

Indian Clearing Corporation Limited



Reliability builds relationships

Qualitative Disclosure

Observance by
Indian Clearing Corporation Limited
of the CPMI-IOSCO Principles for Financial Market Infrastructures

2015

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Responding institution

Indian Clearing Corporation Limited (“ICCL”)

Jurisdiction(s) in which the FMI operates

India

Authorities regulating, supervising or overseeing the FMI

The Securities and Exchange Board of India (SEBI) and the Reserve Bank of India (“RBI”)(for select products)

The date of this disclosure is May 2015.

This disclosure can also be found at www.icclindia.com.

For further information, please contact Indian Clearing Corporation Limited, 25th Floor, PJ Towers, Dalal Street, Fort, Mumbai – 400 001.

All times are depicted in Indian Standard Time (“IST”)

List of Selected Abbreviations

Asset Management Company	AMC
Assets Under Management	AUM
BSE Ltd.	BSE
Business Continuity Plan	BCP
Central Counterparty / Clearing Corporation	CCP/CC
Central Depository Services Limited	CDSL
Central Securities Depositories	CSD
Clearing Member	CM
Closed User Group	CUG
Collateral Management Module	CLASS
Committee on Payments and Market Infrastructures	CPMI
Core Settlement Guarantee Fund	Core SGF
Delivery versus Payment 1	DvP1
Delivery versus Payment 3	DvP3
Disaster Recovery	DR
European Market Infrastructure Regulation	EMIR
European Securities and Markets Authority	ESMA
Exchange Traded Fund	ETF
Executive Management Committee	EMC
Extreme Loss Margin	ELM
Financial Market Infrastructure	FMI
Foreign Portfolio Investor	FPI
Indian Clearing Corporation Limited	ICCL
Indian Corporate Debt Market	ICDM

Indian Rupee	INR
Initial Margin	IM
International Organization for Standardization	ISO
International Organization of Securities Commissions	IOSCO
International Securities Identification Number	ISIN
Key Management Personnel	KMP
Minimum Required Corpus	MRC
National Securities Depository Limited	NSDL
Non-Conformities	NCs
Permanent Account Number	PAN
Principles for Financial Market Infrastructures	PFMI
Real Time Gross Settlement	RTGS
Real Time Risk Management System	RTRMS
Reserve Bank of India	RBI
Risk Management Committee	RMC
Securities Appellate Tribunal	SAT
Securities Contracts (Regulation) (Stock Exchanges and Clearing Corporation) Regulations, 2012	SECC Regulations, 2012
Securities Contracts Regulation Act, 1956	SCRA
Securities and Exchange Board of India	SEBI
Standard Operating Procedure	SOP
Stock Exchange	SE
Straight Through Processing	STP
Third Country Central Counterparty	TC-CCP
Terms Of Reference	ToR
Trading Member	TM
Unique Client Code	UCC



Value at Risk	VaR
Very Small Aperture Terminal	V-SAT

Executive Summary

About ICCL

ICCL was incorporated in 2007 as a wholly owned subsidiary of BSE. BSE is Asia's oldest SE with more than 5600 listed companies. ICCL carries out the functions of clearing, settlement, collateral management and risk management for various segments of BSE. ICCL is the only clearing corporation in India to have been granted "AAA" rating by two rating agencies, India Ratings Ltd. (Indian arm of Fitch Ratings) and Care Ratings Ltd. ICCL is regulated by the Indian Capital Market Regulator, SEBI and the Central Bank, RBI, for select products.

Novation

ICCL undertakes to act as the central counterparty to all the trades executed on the Equity Segment, Equity Derivatives Segment, Currency Derivatives Segment, Interest Rate Futures and New Debt Segment, and provides full novation, unless specified otherwise.

In essence, ICCL splits the original contract between the initiating counterparties into two new contracts; one each between ICCL and the initiating counterparties. The initiating parties are only exposed to ICCL and no longer face the other initiating party's credit risk. Elimination of counterparty risk is achieved through the process of novation and the interposition of ICCL as the common counterparty. Novation enables ICCL to be the universal counterparty to all contracts and allows greater flexibility and discretion in its clearing and settlement practices. ICCL has provisions in its Byelaws to, in its sole discretion, approve admission of deals or defer, or reject admission of deals for clearing and settlement on its platform, subject to such terms as it deems fit.

Trade Process



Collateral System

The Collateral System (“CLASS”), keeps track of the collateral deposited by the Clearing Members with ICCL on a real-time basis. CLASS maintains the utilised and un-utilised collateral for all members; asset-wise and instrument-wise, with valuation done after applying applicable haircut. The Collateral system is also made available to the members on a free-of-cost basis through which they can themselves add collateral, withdraw excess unutilised collateral or transfer the excess unutilised collateral to other segments.

Real-Time Risk Management System

ICCL employs a robust real-time risk management system in which the permissible exposure for a Clearing Member is based on the collateral deposited by the member with ICCL. The Real-time Risk Management System (“RTRMS”), accepts the trades from the trading engine on a real-time basis. RTRMS calculates the margin at client level, on a near real-time basis and blocks it in the collateral system CLASS. The RTRMS system is also made available to the members on a free-of-cost basis through which they can monitor their risk profile as well as the risk profile of their trading members and the clients. The RTRMS system also generates various alerts at different collateral utilization levels (70%, 80% and 90%) and disables the trading terminal of a member when the collateral utilization exceeds 100%.

Membership

ICCL ensures equal, unrestricted, transparent and fair access to all persons without any bias towards their associates and related entities. ICCL has established categories of admissible Clearing Members and admission criteria. The number of members in each category is updated monthly and made available on the ICCL website along with other details. The different categories of members, costs, fees, penalties, to be borne by members are also available on the website

Types of Membership



Types of Membership

Segment	Clearing member (₹ in Millions)		Self clearing member (₹ in Millions)	
	Networth	Deposit	Networth	Deposit
Equity Cash	N/A	N/A	3	1
Equity Derivatives	30	5	10	5
Currency Derivatives	100	5	50	5
Debt	30	Nil*	10	Nil*

* As may be specified by SEBI from time to time

Annual Charge of Fees

Segment	(₹ in Million)			
	SEBI		ICCL	
	Clearing member	Self clearing member	Clearing member	Self clearing member
Cash	Nil*	Nil*	Nil	Nil
Equity Derivatives	0.05	0.05	Nil	Nil
Currency Derivatives	0.05	0.05	Nil	Nil
Interest Rate Derivatives	0.05	0.05	Nil	Nil
Debt	0.05	0.05	Nil	Nil

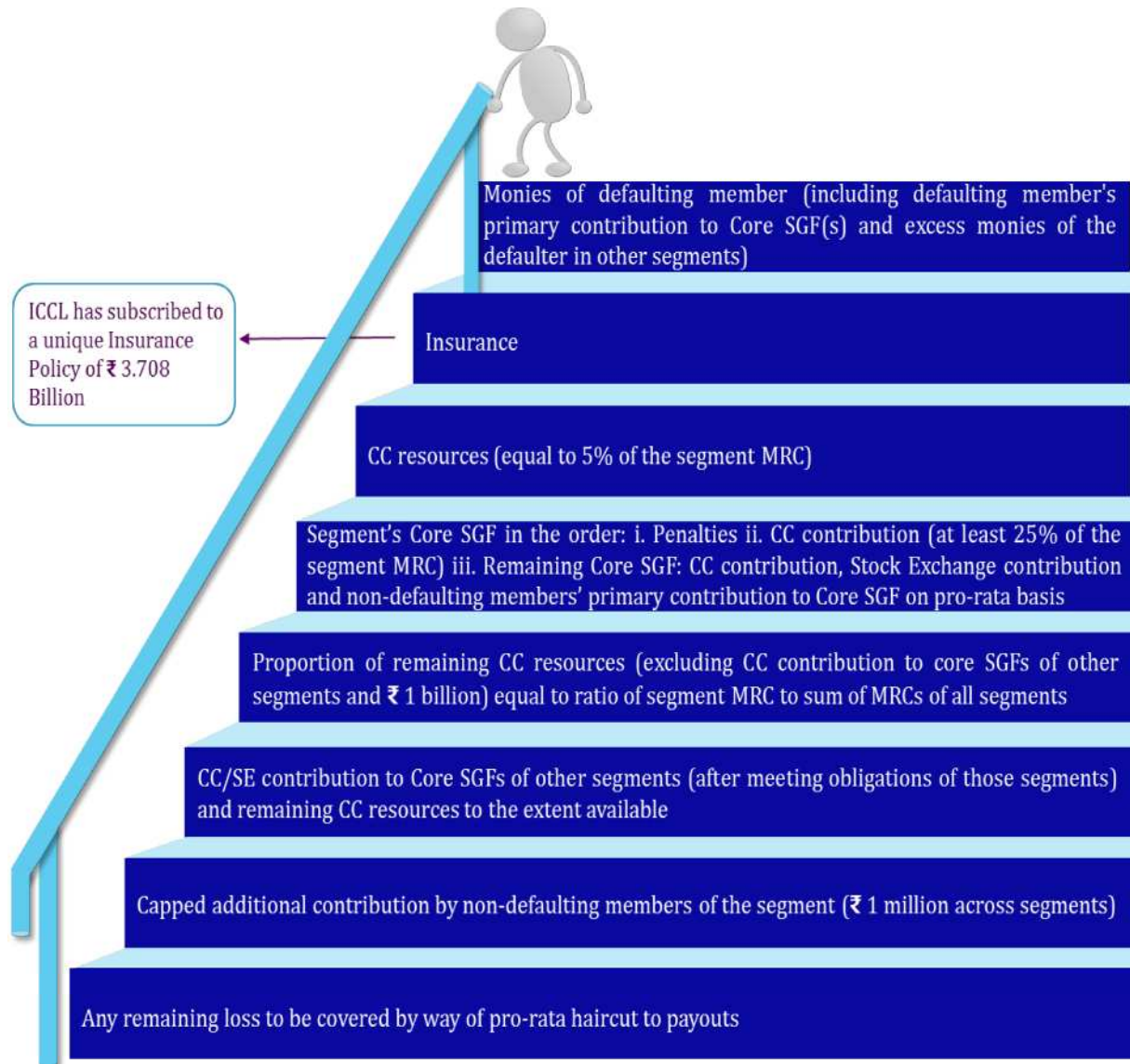
* As may be specified by SEBI from time to time

