellow customer, the CCP should take steps to ensure that such protection is effective.

### **Description**

While there is identification and segregation of client positions from participant's proprietary positions at CCP end, the CCP does not allow participants to post client collateral with it. The CCP does not accept client collateral and all the collateral posted by participants with MCCIL for client as well as proprietary positions need to be owned by participant. Participants are required to keep collateral posted by clients segregated and not to use collateral posted by a client for any purpose except for fulfilling the obligations of the concerned client. Participants are also required to keep CCP informed of the margins collected by him for client positions.

Thus, while segregation of positions is there at CCP level, segregation of collateral is available at participant level and not at CCP level, though CCP has information of the margin available with its participants for each client's positions.

Regarding portability in case of default, CCP can port client positions to another participant conditional to the other participant accepting the client positions either by way of defaulting participant transferring client collateral to the 'another participant' or clients posting collateral with the 'another participant' to continue their positions. Thus, the CCP, in effect, does not have adequate arrangements to port a defaulting participant's customers' collateral at its end.

***KC 14.2*** A CCP should employ an account structure that enables it readily to identify positions of a participant's customers and to segregate related collateral. A CCP should maintain customer positions and collateral in individual customer accounts or in omnibus customer accounts.

### **Description**

While the positions of a participant's customers are identified and segregated at CCP end, MCCIL depends on reporting by participants' to ascertain each customer's collateral with the participant. The CCP does not accept client collateral and the segregation of client collateral is at participant level. CCP collects margins from participants for customer trades on gross basis. In case of default by a participant, the defaulting participant's clients have recourse to the defaulting participant, who had kept client collateral in segregated accounts, to get back their collateral and not the CCP.

***KC 14.3:*** A CCP should structure its portability arrangements in a way that makes it highly likely that the positions and collateral of a defaulting participant's customers will be transferred to one or more other participants.

### **Description**

MCCIL allows transfer of positions and collaterals from one participant to other participant. However, since it does not accept client collateral or keep it segregated at its end, it does not facilitate portability of client positions and collateral.

The portability of positions and related collateral depend on a participant accepting positions of a defaulting participant's clients, which requires either the defaulting participant to transfer the related collateral or clients to post separate collateral with the new participant.

**KC 14.4** *A CCP should disclose its rules, policies, and procedures relating to the segregation and portability of a participant's customers' positions and related collateral. In particular, the CCP should disclose whether customer collateral is protected on an individual or omnibus basis. In addition, a CCP should disclose any constraints, such as legal or operational constraints, that may impair its ability to segregate or port a participant's customers' positions and related collateral.*

**Description**

MCCIL has disclosed the policies and procedures for segregation of portability of positions. However, while segregation of positions is done by the CCP itself, segregation of collateral is done by participant and accordingly, portability of positions and related collateral of clients is in the hands of participants and clients themselves. CCP merely provides the procedure for such porting.

Accordingly, the issue disclosure by CCP on the level of protection accorded and any relevant legal constraints does not arise.

## **PRINCIPLE 15: GENERAL BUSINESS RISK**

***An FMI should identify, monitor, and manage its general business risk and hold sufficient liquid net assets funded by equity to cover potential general business losses so that it can continue operations and services as a going concern if those losses materialise. Further, liquid net assets should at all times be sufficient to ensure a recovery or orderly wind-down of critical operations and services.***

**KC 15.1** *An FMI should have robust management and control systems to identify, monitor, and manage general business risks, including losses from poor execution of business strategy, negative cash flows, or unexpected and excessively large operating expenses.*

### **Description**

There exists an agreement between MSEI and MCCIL, wherein MSEI is required to pay Clearing and Settlement charges based on the transaction charges collected by MSEI. MSEI is also required to pay a sum as Clearing & Settlement fee, which is always greater than the total cost incurred by MCCIL for offering its services to MSEI. Thus business risks faced by MCCIL on account of potential negative cash flows are taken care of. The Audit Committee reviews, suggests and recommend changes to strengthen the checks and controls if any. The suggestions and recommendations of the Audit Committee are presented to the Governing Board for further improvement in the control process.

**KC 15.2** *An FMI should hold liquid net assets funded by equity (such as common stock, disclosed reserves, or other retained earnings) so that it can continue operations and services as a going concern if it incurs general business losses. The amount of liquid net assets funded by equity an FMI should hold should be determined by its general business risk profile and the length of time required to achieve a recovery or orderly wind-down, as appropriate, of its critical operations and services if such action is taken.*

### **Description**

The predominant part of funds representing the equity capital of the Company are placed as fixed deposits in scheduled commercial banks, which can be liquidated should the need arise.

Agreement between Exchange and clearing corporation provides for a termination clause which specifies a notice of 6 months, which shall cover the length of time and associated operating costs of achieving an orderly recovery or wind-down of critical operations and services.

**KC 15.3** *An FMI should maintain a viable recovery or orderly wind-down plan and should hold sufficient liquid net assets funded by equity to implement this plan. At a minimum, an FMI should hold liquid net assets funded by equity equal to at least six months of current operating expenses. These assets are in addition to resources held to cover participant defaults or other risks covered under the financial resources principles. However, equity held under international risk-based capital standards can be included where relevant and appropriate to avoid duplicate capital requirements.*

### **Description**

Although there is no specific plan formulated so far, MCCIL is capable of achieving an orderly recovery or wind down in the unlikely event of the same being required. MCCIL holds liquid net assets funded by equity to cover general business risk that is at least six months of current operating expenses. Funds to be used for mitigation of default risk (SGF) is segregated and managed separately from corporate funds, which are used for mitigation of business risks. MCCIL is not required to maintain capital under international risk-based standards to cover general business risks

**KC 15.4** *Assets held to cover general business risk should be of high quality and sufficiently liquid in order to allow the FMI to meet its current and projected operating expenses under a range of scenarios, including in adverse market conditions.*

**Description**

The FMI's liquid net assets funded by equity are invested predominantly in fixed deposits placed with scheduled commercial banks which are in sound financial position and also in highly liquid debt based mutual fund schemes. These are highly liquid assets with minimum risk and may be converted into cash at short notice. The FMI's investments are subject to an investment policy reviewed on monthly basis by the Investment Committee

**KC 15.5** *An FMI should maintain a viable plan for raising additional equity should its equity fall close to or below the amount needed. This plan should be approved by the board of directors and updated regularly.*

**Description**

Once the minimum net worth in terms of SECC regulations is achieved, it can at no point go below INR 300 Crores. The same will be monitored on a periodical basis through internal audits and by the Audit Committee. If need be MCCIL will make a suitable plan for replenishment of capital to maintain minimum net worth.

## **PRINCIPLE 16: CUSTODY AND INVESTMENT RISKS**

***An FMI should safeguard its own and its participants' assets and minimise the risk of loss on and delay in access to these assets. An FMI's investments should be in instruments with minimal credit, market, and liquidity risks.***

**KC 16.1:** *An FMI should hold its own and its participants' assets at supervised and regulated entities that have robust accounting practices, safekeeping procedures, and internal controls that fully protect these assets.*

### **Description**

As per its investment policy, MCCIL invests cash in designated accounts or as fixed deposit receipts with banks and in liquid mutual funds. Such banks are regulated and supervised by the RBI and Mutual funds and their Custodians are regulated and supervised by SEBI, and therefore are subject to strict compliances including robust accounting practices, safekeeping procedures, and internal controls.

**KC 16.2:** *An FMI should have prompt access to its assets and the assets provided by participants, when required.*

### **Description**

The assets of MCCIL are invested in FDRs and designated accounts with banks and in liquid mutual funds giving MCCIL prompt access to its assets through legal agreements with banks and custodians and well defined terms and conditions.

**KC 16.3:** *An FMI should evaluate and understand its exposures to its custodian banks, taking into account the full scope of its relationships with each.*

### **Description**

MCCIL holds custodian and bank accounts with top financial institutions regulated by RBI and SEBI. MCCIL does regular analysis of its holdings with banks and custodians. The investment policy of MCCIL provides guidelines to mitigate credit and liquidity risks.