Risk Management

ICCL's primary objective is to manage risk. Default Risk, Legal Risk, Operational Risk, Technology Risk, Clearing Bank Risk, etc. are some of the risks that ICCL needs to deal with on an everyday basis. ICCL has a sound framework for the comprehensive management of all material risks, and established documented policies, procedures and systems and controls to identify measure, monitor and manage such risks.

- **Insurance:** ICCL has subscribed to a unique Insurance Policy for INR 3.708 billion (~USD 60 million). The objective of the Policy is to protect ICCL against counterparty defaults, and add a further capital cushion to the ICCL network making the resources of the non-defaulting members even safer.
- **Lines of Credit:** ICCL has dedicated lines of credit with multiple commercial banks; the aggregate of the credit lines being multiple times the average daily funds pay-out.
- **Risk Management Committee** consisting of Independent Directors and Outside Experts.
- **Foreign securities as Collateral:** Acceptance of "AAA" rated foreign government securities as collateral.
- **Business Continuity:** BCP plan for systems as well as manpower in place and a far DR, situated in a different seismic zone.
- ICCL has created a dedicated Default Fund (called **Core SGF**), which is readily and unconditionally available to meet settlement obligations of ICCL in case of clearing member(s) failing to honour settlement obligation.
- ICCL maintains a dedicated Default Waterfall for each segment, effectively ring fencing each segment of ICCL from defaults in other segments.
- **Stress Test:** ICCL carries out daily stress tests for credit risk, daily liquidity stress test to assess the adequacy of liquidity arrangements, periodic reverse stress tests and daily back tests for adequacy of margins.
- **Limited Liability:** Limited liability for non-defaulting members is subject to a maximum cap of ₹ 1 million.
- **Exposure towards CCP:** ICCL has decided to currently keep the Clearing Members' contribution to Default Fund as "NIL."
- **Recovery & Resolution:** ₹ 1 Billion is kept separately for covering operational cost for 1 year, legal cost, regulatory cost, and other liabilities.
- The policy on composition and contributions to be made to the Core SGF, investment policy for Core SGF and the Default Waterfall for each segment along with the quantum of resources available in each layer of default waterfall are published on the website.

ICCL's Default Waterfall



Minimum Required Corpus ("MRC") for a month is the minimum Default Fund size based on daily stress testing.

Margins

Initial Margin / VaR (Value at Risk) Margin

Initial Margin / VaR (Value at Risk) Margin		
Value at risk margins - intended to cover potential losses for 99% of the days		
Equity Cash	Liquid stocks - VaR margin covers one-day losses, based on σ of stock Illiquid stocks - VaR margin covers three-day losses for which a scaling factor of square root of three is applied, based on σ of stock and σ of market index	The scenario contract values are updated 5 times in the day, which are carried out by taking the closing price of the previous day at the start of trading and the prices at 11:00 a.m., 12:30 p.m., 2:00 p.m. and at the end of the trading session
Equity Derivatives	Computation done by SPAN® and based on worst scenario loss of a portfolio of an individual client to cover 99% value at risk over one day horizon across various scenarios of price changes and volatility shifts	
Currency Derivatives	Computation done by SPAN® and based on worst scenario loss of a portfolio of an individual client to cover 99% value at risk over one day horizon across various scenarios of price changes and volatility shifts	
Mutual Fund	N/A	
Securities Lending & Borrowing	Applicable on both legs of SLB Transaction	
Indian Corporate Debt Market	N/A	
Offer for Sale	N/A	

MTM (Mark to Market margin)

MTM (Mark to Market margin)	
Mark to market losses on outstanding positions of the member	
Equity Cash	MTM margin are computed at end of T day on the basis of closing price of T day, and on T+1 day MTM of T day' s traded position is recomputed on the basis T+1 day' s closing price; The client-wise margins would be grossed across various clients at the Trading / Clearing Member level; The proprietary positions of the Trading / Clearing Member would be treated as that of a client
Equity Derivatives	
Currency Derivatives	
Mutual Fund	N/A
Securities Lending & Borrowing	Applicable on both legs of SLB Transaction
Indian Corporate Debt Market	N/A
Offer for Sale	N/A

Extreme Loss Margin (“ELM”) / Exposure Margin

ELM (Extreme Loss Margin) / Exposure Margin	
Margins to cover the expected tail loss in situations that lie outside the coverage of the Initial margins	
Equity Cash	ELM for any stock is higher of : 5%, and 1.5 times the standard deviation of daily logarithmic returns of the stock price in the last six months; ELM computation is done at the end of each month by taking the price data on a rolling basis for the past six months and the resulting value is made applicable for the next month
Equity Derivatives	For index futures contracts 3% of the notional value of the futures contract and in case of options it is charged on short positions @ 3% of the notional value of open positions; For individual stock futures contracts it is charged @ higher of 5% or 1.5 standard deviation of the notional value of gross open position in futures on individual securities; For individual stock options it is charged on open short position @ higher of 5% or 1.5 standard deviation of the notional value of the contract
Currency Derivatives	Extreme loss margin of 1% on the mark to market value of the gross open positions is deducted from the liquid assets of the clearing member on an on line, real time basis
Mutual Fund	N/A
Securities Lending & Borrowing	Applicable on both legs of SLB Transaction
Indian Corporate Debt Market	N/A
Offer for Sale	N/A

Calendar Spread Margin

Calendar Spread Margin	
A futures position at one maturity which is hedged by an offsetting position at a different maturity would be treated as a calendar spread	
Equity Cash	N/A
Equity Derivatives	The benefit for a calendar spread continues till expiry of the near month contract;
Currency Derivatives	For calendar spread positions in futures contract, exposure margins are levied on one third of the value of open position of the far month futures contract.
Mutual Fund	N/A
Securities Lending & Borrowing	N/A
Indian Corporate Debt Market	N/A
Offer for Sale	N/A

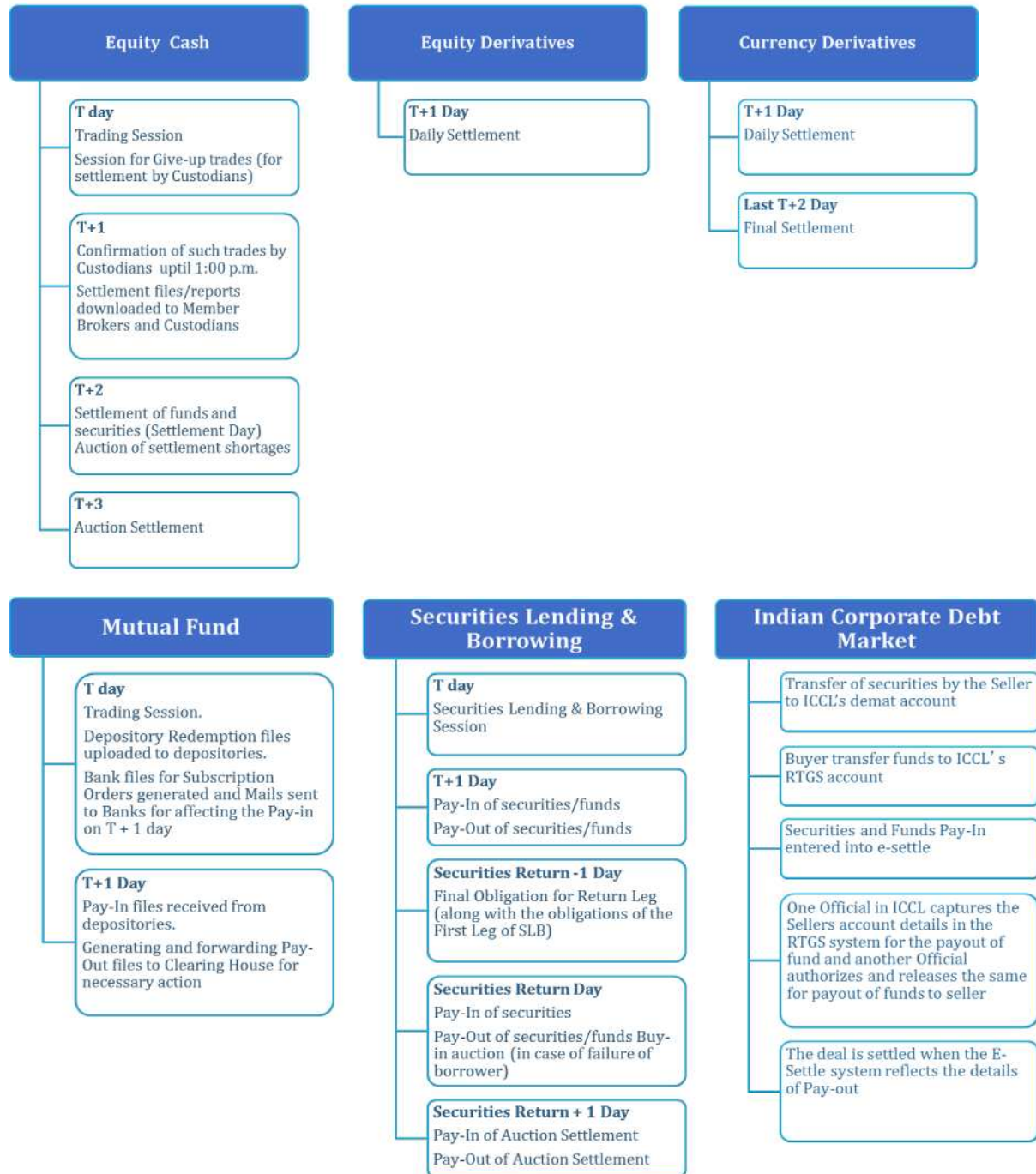
Cross-Margining

Cross Margining Benefits, to all categories of market participants, are available for the positions of clients in both the cash and derivative segments to the extent they offset each other as per the following priority:

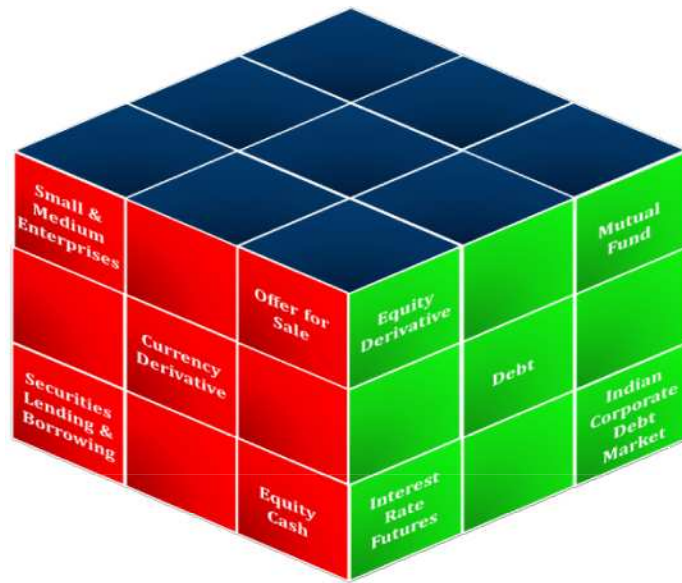
- Index futures position and constituent stock futures position in derivatives segment
- Index futures position in derivatives segment and constituent stock position in cash segment
- Stock futures position in derivatives segment and the position in the corresponding underlying in cash segment

The facility of cross margin benefits on off-setting positions is also available between S&P BSE SENSEX Futures and S&P BSE 100 Futures contracts traded on BSE Equity Derivatives Segment

Settlement schedules



Introduction to ICCL



Products

ICCL settles trades reported on the Indian Corporate Debt Segment and the Mutual Fund ("StAR MF") Segment of BSE and clears and settles trades executed on all the other segments of BSE, including Equity Cash, Equity Derivatives, BSE SME, Offer for Sale, Securities Lending & Borrowing, Debt Segment, Interest Rate Futures and the Currency Derivatives Segment.

Performance Statistics

Activities	Quarter Ended June 2014 (₹ in billion)	Quarter Ended September 2014 (₹ in billion)	Quarter Ended December 2014 (₹ in billion)	Quarter Ended March 2015 (₹ in billion)
Equity Cash				
Total Funds Settled	302.15	267.71	233.68	312.06
Total Value of Securities Settled	773.80	744.35	662.33	818.65
Total early Pay-in of Funds	238.87	205.89	207.96	239.81
Equity Derivatives				
Total Funds Settled	1.03	1.44	1.65	4.32
Currency Derivatives				
Funds Settled	1.11	1.89	3.59	4.71
Mutual Fund				
Total Subscription & Redemption	31.33	22.06	21.07	28.44
Indian Corporate Debt Market ("ICDM")				
Total settlement Value	664.15	649.99	489.61	640.59
Offer For Sale ("OFS")				
Total Funds Settled	2.01	10.05	9.67	84.02
Total Value of Securities Settled	2.01	10.05	9.67	84.02

Legal and Regulatory Framework

ICCL is regulated by the Indian Capital Market Regulator, SEBI and the Central Bank, RBI for select products. ICCL has been accorded QCCP status by SEBI. A QCCP member is subjected to lower capital requirements/charges under the Basel III Framework introduced by the Basel Committee on Banking Supervision. The capital requirements for Banks and Primary Dealers in India, for a QCCP like ICCL is subject to the Capital Adequacy Standards and Risk Management Guidelines for Standalone Primary Dealers as prescribed by RBI. ICCL, as a Qualified CCP, is additionally required to comply with the rules and regulations that are consistent with the PFMI issued by CPMI-IOSCO.

ICCL has applied to ESMA for recognition as a TC-CCP under EMIR.

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.

ICCL has qualified as a QCCP in view of the fact that it is regulated by SEBI under SEBI Act 1992, Securities Contract (Regulation) Act, 1956 (SCRA) and Rules and Regulations made there under. ICCL is also subjected, on an on-going basis, to Rules and Regulations that are consistent with the Principles for Financial Market Infrastructures (PFMIs) issued by the Committee on Payments and Market Infrastructures (CPMI) and International Organization of Securities Commissions (IOSCO).

Legal certainty to the said activities is derived from the Securities Contracts Regulation Act, 1956 (SCRA), Securities Contracts (Regulation) (Stock Exchanges and Clearing Corporation) Regulations, 2012 ("SECC Regulations, 2012) and Byelaws, Rules and Regulations of ICCL. The SCRA provides ICCL, the power to make Byelaws and Rules, which are applicable to all members of ICCL. The publication of the Byelaws and Rules of ICCL, in the Official Gazette provides a high degree of legal certainty for each of the material aspects of ICCL. Further, a high degree of legal certainty for each of the material aspect has been ascertained as the Byelaws and Rules have been upheld by the Hon'ble High Court and the Hon'ble Supreme Court on various occasions.

The jurisdiction with regards to each material aspect of the ICCL's activities lies with SEBI under SEBI Act, 1992 and regulations issued by SEBI and then with ICCL from time to time under their Byelaws, Rules and Regulations. The main laws, rules and regulations are as under:

- Section 8A of the Securities Contract (Regulation) Act, 1956
- SECC Regulations, 2012.
- SEBI Act, 1992
- The regulations, guidelines, etc. issued by SEBI
- The Byelaws, Rules and Regulations of ICCL

The material aspects of ICCL that require legal certainty are:

➤ **Novation arrangements**

ICCL has the legal basis for Novation. The Byelaws, Rules and Regulations guarantee the settlement of trades done on the trading system of the SE, ICCL acts. ICCL has a "Core SGF", the objects of the Fund shall be:

“to guarantee the settlement of trades executed in respective segment of the SE. In the event of a Clearing Member (member) failing to honor settlement commitments, the Core SGF shall be used to fulfil the obligations of that member and complete the settlement without affecting the normal settlement process.”