**KC 16.4:** *An FMI's investment strategy should be consistent with its overall risk-management strategy and fully disclosed to its participants, and investments should be secured by, or be claims on, high-quality obligors. These investments should allow for quick liquidation with little, if any, adverse price effect.*

### **Description**

The investment policy of MCCIL ensures that the assets are placed only with high quality creditors. Investments are subject to limits to avoid concentration. Also, MCCIL does not invest in participants' own securities or those of its affiliates. Further, investments are made only on liquid instruments (liquid mutual funds, fixed deposits, current accounts) to allow quick liquidation and avoid adverse price effects. MCCIL discloses its investment strategy to its participants through its bye laws.

## **PRINCIPLE 17: OPERATIONAL RISK**

***An FMI should identify the plausible sources of operational risk, both internal and external, and mitigate their impact through the use of appropriate systems, policies, procedures, and controls. Systems should be designed to ensure a high degree of security and operational reliability and should have adequate, scalable capacity. Business continuity management should aim for timely recovery of operations and fulfillment of the FMI's obligations, including in the event of a wide-scale or major disruption.***

***KC 17.1*** An FMI should establish a robust operational risk-management framework with appropriate systems, policies, procedures, and controls to identify, monitor, and manage operational risks.

### **Description**

Under its operational risk management framework, MCCIL has a defined policy to conduct a comprehensive risk assessment. The assessment is carried out at least annually and the Risk Assessment report covers all types of information assets and processes (hardware, software, data, IT processes and IT personnel) for identifying the full range of operational risks. MCCIL has identified various sources of operational risks such as risks to its information, infrastructure, software assets, brand image, services offered and its employees. As a part of the systems audits (Internal and External), and the design of the BCP framework, single points of failure are identified and worked upon.

MCCIL has designed and implemented an Information Security Management System which is based on internationally acclaimed ISO/IEC 27001:2005 standards and thus covers relevant international and national operational risk-management standards.

Further, changes to the organization IT systems and all major projects, are undertaken through a formal change management process. In case of major system upgrades or changes, mock trading involving members is conducted to identify and resolve system risks. Major projects are planned with efficient project management to ensure seamless operations. It has in place systems to ensure high degree of physical and information security and has business continuity plan to resume critical operations

***KC 17.2*** An FMI's board of directors should clearly define the roles and responsibilities for addressing operational risk and should endorse the FMI's operational risk-management framework. Systems, operational policies, procedures, and controls should be reviewed, audited, and tested periodically and after significant changes.

### **Description**

The Board of Directors has appointed a Systems Committee (also referred as the Standing Committee on Technology) (SC) to look after the overall operational risk management. Based on the periodic Risk Assessment Report, the Committee decides operational risk management framework by vesting powers given by the Board.

The Information Security (IS) Team appointed by the SC and the Management Representative meet every quarter to review the Information Security Management System (ISMS) including the operational risk management framework. The SC reviews the result of the risk management activity on an annual basis, at the minimum and whenever there are significant changes in the organization's operations or when new risks have been identified.

Besides internal audits, external audits are also conducted on an annual basis covering all aspects of the operational risk management activity.

**KC 17.3** *An FMI should have clearly defined operational reliability objectives and should have policies in place that are designed to achieve those objectives.*

**Description**

The organizational level qualitative and quantitative objectives for major processes and security requirements at broad level are defined in Organization Apex Document and the departmental level objectives are defined in IS Policy, IT Procedure and Standard Operating Procedure. As a part of Organizational Manual, IT Procedure and SOP; process to achieve each objective is documented. For each objective, measurement criteria is defined and followed to monitor its performance. Security objectives are defined considering all major security domains mentioned in ISO / IEC 27001:2005 standard and risk assessment is carried out and mapped all applicable controls mentioned in the standard.

**KC 17.4:** *An FMI should ensure that it has scalable capacity adequate to handle increasing stress volumes and to achieve its service-level objectives.*

**Description**

MCCIL has implemented CA tool for continuous monitoring of the systems with respect to their usage and the capacity, as per the threshold defined. The scalability and adequacy of the FMI capacity is reviewed at least on an annual basis based on current systems load and projected transactions load. The system's capability is at least five times of the current peak transaction load. Besides the pre-defined timeline, the same is also reviewed as and when there are any updates to the operations or systems in the FMI. The same are also tested as a part of the periodic activities to ensure appropriate response to increased stress volumes. Appropriate action is taken to enhance the capacity plans so that the required service levels and performance can be achieved and maintained.

**KC 17.5** *An FMI should have comprehensive physical and information security policies that address all potential vulnerabilities and threats.*

**Description**

MCCIL has effective policies and processes for physical vulnerabilities and threats. Adequate controls are implemented to take care of attacks and intrusions. Procedures are also in place to recover from any kind of natural disasters, if any. The FMI is certified for the ISO/IEC 27001:2005 international standard for Information Security and thus this ensures implementation of an effective Information Security Management System within the organization.

Major changes and projects are monitored and carried out in a controlled environment. There is no compromise on the information security or physical security.

**KC 17.6:** *An FMI should have a business continuity plan that addresses events posing a significant risk of disrupting operations, including events that could cause a wide-scale or major disruption. The plan should incorporate the use of a secondary site and should be designed to ensure that critical information technology (IT) systems can resume operations within two hours following disruptive events. The plan should be designed to enable the FMI to complete*

*settlement by the end of the day of the disruption, even in case of extreme circumstances. The FMI should regularly test these arrangements.*

**Description**

A detailed Business Impact Analysis is used to identify key processes, business applications used by the departments, and the order of priority, which will be necessary during the time of a recovery following a disaster. These inputs are incorporated as a part of the organization Business Continuity Plan document. Appropriate recovery time objective and recovery point objectives are identified for critical operations, and the same are worked upon to initiate an appropriate recovery mechanism. Documented procedures are in place to take care of various natural calamities and man-made disruptions. An appropriate Disaster Recovery site is identified to resume critical operations within the defined recovery time. The FMI also ensures online replication of data to ensure near-zero data loss. Further, adequate backups are taken on external media too, and also stored at an off-site location to ensure availability in the event of a disruption. The backups so taken are restored on a periodic basis. The BCP along with the DRP are also reviewed periodically and tested for any changes in the system or its operations. In a nutshell the BCP and the DRP ensure that the FMI can continue to meet agreed-upon service levels in the event of any disruption. The current DR Site is within the same seismic zone. The proposed new DR site is in a different seismic zone, thus having a distinct risk profile.

**KC 17.7** *An FMI should identify, monitor, and manage the risks that key participants, other FMIs, and service and utility providers might pose to its operations. In addition, an FMI should identify, monitor, and manage the risks its operations might pose to other FMIs.*

**Description**

As a part of the Risk Management activity, MCCIL identifies all direct and indirect threats and vulnerabilities from external or internal participants. Necessary treatment plans and controls are put in place to ensure service continuity and minimum impact from any external participants. The FMI has service level agreements in place for services outsourced. The SLAs are periodically monitored and the services are reviewed to ensure consistency in service offering. Further, being an ISO 9001:2008 organization, the FMI follows procedures for monitoring external service providers and obtains necessary reports or updates from time to time.

## **PRINCIPLE 18: ACCESS AND PARTICIPATION REQUIREMENTS**

***An FMI should have objective, risk-based, and publicly disclosed criteria for participation, which permit fair and open access.***

**KC 18.1** *An FMI should allow for fair and open access to its services, including by direct and, where relevant, indirect participants and other FMIs, based on reasonable risk-related participation requirements.*

### **Description**

Participation requirements are uniformly applicable to all applicants applying under a specified category. Access requirements in terms of Net worth and Deposit Structure, fees, etc as stipulated by the Regulator /Exchanges are well defined and transparently disseminated on the website [www.msei.in](http://www.msei.in). CCP has not defined any limit for the number of participants under each category.

**KC 18.2** *An FMI's participation requirements should be justified in terms of the safety and efficiency of the FMI and the markets it serves, be tailored to and commensurate with the FMI's specific risks, and be publicly disclosed. Subject to maintaining acceptable risk control standards, an FMI should endeavour to set requirements that have the least-restrictive impact on access that circumstances permit.*

**KC 18.3** *An FMI should monitor compliance with its participation requirements on an ongoing basis and have clearly defined and publicly disclosed procedures for facilitating the suspension and orderly exit of a participant that breaches, or no longer meets, the participation requirements.*

### **Description (18.2 & 18.3)**

MCCIL issues circular informing members about the compliance and margin requirements (prescribed by SEBI, Exchange and CCP), to submit their Internal Audit, Annual Returns, Half Yearly Net worth certificate of a yearly basis and ensures that the member maintains it. It monitors the positions and margins of the member on a daily basis and initiates necessary action in case of violation. Membership Oversight Committee is formed to monitor the activities of Membership Department comprising of Independent Directors which meets quarterly.