➤ **Netting and set-off arrangements;**

Clearing and settlement of deals in each Clearing Segment may be on netted basis or gross basis or trade-for-trade basis or any other basis as may be specified by the Relevant Authority from time to time. Settlement shall be effected by the CMs selling the securities by giving delivery and receiving payment and by the CMs buying securities by receiving securities and paying funds, as the case may be or as specified by the Relevant Authority from time to time.

➤ **Right of the Clearing Corporation in the collaterals deposited by the Participants**

Byelaw 8.5 of ICCL provides Lien on Margins. The cash or substitute thereof, paid or deposited by the CM as margin shall be subject to first and paramount lien for all sums due to ICCL. Margin shall be available in preference to all other claims against the CM for due fulfillment of his obligations and liabilities arising out of or incidental to any deals made subject to the Byelaws, Rules and Regulations of ICCL or anything done in pursuance thereof.

➤ **Risk management system including margin system**

The Byelaws, Rules and Regulations of ICCL and the regulatory specifications provide a sound legal basis for other aspects of ICCLs operations and risk management procedures.

➤ **Settlement finality (i.e. the point at which settlement of obligations becomes final); settlement of securities and funds; guarantee of settlement of trade finality**

As per Byelaw 7.5 of ICCL all the dealings in the securities on ICCL will be inviolable and shall be cleared and settled in accordance with the Byelaws and Regulations of ICCL. The said Byelaw also provides for circumstances under which ICCL can annul deal(s).

➤ **Default Procedure**

Default procedures are well defined in the Byelaws, Rules and Regulations. ICCL byelaws clearly state circumstances under which the participant is declared as defaulter and accordingly ICCL declares the defaulter by direction/circular/notification by the relevant authority. In case default occurs, the Byelaws give authority to deal with the assets of defaulter available to ICCL. The Byelaws, Rules and Regulations of ICCL provide for prompt close out or to manage the positions of a defaulting participant and to apply the defaulting participants' collateral or other resources. Statutory protection of the assets available with ICCL in case of winding up, insolvency proceedings, sovereign dues of the members, etc. certainty while dealing with instances of default. Chapter 11 of the Byelaws of ICCL deals with the Default provisions.

➤ **Link arrangements**

ICCL does not have Link arrangements with any other CCP in India or abroad.

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

The rules, procedures and contracts are clearly and comprehensibly formulated. The same are required to be approved by the Board of Directors of ICCL and SEBI after following the procedure laid down in the SECC Regulations, 2012.

After the approval from SEBI, the Byelaws and Rules are published in the Official Gazette. ICCL makes provision in its rules for such revised guidelines as SEBI may prescribe from time to time. ICCL also consults SEBI on any proposed changes to the rules before they are made. SEBI has the authority to disallow, alter or supplement any changes proposed.

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

ICCL has applied to the ESMA for recognition as a TC-CCP in accordance with EMIR. ICCL evaluates its compliance with all relevant regulations on an ongoing basis.

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.

ICCL has a legal basis for the activities of the clearing corporation under the provisions of the SCRA and the SECC Regulations, 2012.

Further, under the powers vested to ICCL under the Byelaws, Rules and Regulations, the legal basis for various activities are further articulated by issuing circular/notice to the market participants from time to time.

ICCL also holds meetings with and makes presentations to market participants to provide further clarity on the legal basis. ICCL also publishes various white papers, press releases and other informational paraphernalia in order to educate the market participants.

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.

The regulatory framework within which ICCL functions provides certainty to its activities. ICCL presents its views in judicial forums in order to obtain judicial sanctity to ensure continued adherence by the market participants to the Byelaws, Rules, Regulations and Circulars.

The SECC Regulation, 2012 grants the power to make Byelaws to ICCL. As per SECC Regulations:

2. Bye-laws of a Clearing Corporation:-

A clearing corporation shall in terms of applicable provisions of section 9 of the SCRA and regulation 4 of SECC Regulations make bye-laws, providing inter alia for the following:-

- a) the timings for pay-in and pay-out of funds and securities;
- b) rules for clearing and settlement;
- c) risk management mechanism;
- d) process of netting, novation and guarantee for settlement of trades;
- e) norms for contribution into and utilisation of the Fund in terms of regulation 39 of SECC Regulations ;
- f) rights and obligations of the clearing members vis-à-vis the clearing corporation, other clearing members, the trading members and clients of such trading members;
- g) criteria for admission and regulation of clearing members;
- h) default handling mechanism;
- i) Committees as mentioned in para 7 of this circular.
- j) any other matter as may be specified by SEBI.

Byelaws, rules, etc. of stock exchanges and clearing corporation.

44. (1) A recognised stock exchange and recognised clearing corporation shall, with the previous approval of the Board, make Byelaws for the regulation of contracts and clearing and settlement, as the case may be, as per section 9 of the Act and these regulations.

(2) No memorandum of association, articles of association or any other constitution document, in so far as they relate to matters specified in section 3 of the Act or under these regulations and bye- laws of a recognised stock exchange or a recognized clearing corporation, shall be amended except with prior approval of the Board.

The Byelaws and Rules of ICCL are approved by SEBI. Any additional change or modification to such Byelaws and Rules require prior approval from SEBI. Therefore, the said Byelaws, Rules and Regulations have a legal status and hence there is a little chance that such Byelaws, Rules and Regulations would be voided, reversed or stayed. The same has been upheld to be statutory in nature by the Hon'ble SAT, the Hon'ble High Court and the Hon'ble Supreme Court. Further, ICCL only operates in India and therefore enforceability of its Byelaws, Rules is restricted to India. In general, all contractual rights

and obligations between ICCL and its participants are expressly stated to be under Indian law.

ICCL practices analysis of all laws, rules and regulations applicable and writes to its regulator, SEBI, providing an analysis of conflicting provisions and legal opinion (if applicable).

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.

ICCL acts as a CCP for trades executed in Indian jurisdiction and doesn't operate in other jurisdictions. Thus the issue pertaining to conflict of laws due to conducting business in multiple jurisdictions 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.

The objectives of ICCL has been clearly provided in the Memorandum of Association of ICCL. The Main Object Clause of the Memorandum states that the objective is to facilitate, set up and carry on the business of clearing and settlement of transactions in various securities. ICCL's objective is to provide robust Clearing and Settlement Services and act as a CCP for providing settlement guarantee for various segments of different SEs as per prevalent Laws, Regulatory Guidelines and Byelaws, Rules and Regulations of ICCL.

ICCL's performance in meeting its objectives is assessed on the basis of its internal assessment of various systems and processes and also through feedback / observations of its participants on a periodic basis. ICCL provide an efficient and safe Clearing and Settlement Systems including settlement guarantee to enhance the confidence of market participants in the overall securities market Settlement System. Financial stability is maintained by strict adherence to various settlement activities, timely completion of settlements, settlement guarantee, comprehensive risk management framework, constant upgradation of technology, etc., by ICCL.

ICCL's dictum is Reliability builds Relationships and ICCL strives to uphold the confidence and integrity of the financial markets by aligning its systems with the industry's best-practices.

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.

ICCL has governance arrangements which are clearly specified and well-documented.

ICCL's governance arrangements include:

- the composition, role and responsibilities of the Board and all committees;

- the roles and responsibilities of the management;
- the senior management structure;
- the reporting lines between the senior management and the Board;
- the procedures for the appointment of Board members and senior management;
- the design of the risk management, compliance and internal control functions;
- the processes for ensuring accountability to stakeholders.
- the policies and processes to identify and address conflict of interest

The Chairman of the Board is appointed from amongst the Public Interest directors and all Board appointments, appointment of MD&CEO and the appointment of the Chairman of the Board are made with the prior approval of SEBI. The Board formulates or approves policy and oversees and directs the overall management of ICCL's business by its officers/management team. The Board, from time to time, delegates suitable authority to the ICCL officers/management team or to others to act on behalf of ICCL. Further governance arrangements are clearly articulated in the Articles of Association of ICCL and in Chapter II of the Rules of ICCL.

The MD & CEO is responsible for the overall functioning of ICCL. There are various departments with respective heads to handle various key functions namely operations, risk management, compliance, finance and accounts, secretarial etc. The accountability of ICCL is provided as far as owners are concerned through submission of the annual reports under the provisions of Companies Act, 1956, the Clause 49 of the Listing Agreement and by seeking their approval on the resolution proposed by ICCL. As far as participants and other stakeholders are concerned, accountability is provided by acting in accordance with framework laid down by SEBI, its Byelaws, Rules, Regulations and periodical dissemination of information.