All classes of participants are not subject to the same access criteria. For different category the capital / net worth requirement are different. Additional deposits are to be maintained by Clearing Members who clears of other trading members. Such requirements vary depending on the number of trading members under such clearing members.

The access restrictions and requirements are reviewed quarterly by Membership Oversight Committee to ensure that they have the least restrictive access that circumstances permit, consistent with maintaining acceptable risk.

There are participation requirements that are not risk-based but required by law or regulation which includes the minimum liquid net worth/base minimum capital for various categories of participants. Eligibility of a participant is also defined under SEBI (Stock Brokers and Sub-brokers) Regulations 1992

FMI's procedures for managing the suspension and orderly exit of a participant is disclosed in the Chapter 5 of the rules of MCCIL which is made available in website [www.msei.in](http://www.msei.in) that can be accessed by all stakeholders.

## **PRINCIPLE 19: TIERED PARTICIPATION ARRANGEMENTS**

***A Financial Market Infrastructure (FMI) should identify, monitor, and manage the material risks to the FMI arising from tiered participation arrangements.***

**KC 19.1** *An FMI should ensure that its rules, procedures, and agreements allow it to gather basic information about indirect participation in order to identify, monitor, and manage any material risks to the FMI arising from such tiered participation arrangements.*

### **Description**

The direct participants of MCCIL (FMI or CC) are identified as Clearing Members (CMs). The indirect participants are Trading Members (TMs) registered with the exchange specified by the CC, namely MSEI. Information on indirect participants is gathered from the direct participants and the specified exchanges. All material information is gathered before introduction of the indirect participant to the system and any changes are obtained from exchange and direct participant on an on-going basis. CMs are responsible for settlement of all obligations arising out of transactions undertaken by the TMs. FMI's system captures the exposures at direct participant level, indirect participant level and at the level of their constituents. Based on the exposures, it evaluates risk and specifies the required collaterals to be collected from all its participants.

**KC 19.2** *An FMI should identify material dependencies between direct and indirect participants that might affect the FMI.*

### **Description**

One to one linkages between direct and indirect participants are identifiable, issues arising out of interdependencies like failure of indirect participants and consequential failure by direct participant can be identified and addressed.

**KC 19.3** *An FMI should identify indirect participants responsible for a significant proportion of transactions processed by the FMI and indirect participants whose transaction volumes or values are large relative to the capacity of the direct participants through which they access the FMI in order to manage the risks arising from these transactions.*

### **Description**

The FMI has identified (a) the proportion of activity that direct participants conduct on behalf of indirect participants in relation to the direct participants' capacity, (b) direct participants that act on behalf of a material number of indirect participants, (c) indirect participants responsible for a significant proportion of turnover in the system, and (d) indirect participants whose transaction volumes or values are large relative to the capacity of the direct participant through which they access the FMI to manage risks arising from these transactions. Exposures of indirect participants are required to be collateralised by respective direct participants with CC, direct participants are required to collect adequate risk collaterals from its affiliated indirect participants.

**KC 19.4** *An FMI should regularly review risks arising from tiered participation arrangements and should take mitigating action when appropriate.*

**Description**

CC conducts periodic stress tests to assess the adequacy of its risk mitigation procedures. Exposures for such stress tests are considered on gross basis for CMs including exposures of all the TMs affiliated to it. Changes in procedures shall be considered in case inadequate coverage is observed during such tests.

## **PRINCIPLE 20: FMI LINKS**

**An FMI that establishes a link with one or more FMIs should identify, monitor, and manage link-related risks.**

***KC 20.1** Before entering into a link arrangement and on an ongoing basis once the link is established, an FMI should identify, monitor, and manage all potential sources of risk arising from the link arrangement. Link arrangements should be designed such that each FMI is able to observe the other principles in this report.*

### **Description**

MCCIL had operationalized its links with the CSDs (i.e. National Securities Depository Limited (NSDL) and Central Depository Services Limited (CDSL) as part of the launch of Equity Cash Market Segment in February 2013. Such arrangements are mandatory as per the extant regulatory requirements and legal agreements are executed between the Clearing Corporation & CDS, clearly explaining the terms and conditions including the rights and obligations of both the parties.

Internal controls and periodical audits are mandatory under these agreements and adequate systems, checks and controls are in place to effectively mitigate risk arising out of the links between the Clearing Corporation and the CSDs.

***KC 20.2** A link should have a well-founded legal basis, in all relevant jurisdictions, that supports its design and provides adequate protection to the FMIs involved in the link.*

### **Description**

Legal agreements are executed between the Clearing Corporation & CDS, clearly explaining the terms and conditions including the rights and obligations of both the parties. Internal controls and periodical audits are mandatory under these agreements and adequate systems, checks and controls are in place to effectively mitigate risk arising out of the links between the Clearing Corporation and the CSDs. Aforesaid agreements are executed under Indian Laws/jurisdiction.

***KC 20.3** Linked CSDs should measure, monitor, and manage the credit and liquidity risks arising from each other. Any credit extensions between CSDs should be covered fully with high-quality collateral and be subject to limits.*

### **Description**

There are no credit exposures arising out of the link between MCCIL and the depositories.

***KC 20.4** Provisional transfers of securities between linked CSDs should be prohibited or, at a minimum, the retransfer of provisionally transferred securities should be prohibited prior to the transfer becoming final.*

### **Description**

Not applicable to MCCIL as a CCP.

**KC 20.5** An investor CSD should only establish a link with an issuer CSD if the arrangement provides a high level of protection for the rights of the investor CSD's participants.

**Description**

Not applicable to MCCIL as a CCP.

**KC 20.6** An investor CSD that uses an intermediary to operate a link with an issuer CSD should measure, monitor, and manage the additional risks (including custody, credit, legal, and operational risks) arising from the use of the intermediary.

**Description**

Not applicable to MCCIL as a CCP.

**KC 20.7** Before entering into a link with another CCP, a CCP should identify and manage the potential spill-over effects from the default of the linked CCP. If a link has three or more CCPs, each CCP should identify, assess, and manage the risks of the collective link arrangement.

**Description**

Not applicable to MCCIL as it has no link with other CCP.

**KC 20.8** Each CCP in a CCP link arrangement should be able to cover, at least on a daily basis, its current and potential future exposures to the linked CCP and its participants, if any, fully with a high degree of confidence without reducing the CCP's ability to fulfil its obligations to its own participants at any time.

**Description**

Not applicable to MCCIL as it has no link with other CCP.

**KC 20.9** A TR should carefully assess the additional operational risks related to its links to ensure the scalability and reliability of IT and related resources.

**Description**

Not applicable to MCCIL as a CCP.

## **PRINCIPLE 21: EFFICIENCY AND EFFECTIVENESS**

***An FMI should be efficient and effective in meeting the requirements of its participants and the markets it serves.***

**KC 21.1** *An FMI should be designed to meet the needs of its participants and the markets it serves, in particular, with regard to choice of a clearing and settlement arrangement; operating structure; scope of products cleared, settled, or recorded; and use of technology and procedures.*

### **Description**

The FMI's design including clearing and settlement arrangement of the FMI is implemented based around the regulatory guidelines for clearing and settlement activities.

It is given to understand that the FMI takes feedback from the participants to assess their satisfaction levels as well as inputs for improvement in services.

**KC 21.2** *An FMI should have clearly defined goals and objectives that are measurable and achievable, such as in the areas of minimum service levels, risk-management expectations, and business priorities.*

### **Description**

MCCIL has identified certain goals and objectives to ensure effectiveness of its operations. These objectives are -

- Ensure Robust risk management system to protect assets of the clearing members
- Adherence to the schedule for completion of settlements and other clearing activities
- Ensure satisfaction of clearing members.

Further, MCCIL has also implemented a mechanism for periodic assessment and annual member feedback to determine realisation of the above goals.

**KC 21.3** *An FMI should have established mechanisms for the regular review of its efficiency and effectiveness.*

### **Description**

MCCIL has highlighted that all activities of MCCIL that are critical for achievement of the abovementioned objectives are monitored on a continuous basis through internal standards, checklists. Further the achievements of defined objectives are measured periodically, at least two times in a year as part of the ISO compliance program and member feedback is obtained on a yearly basis.