The Articles of the Association of ICCL are available in public domain and the same are also available with the Registrar of Companies. Further, Chapter II of the Rules of ICCL dealing with governance arrangements. All the rules, regulations, byelaws, circulars, notifications, etc. are displayed publicly on the website of ICCL. ICCL also sends various daily, weekly, monthly, quarterly, half-yearly and yearly reports to the market regulators.

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.

In the Articles of Association of ICCL, the roles and responsibilities of the Board of Directors are clearly stated. The Board of Directors need to adhere to the prescribed code of conduct and ethics as provided in the said Regulations. The procedures of the Board to

identify, address and manage member conflicts of interest are provided in the Articles of the Association i.e. Article 140 to Article 153. The applicable Code of Conduct for directors and KMPs is publicly displayed on the website.

Public Interest Directors Committee is one of the Oversight Committees constituted by ICCL. During their meetings, the Public Interest Directors review the following:

- Status of compliance with SEBI letters/ circulars
- Review the functioning of regulatory departments including the adequacy of resources dedicated to regulatory functions.
- The public interest directors prepare a report on the working of the other committees on which they are present in. The report is circulated to the other public interest directors.
- A consolidated report is then submitted to the Governing Board of ICCL
- The public interest directors identify important issues which may involve conflict of interest for ICCL or may have significant impact on the market and report the same to SEBI.

SECC Regulations 2012, PART – A, [Regulation 26(1)]

i. Meetings and minutes.

Every director of the recognised stock exchange and recognised Clearing Corporation shall:

- a. not participate in discussions on any subject matter in which any conflict of interest exists or arises, whether pecuniary or otherwise, and in such cases the same shall be disclosed and recorded in the minutes of the meeting;
- b. not encourage the circulation of agenda papers during the meeting, unless circumstances so require;
- c. offer their comments on the draft minutes and ensure that the same are incorporated in the final minutes;
- d. insist on the minutes of the previous meeting being placed for approval in subsequent meeting;
- e. endeavour to have the date of next meeting fixed at each governing Board meeting in consultation with other members of the governing Board;
- f. endeavour to ensure that in case all the items of the agenda of a meeting were not covered for want of time, the next meeting is held within fifteen days for considering the remaining items.

ii. Code of Conduct for the public interest directors.

In addition to the conditions stated in Para (i) above, public interest directors of the recognised SE or recognised CCP shall, endeavour to attend all the governing Board meetings and they shall be liable to vacate office if they remain absent for three

consecutive meetings of the governing Board or do not attend seventy five per cent of the total meetings of the governing Board in a calendar year.

Public interest directors shall meet separately, at least once in six months to exchange views on critical issues.

iii. Strategic planning.

Every director of the recognised stock exchange and recognised clearing corporation shall—

- a. participate in the formulation and execution of strategies in the best interest of the recognised stock exchange or recognised clearing corporation and contribute towards pro-active decision making at the governing Board level;
- b. give benefit of their experience and expertise to the recognised stock exchange or recognised Clearing Corporation and provide assistance in strategic planning and execution of decisions.

iv. Regulatory compliances.

Every director of the recognised stock exchange and recognised Clearing Corporation shall:

- a. endeavour to ensure that the recognised stock exchange or recognised clearing corporation abides by all the provisions of the SEBI Act, 1992, Securities Contracts (Regulation) Act, 1956, rules and regulations framed thereunder and the circulars, directions issued by the Board from time to time;
- b. endeavour compliance at all levels so that the regulatory system does not suffer any breaches;
- c. endeavour to ensure that the recognised stock exchange or recognised clearing corporation takes steps commensurate to honour the time limit stipulated by Board for corrective action;
- d. not support any decision in the meeting of the governing Board which may adversely affect the interest of investors and shall report forthwith any such decision to the Board.

v. General responsibility.

Every director of the recognised stock exchange and recognised Clearing Corporation shall:

- a. place priority for redressing investor grievances and encouraging fair trade practice so that the recognised stock exchange or recognised clearing corporation becomes an engine for the growth of the securities market;
- b. endeavour to analyse and administer the recognised stock exchange or recognised clearing corporation issues with professional competence, fairness, impartiality, efficiency and effectiveness;

- c. submit the necessary disclosures/statement of holdings/dealings in securities as required by the recognised stock exchange or recognised clearing corporation from time to time as per their Rules or Articles of Association;
- d. unless otherwise required by law, maintain confidentiality and shall not divulge/disclose any information obtained in the discharge of their duty and no such information shall be used for personal gains;
- e. maintain the highest standards of personal integrity, truthfulness, honesty and fortitude in discharge of their duties in order to inspire public confidence and shall not engage in acts discreditable to their responsibilities;
- f. perform their duties in an independent and objective manner and avoid activities that may impair, or may appear to impair, their independence or objectivity or official duties;
- g. perform their duties with a positive attitude and constructively support open communication, creativity, dedication, and compassion;
- h. Not engage in any act involving moral turpitude, dishonesty, fraud, deceit, or misrepresentation or any other act prejudicial to the administration of the recognised stock exchange or recognised Clearing Corporation.

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

ICCL Board Members are identified among persons of eminence, based on their track record, qualifications, integrity, expertise among other factors and are required to be approved by SEBI. The individual profiles of the Board of Directors are published on the website.

ICCL doesn't provide any incentives to the members of the Board for joining the Board and the Public interest directors are paid only sitting fees.

Chapter V of SECC Regulation, (June 2012) outlines a framework for the Governance of Stock Exchanges and Clearing Corporations

Composition of the governing board

23. (1) The governing board of every recognised stock exchange and recognised Clearing Corporation shall include:
- (a) shareholder directors;
 - (b) public interest directors; and,
 - (c) managing director

(4) The number of public interest directors of a recognised clearing corporation shall not be less than two-third, and shareholder directors shall not exceed one-third, of its governing board strength.

(5) The managing director shall be an ex-officio director on the governing board and shall not be included in either the category of public interest directors or shareholder directors.

(6) Any employee of a recognised stock exchange or recognised clearing corporation may be appointed on the governing board in addition to the managing director, and such director shall be deemed to be a shareholder director.

SECC Regulation (December 2012)

6.3.2 The stock exchange/ clearing corporation shall ensure that public interest directors are selected from diverse field of work. While deciding to propose a particular person as a public interest director, the stock exchange/ clearing corporation shall also take into account the following factors:

- a) Qualification in the area of law, finance, accounting, economics, management, administration or any other area relevant to the financial markets.
- b) At least one person may be inducted having experience and background in finance / accounts who may preferably be inducted in the audit committee.
- c) Persons currently holding positions of trust and responsibility in reputed organisations or person who have retired from such positions.
- d) Persons who are likely to have interested positions in commercial contracts and financial affairs of stock exchanges, may be excluded. Also, persons who are regular traders/speculators in the market or are director in the board of the promoter entity of the Stock Exchange or Clearing Corporation, shall be excluded.

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.

The MD & CEO is responsible for the overall functioning of ICCL. The KMPs – Chief Operating Officer, Chief Risk Officer, Chief Compliance Officer, Company Secretary, etc., handle various departments under them.

List of KMPs along with their area of responsibility is publicly displayed on the ICCL website. The roles and responsibilities of the KMPs are clearly defined and communicated to the KMPs and shared with the Regulators. The applicable Code of Conduct for directors and KMPs is publicly displayed on the website.

ICCL also has a Conflict Resolution Policy which identifies, monitors and resolves any potential conflicts that may arise.

ICCL's senior management is responsible for:

- ensuring consistency of ICCL's activities with the objectives and strategies determined by the board
- designing and establishing compliance and internal control procedures promoting the ICCL's objectives
- regularly reviewing and testing internal control procedures
- ensuring that sufficient resources are devoted to risk management and compliance
- the risk control process
- ensuring that risks posed to ICCL by its clearing and related activities are addressed

ICCL Board of Directors broadly set the roles and objectives of the senior management based on the guidelines set by SEBI. Educational qualification, relevant experience, skills, expertise and track record are the criteria for selecting senior management. ICCL ensures that senior management positions are filled by staff with the required skills necessary for the operation and risk management. The management performance is assessed on the basis of Key Result Areas assigned to them. The decision to remove the senior management, if necessary, is taken by the Managing Director and CEO or by the Board of Directors. The individual profiles of the Key Management Personnel are published on the website.

SECC Regulations 2012

Appointment of managing director.

25. (2) Every recognised stock exchange or recognised clearing corporation shall, subject to the guidelines issued by the Board from time to time, determine the qualification, manner of appointment, terms and conditions of appointment and other procedural formalities associated with the selection/ appointment of the managing director.