## **PRINCIPLE 22: COMMUNICATION PROCEDURES AND STANDARDS**

**An FMI should use, or at a minimum accommodate, relevant internationally accepted communication procedures and standards in order to facilitate efficient payment, clearing, settlement, and recording.**

**KC 22.1** An FMI should use, or at a minimum accommodate, internationally accepted communication procedures and standards.

### ***Description***

MCCIL uses generally accepted principles of communication protocols that include entity authentication, communication encryption and message compression. All interfaces are file based with a structured messaging system that is interpreted by the corresponding receiving system.

The messaging structures are proprietary in nature. The 'source entities' and the 'target entities' have certain pre-determined protocols/ interfaces that needs to be adhered to. MCCIL uses communications standard that are part of internationally accepted communications standard.

## **PRINCIPLE 23: DISCLOSURE OF RULES, KEY PROCEDURES, AND MARKET DATA**

***An FMI should have clear and comprehensive rules and procedures and should provide sufficient information to enable participants to have an accurate understanding of the risks, fees, and other material costs they incur by participating in the FMI. All relevant rules and key procedures should be publicly disclosed.***

**KC 23.1** *An FMI should adopt clear and comprehensive rules and procedures that are fully disclosed to participants. Relevant rules and key procedures should also be publicly disclosed.*

### **Description**

Rules, Regulations & Byelaws of the CC and the Circulars issued by the FMI from time to time in terms of the Rules, Regulations & Byelaws comprise the FMI's rules and procedures of routine as well as non-routine nature. These are made available in the FMI's website also. Circulars issued by CC are also sent to participant's designated email id.

**KC 23.2** *An FMI should disclose clear descriptions of the system's design and operations, as well as the FMI's and participants' rights and obligations, so that participants can assess the risks they would incur by participating in the FMI.*

### **Description**

Operation/User Manual and Technical documentation provided along with systems and interfaces of the FMI comprise information about the system's design and operations. The FMI's system's design and operations are disclosed to users of the interface, auditors and Regulators. Rules, Regulations & Byelaws and the Circulars issued by the FMI from time to time specify the rights, obligations, and risks associated with participation in the FMI. Further the undertaking to be submitted by the participants to the FMI, also covers these elements. The FMI disclose the degree of discretion it can exercise over the operation of the system by way of information displayed on its website.

**KC 23.3** *An FMI should provide all necessary and appropriate documentation and training to facilitate participants' understanding of the FMI's rules and procedures and the risks they face from participating in the FMI.*

### **Description**

Detailed compliance guidelines and timelines are made available to the participants on the website of FMI. There is a dedicated customer service desk to address any issues of the participants. The FMI provides additional clarification and training to its participants based on specific requests. All the participants are required to provide an undertaking to the FMI that they understand and shall abide by the Rules, Regulations & Byelaws and the Circulars issued by the FMI from time to time. In the event that the FMI identifies participants who demonstrate a lack of understanding, the FMI advises them on correct practices and provides additional clarification or training as may be needed by such participants.

**KC 23.4** *An FMI should publicly disclose its fees at the level of individual services it offers as well as its policies on any available discounts. The FMI should provide clear descriptions of priced services for comparability purposes.*

### **Description**

Applicable fees and material cost information is provided to its participants in the form of circulars which are also made available in the website. . Circulars regarding changes in fees and services are uploaded on the website and sent through email on the same day of issuance by FMI. The basis of the charges levied for the services provided is defined clearly for comparative analysis by participants. The FMI discloses information on its technology and communication procedure, through circulars.

**KC 23.5** *An FMI should complete regularly and disclose publicly responses to the CPSS-IOSCO Disclosure framework for financial market infrastructures. An FMI also should, at a minimum, disclose basic data on transaction volumes and values.*

**Description**

This is the second self-assessment based on CPSS-IOSCO Disclosure framework for FMIs in India. However, the FMI discloses basic data on transaction volumes and values on its website on daily basis. The FMI publishes its annual report and data on transaction volumes and values, settlement prices, margin rates, position limits and open interest on its website on daily basis website for public information. The FMI's website can be viewed in 13 different languages.