(4) The managing director of a recognised stock exchange or a recognised clearing corporation shall not—

- (a) be a shareholder or an associate of a shareholder of a recognised stock exchange or recognised clearing corporation or shareholder of an associate of a recognised stock exchange or recognised clearing corporation, as the case may be;
- (b) be a trading member or a clearing member, or his associate and agent, or shareholder of a trading member or clearing member or shareholder of an associate and agent of a trading member or a clearing member; or
- (c) hold any position concurrently in the subsidiary of a recognised stock exchange or a recognised clearing corporation, or in any other entity associated with a recognised stock exchange or a recognised clearing corporation

Companies Act 2013

203. (1) every company belonging to such class or classes of companies as may be prescribed shall have the following whole-time key managerial personnel,

- i) managing director, or Chief Executive Officer or manager and in their absence, a whole-time director;
- ii) company secretary; and
- iii) Chief Financial Officer

(2) Every whole-time key managerial personnel of a company shall be appointed by means of a resolution of the Board containing the terms and conditions of the appointment including the remuneration.

(3) A whole-time key managerial personnel shall not hold office in more than one company except in its subsidiary company at the same time

Provided that nothing contained in this sub-section shall disentitle a key managerial personnel from being a director of any company with the permission of the Board:

SEBI Circular No. CIR/MRD/DSA/33/2012 dated December 13, 2012

Norms for compensation policy:-

8.1 Regulation 27 of the SECC Regulations mandates that the compensation policy for key management personnel of stock exchange/ clearing corporation shall be in accordance with the norms specified by SEBI. The compensation norms, in this regard, shall be as follows:-

- a) The variable pay component will not exceed one-third of total pay.
- b) 50% of the variable pay will be paid on a deferred basis after three years.
- c) ESOPs and other equity linked instruments in the stock exchange/ clearing corporation will not form part of the compensation for the key management personnel.
- d) The compensation policy will have **malus** and **clawback** arrangements.

A malus arrangement permits the stock exchange/clearing corporation to prevent vesting of all or part of the amount of a deferred remuneration.

A clawback is a contractual agreement between the employee and the stock exchange/clearing corporation in which the employee agrees to return previously paid or vested remuneration to the stock exchange/clearing corporation under certain circumstances.

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.

ICCL has implemented a robust risk management framework which is published on its website and implemented through its Byelaws, Rules, Regulations, Circulars and notifications. ICCL has constituted a RMC to continuously review and monitor the risk management policy and its implementation.

ICCL has a Concurrent audit process, the results of which are presented to the Audit Committee and the Board of Directors. ICCL is also subject to Statutory Audit and Internal Audit conducted on a quarterly basis, the results of which are presented to the Audit Committee and the Board of Directors. ICCL also undergoes annual system audit, the results of which are shared with the Technical Committee and the Board of Directors of ICCL.

ICCL has a dedicated risk management function and a RMC comprising of Independent Directors and outside experts. The Chief Risk Officer has a dual reporting – to the MD&CEO as well as the RMC. The RMC reviews the entire risk management system of ICCL, including the margining framework.

ICCL has constituted a compensation committee comprising a majority of public interest directors and chaired by a public interest director. The compensation committee determines the compensation of KMP in terms of a compensation policy. The tenure of KMP, other than a director, is a fixed period, as decided by the compensation committee. The compensation of independent and other non-executive Board members is not linked to the business performance of the CCP.

The BCP and DR plans are approved by the Board and filed with SEBI. ICCL has an EMC which consists of functional heads of various functions of ICCL. The EMC is responsible for crisis management in times of any emergency.

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.

ICCL’s governing Board has constituted an advisory committee to advise the governing Board on non-regulatory and operational matters including product design, technology, charges and levies. This Committee comprises only of the members of ICCL, with the Chairman of the Governing Board as the Chairman of this Committee and the MD & CEO, a permanent invitee. The recommendations of the Advisory Committee are taken to the Board, and the recommendations, along with the Board decision are published on the website of ICCL. ICCL also takes feedback of the market participants while designing new products and systems. All major decisions impacting the market participants are published as circulars and notifications, while any amendments in the Byelaws are pre-published for comments from market participants, before the Byelaws are finally put in force.

The decisions made by the Board concerning the stake holders at large are informed through circulars and the decisions made by the Board concerning the public at large are informed through circulars/press releases and are made available on the website. ICCL ensures that the design, rules, overall strategy, and major decisions reflect appropriately the legitimate interests of its direct and indirect participants and other relevant stakeholders and clearly discloses the major decisions to relevant stakeholders.

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.

The major types of risk identified by ICCL are Legal Risk, Participant Exposure and Settlement Default Risk, Credit Risk, Liquidity Risk, Operational Risk, Custody and Investment Risk, etc. The risk management system adopted by ICCL has the following mechanism to identify, measure, monitor and manage the risks:

- Periodical Audits viz. System Audits, Collateral Audit, Accounts Audit, Statutory Audit, etc.
- Daily Stress Tests are conducted to assess the adequacy of the Core SGF.
- On-line/off-line surveillance is done to monitor risks associated with member's trading exposure.
- Clearing Bank's Net-worth is monitored on a periodic basis
- CM's Net-worth is monitored on a periodic basis
- Single bank exposure limits have been set and monitored in respect of collateral deposited by CMs in form of Bank Guarantees.

ICCL has a Concurrent audit process and is also subject to quarterly Statutory Audit and Internal Audit, the results of which are presented to the Audit Committee and the Board of Directors. ICCL also undergoes annual system audit, the results of which are shared with the Technical Committee and the Board of Directors of ICCL.

ICCL follows the Comprehensive Risk Management Framework prescribed by SEBI. ICCL has DR Sites and put in place BCP in order to mitigate operational risk. ICCL conducts Daily stress tests to assess the adequacy of Core SGF, daily liquidity stress test to assess the adequacy of liquidity arrangements, periodical reverse stress test and back test for adequacy of margin based on historical traded data. ICCL is also subject to periodical audits of various systems and processes to assess the effectiveness of risk-management policies, procedures, and systems.

ICCL has an independent risk function, headed by the Chief Regulatory Officer. The Chief Regulatory Officer is responsible for implementation of the risk management policy and reports independently to the MD & CEO and the RMC.

The RMC formulates a detailed risk management policy which shall be approved by the governing Board and monitors implementation of the risk management policy and keeps SEBI and the governing Board informed about its implementation and deviation, if any.

The Risk Management Function is separate from Business and Operations functions.

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.

ICCL waives off margin for early payments towards obligations. ICCL provides its members with the RTRMS terminal, free of cost, to monitor and manage their own risks and that of their constituents. The RTRMS terminal enables the member to track the collateral utilization on a real time basis, allows him to set limits for himself and his constituents and generate customized alerts for his own risk management needs.

For managing risks on an on-line real time basis, the trade files are provided online to the members for their back office process in order to manage the risks associated with the trading and exposure limits, their TMs and their clients. Also, when the trader/trader terminal limits are reached, the system generates the alerts and flashes on the screens of the CM/TMs. Besides this, various reports/ files are provided to the TMs to generate client-wise obligations and collateral utilization details. TM is required to provide daily reports to their clients pertaining to their collateral deposits lying with the TMs and utilization details of such collateral.

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.

ICCL has following risks as a result of interdependency.

- Risk of settlement delay
- Risk of settlement shortages
- Credit Risk from Clearing Banks and Banks issuing collaterals

Clearing Banks

ICCL has stringent criteria for selection of clearing banks. ICCL monitors net worth and key financial aspects of the concerned banks. ICCL ensures that only banks with requisite net worth and financial creditworthiness become eligible as clearing banks and there have been no instances of failure of banks in fulfilling their commitments.

Trading Venues

In India, only SEs, recognised, permitted and regulated by SEBI are allowed to be Trading Venues. ICCL acts as a CCP only to BSE, a SE recognised by SEBI. The SE are subject to extremely stringent risk management measures by SEBI which inter-alia include price bands, circuit filters, circuit breakers (market halts in case of extreme volatility), single order limits (INR 100 million per order), pre-trade risk measures for members with high collateral utilisation, DR and BCP requirements. The SEs also have trade annulment policies to protect the market against erroneous trades. ICCL also has provisions in its Byelaws to, in its sole discretion, approve admission of deals or defer, or reject admission of deals for clearing and settlement on ICCL, subject to such terms as it may deem fit.

Liquidity Providers

ICCL has Lines of Credit with various commercial banks, which are in excess of its average daily funds pay-out, to build redundancy in case of one or more banks being unable to provide the liquidity support. Some of the commercial banks are also empanelled as deposit based Clearing Banks.

Central Securities Depositories

The CSDs are also FMIs regulated by SEBI, and are subject to stringent risk management measures, as specified by SEBI, which inter-alia includes DR and BCP requirements. In India, there are two CSDs, who work on an inter-operable basis, ICCL has connected itself to both the depositories thus has an inbuilt redundancy against failure of one of the two CSDs.

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.

ICCL has adequate systems' capacity for on-line/real time risk management of trades cleared and settled and is supported by a suitable BCP including a DR site

ICCL conducts periodic audit of various systems and processes in order to identify various gaps in the systems and processes and to identify scenarios that may potentially prevent ICCL from being able to provide its critical operations and services.

All service providers to ICCL are bound by contractual agreements with the CCP. ICCL has ensured to manage the dependency towards any service provider and there are adequate service providers in India who would serve as replacement without adversely affecting

the ability of ICCL to act as a CCP. ICCL also retains the source code of the CCP softwares developed by third party vendors, and thus manages the risks pertaining to critical service providers.

ICCL has an EMC which consists of functional heads of various functions of ICCL. The EMC is responsible for crisis management in times of any emergency.

ICCL has its DR site fully equipped to handle DR as well as orderly wind-down situations. The DR site has equivalent capacity build for handling contingencies. The requisite data / messages are replicated to DR site systems seamlessly and are available as when required. ICCL performs all its activities from DR site once in a quarter as per the regulatory requirement. During such operations the Recovery Time Objective & Recovery Point Objective are monitored as defined by the regulator. The plans for the FMI's recovery and orderly wind-down are reviewed and updated on a quarterly basis.

ICCL maintains INR 1 Billion separately towards recovery and resolution for covering operational expenses, business risk, legal cost, regulatory cost, and other liabilities. ICCL holds capital, including retained earnings and reserves that is at all times at least equal to the sum of:

- Annual Gross Operational Expenses
ICCL has estimated a period of 18 months for the effective winding down or restructuring its activities
- The capital necessary to cover its overall operational and legal risks
Using the Basic Indicator Approach, the capital requirement for operational risk is equal to 15% of the relevant indicator. The relevant indicator is the average over three years of the sum of net interest income and net non-interest income.
- The capital necessary to cover its credit, counterparty and market risks
- Business Risk (50% of annual gross operational expenses)
ICCL estimate its business risk as 50% of the annual gross operational expense

As per the capital requirements specified by SEBI through SECC Regulations, ICCL must have a networth of INR 300 Crore.

As per the capital requirements specified by EU through EMIR, a CCP must have a permanent and available initial capital of at least EUR 7.5 million (~INR 50 Crore).

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.

Functionalities	
Real Time Risk Management System	☑
Risk Management at CM/TM/Client Level	☑
Settlement in Cash and / or Physical	☑



Creating a safer market where risks are managed more effectively



Inspiring trust through reliability



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.

ICCL has put in place a Comprehensive Risk Management Framework to manage the exposures of its participants. ICCL aims to effectively measure, monitor and manage its credit exposures to its participants and those arising from its payment, clearing and settlement processes. The members can avail trading limits only against collateral deposited by them with ICCL. ICCL has established and implemented policies to determine prudent haircuts to apply to the collateral value and concentration limits to apply to any single issuer. ICCL reviews the haircut and concentration limit policies periodically and whenever a material change occurs that affects ICCL's risk exposure.

ICCL's credit risk in clearing and settlement process arises out of its members and clearing banks. To mitigate the credit risk arising out of clearing banks, ICCL has prescribed stringent norms for eligibility to act as clearing bank. In case of immediate requirements of funds for completion of settlement process, ICCL has established lines of credit and overdraft facilities with 20 Clearing Banks to mitigate credit exposure risk from its participants which in the event of the sudden requirement can provide funds required to complete the settlement. The aggregate of the lines of credit ICCL has, with various commercial bank is more than the average funds pay-out obligations of ICCL.

For managing the credit risk, ICCL evaluates the historical data and other tests on the credit status from time to time. The existing process for management of credit risks from ICCL's payment, clearing, and settlement processes has been found to be robust over time. ICCL conducts daily stress testing for credit risk using at least the standardized stress testing methodology prescribed for each segment viz. equity, equity derivatives and currency derivatives. ICCL ensures that it maintains sufficient financial resources to cover a wide range of potential stress scenarios, which would potentially cause the largest aggregate credit exposure to ICCL in extreme but plausible market conditions. ICCL also continuously monitors the adequacy of such financial resources against the uncovered loss estimate by the various stress tests conducted by ICCL and takes the necessary steps to replenish the same in case of a shortfall.

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.

ICCL has identified the sources of credit risk as being default/delay by CMs in fulfilling their obligations and default/delay by Clearing Banks in facilitating funds pay-out.

Credit Risk due to current as well as potential future exposures to CMs include the risk that the CM will be unable to meet fully its financial obligations when due or at any time in the future for viz. default in paying their margins and settlement obligations, decline in

the value of the collateral. The credit exposure is determined on the basis of the historical data pertaining to settlement value over a period of time. Credit exposure is calculated daily. ICCL has also put in place a comprehensive risk management system to prevent risk concentration and to mark positions to market on a daily basis over and above other provisions relating to margins and collateral requirements of the participants.

As a Clearing Corporation which does settlement in commercial bank money, ICCL is also exposed to credit risk of such commercial banks acting in the capacity of clearing banks for:-

- Credit risk arising settlement obligation between the time funds pay-in is made by the CMs and the time the funds pay-out is made by ICCL
- Credit risk to the margins and cash collateral maintained by the CMs in ICCL account with clearing banks
- Default Fund contributions maintained in cash or bank deposits
- ICCL's own funds maintained in cash or bank deposits.

To limit such risks, ICCL monitors and manages its concentration towards its individual clearing banks.

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.

ICCL provides trading exposures to the members against collateral deposited by them with ICCL in all the segments. ICCL provides settlement guarantee for trades settled on DvP3 basis. In ICDM Segment, there is no settlement guarantee and ICCL has put in place a DvP1 settlement system.

ICCL has also established lines of credit and overdraft facilities with Clearing Banks which in the event of sudden requirement can provide funds required to complete the settlement. As per SEBI Circular CIR/MRD/DRMNP/25/2014, ICCL ensures that it maintains sufficient financial resources to cover a wide range of potential stress scenarios that would include, but are not limited to, the default of the two participants and their associates that would potentially cause the largest aggregate credit exposure to ICCL in extreme but plausible market conditions.

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.

ICCL's current and potential future exposures are fully covered by the collateral deposits & margins received from the participants, Core SGF and ICCL's own Net worth. ICCL has several Line of Credits, both collateralized & non-collateralized to cover such defaults and ensure smooth clearing & settlement in the event when the aforesaid financial resources are insufficient to cover the default by a participant. As per SEBI Circular CIR/MRD/DRMNP/25/2014, ICCL ensures that it maintains sufficient financial resources to cover a wide range of potential stress scenarios that would include, but are not limited to, the default of the two participants and their associates that would potentially cause the largest aggregate credit exposure to ICCL in extreme but plausible market conditions.

Eligible collateral including cash and cash equivalent component and non-cash equivalent component, concentration limits and haircuts are outlined in detail in Principle 5.

ICCL maintains a Core SGF for equity cash segment, equity derivative segment, currency derivatives segment and debt segment to guarantee the settlement of trades executed in the respective segment of BSE. In the event of a CM failing to honor settlement commitments, the Core SGF shall be used to fulfill the obligations of that member and complete the settlement without affecting the normal settlement process. The size of Core SGF is determined by carrying out daily stress tests taking into account scenarios for a variety of 'extreme but plausible market conditions' (in terms of both defaulters' positions and possible price changes in liquidation periods, including the risk that liquidating such positions could have an impact on the market). Such scenarios consider factors such as relevant peak historic price volatilities, shifts in other market factors such as price determinants and yield curves, multiple defaults over various time horizons and a spectrum of forward looking stress scenarios in a variety of extreme but plausible market conditions.

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.

ICCL conducts daily stress test to evaluate adequacy of its Core SGF. In case of sudden volatile market conditions additional tests are conducted to evaluate adequacy of margins and collateral. The result of such tests are shared with the internal authorities of ICCL and with SEBI, as required from time to time. ICCL has put in place a Comprehensive Risk Management Framework as stipulated by SEBI. The regulator has constituted a Risk Management Review Committee comprising SEBI officials, external members, representatives from the SE, ICCL. The committee regularly evaluates the risk management model.

ICCL effectively measures, monitors, and manages its credit exposures to its participants and those arising from its payment, clearing, and settlement processes by conducting daily stress tests for credit risk, liquidity stress test for adequacy of liquidity arrangements and back tests for adequacy of margins. ICCL periodically carries out reverse stress test and ensures that it maintains sufficient financial resources.

On at least a monthly basis, ICCL performs a comprehensive and thorough analysis of stress testing scenarios, models, and underlying parameters and assumptions used to ensure they are appropriate for determining ICCL's required level of default protection in light of current and evolving market conditions.

The results of tests and reviews conducted are monitored by the RMC of ICCL and the same is communicated for discussion and review by the Board of ICCL.

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

ICCL carries out daily stress testing for credit risk using at least the standardized stress testing methodology prescribed for each segment viz. equity, equity derivatives and currency derivatives by SEBI. Apart from the stress scenarios prescribed for cash market and derivatives market segments, ICCL also develop own scenarios for a variety of 'extreme but plausible market conditions' (in terms of both defaulters' positions and possible price changes in liquidation periods, including the risk that liquidating such positions could have an impact on the market) and carries out stress testing using self-developed scenarios. Such scenarios include relevant peak historic price volatilities, shifts in other market factors such as price determinants and yield curves, multiple defaults over various time horizons and a spectrum of forward looking stress scenarios in a variety of extreme but plausible market conditions.

Back testing of margins is also conducted by ICCL to evaluate adequacy of margins in various segments.

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.

ICCL has a well-defined default procedure which is also part of the Byelaws of the CCP. The default procedure, as part of the Byelaws is also approved by SEBI and carries legal certainty. Chapter XI on Default and Chapter XII on Settlement Guarantee Fund and Defaults Subsequent To Commencement of Operation of Settlement Guarantee Fund of the ICCL Byelaws address in detail rules and procedures for any credit losses ICCL may face as a result of any individual or combined default among its participants with respect to any of their obligations to the FMI.

ICCL maintains a dedicated Default Waterfall for each segment i.e. Equity Cash Segment, Equity Derivatives Segment, Currency Derivatives Segment and Debt Segment. The Default Waterfall is as follows:

1. Monies of defaulting member (including defaulting member's primary contribution to Core SGF(s) and excess monies of the defaulter in other segments)
2. Insurance
(ICCL has subscribed to a unique Insurance Policy of ₹ 3.708 Billion is applicable for the Equity Cash Segment, Equity Derivatives Segment, Currency Derivative Segment and Debt Segment)
3. ICCL resources (equal to 5% of the segment MRC)
4. Segment's Core SGF in the order:
 - i. Penalties
 - ii. ICCL's contribution (at least 25% of the segment MRC)
 - iii. Remaining Core SGF: ICCL contribution, SE contribution and non-defaulting members' primary contribution to Core SGF on pro-rata basis
5. Proportion of remaining ICCL resources (excluding ICCL contribution to core SGFs of other segments and ₹ 100 Crore) equal to ratio of segment MRC to sum of MRCs of all segments
6. ICCL/SE contribution to Core SGFs of other segments (after meeting obligations of those segments) and remaining ICCL resources to the extent available
7. Capped additional contribution by non-defaulting members of the segment (₹ 1 million across segments)
8. Any remaining loss to be covered by way of pro-rata haircut to pay-outs

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.

ICCL accepts high quality collateral, with low credit risk and high liquidity.

- The collateral should be legally enforceable
- The collateral should be liquid
- The collateral should be easily realisable in a timely manner

The requirements of acceptable collateral are based on the guidelines issued from time to time by the market regulator, SEBI. ICCL accept only those collateral which are specified by SEBI. The collateral deposited towards securities is evaluated on a daily basis based on the market rates and haircuts applicable.

ICCL has a real time module CLASS to manage collateral. The module has in built parameters to control, modify and monitor the collateral deposited by the CMs. The module also monitors the applicable acceptance criteria on a real time basis and does not give benefit for collateral deposited which is outside such applicable acceptance criteria.

ICCL accepts the following as collateral from its CMs

Eligible Collateral	
Cash & Cash Equivalent	Non-Cash Equivalent*
1. Cash	1. Liquid (Group-I) Equity Shares (as per the criteria for classification of scrips on the basis of liquidity). (Only A and B1 group securities forming part of Group I)
2. P1 (or P1+) rated Bank Guarantee ("BGs")	2. Mutual Funds (other than those listed under cash equivalent)
3. Bank Fixed Deposits Receipts ("FDRs")	3. Gold ETF
4. Units of liquid Mutual Fund (or) Govt. Sec. Mutual Fund (by whatever name called which invests in government securities)	4. AA (or higher) rated Corporate Bonds
5. Government Securities and T-Bills	
6. AAA rated Foreign Sovereign Securities	

* Non-Cash component may not exceed total of Cash Equivalent

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

ICCL evaluates the collateral deposited towards margins on a daily basis. The valuation of collateral is done as per the latest available market prices of the securities subject to prescribed haircut. ICCL applies adequate haircuts to reflect the potential for collateral's value to decline over the interval between their last revaluation and the time by which they can be liquidated, taking into account the liquidity risk that may follow the default of a market participant and the concentration risk on certain assets.

As per regulatory guidelines the haircuts are defined either in terms of percentage or based on margin rates, depending on the type of asset type. For equity shares and non-liquid Mutual Fund units based collateral, the haircuts are determined as per the VaR based rates. In case of liquid Mutual Fund units and Government Securities (Indian as well as AAA rated foreign) a fixed percentage hair-cut is applied. The haircuts are applied on a real time basis and ICCL conducts stress tests on a daily basis and submits the results of the stress tests to the regulator.

KC 5.3 In order to reduce the need for procyclical 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.

Haircut rates specified by ICCL, as per SEBI guidelines are stable and prudent. They are calibrated to cover extreme price movements observed during periods of stressed market conditions, thus averting the need for procyclical adjustments.

The haircuts are defined either in terms of percentage or based on VaR margin rates, depending on the type of asset. In case of collateral deposited in form of securities/other than liquid mutual fund units, the hair cut is based on the VaR which incorporates the variation in price movement over the specified period, thereby taking care of stressed market conditions.

Cash & Cash Equivalent	
Collateral	Haircut
Cash	No haircut
P1 (or P1+) rated Bank Guarantee (“BGs”)	No haircut
Bank Fixed Deposits Receipts (“FDRs”)	No haircut
Units of liquid Mutual Fund (or) Govt. Sec. Mutual Fund (by whatever name called which invests in government securities)	10%
Government Securities and T-Bills	10%
AAA rated Foreign Sovereign Securities	10%
Non- Cash Equivalent*	
Collateral	Haircut
Liquid (Group-I) Equity Shares (as per the criteria for classification of scrips on the basis of liquidity). (Only A and B1 group securities forming part of Group I)	VaR margin for the respective scrips
Mutual Funds (other than those listed under cash equivalent)	VaR
Gold ETF	VaR
AA (or higher) rated Corporate Bonds	10%

* Non-Cash component may not exceed total of Cash Equivalent

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

ICCL has established policies to ensure that the collateral remains sufficiently diversified to allow its liquidation within a defined holding period without a significant market

impact. ICCL has in-built checks in the system to monitor the concentration norms as defined by SEBI from time to time. ICCL has an exhaustive and well defined Investment Policy which lays down exposure limits to various asset classes as well entities (banks or other issuers. Based on the said exposure limits there are checks in the system to control concentration of the collateral holding to limit potential adverse effects at the time of liquidation. Factors such as the type of asset, net worth of the concerned bank or AUM in case of AMCs, credit ratings, economic sector, geographic region and activity of issuers, levels of credit risk of instruments and issuers, liquidity and daily and periodic price volatility of instruments etc. are considered while determining the concentration norms for different types of assets.

Cash & Cash Equivalent	
Collateral	Concentration Limit
Cash	No limit
P1 (or P1+) rated Bank Guarantee (“BGs”)	Limit on the Exchange's exposure to a single bank as stipulated by SEBI
Bank Fixed Deposits Receipts (“FDRs”)	No limit
Units of liquid Mutual Fund (or) Govt. Sec. Mutual Fund (by whatever name called which invests in government securities)	No limit
Government Securities and T-Bills	No limit
AAA rated Foreign Sovereign Securities	10% of cash component of liquid assets

Non- Cash Equivalent*	
Collateral	Concentration Limit
Liquid (Group-I) Equity Shares (as per the criteria for classification of scrips on the basis of liquidity). (Only A and B1 group securities forming part of Group I)	Limits specified for each scrip
Mutual Funds (other than those listed under cash equivalent)	Member wise and overall limits specified for each scheme
Gold ETF	No limit
AA (or higher) rated Corporate Bonds	Limits specified for each issue and total not to exceed 10% of the total liquid assets of the member

* Non-Cash component may not exceed total of Cash Equivalent

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

SEBI has prescribed the norms and types of cross border collateral which can be accepted by the FMI. FPIs may offer cash or foreign sovereign securities with AAA rating, as collateral to the recognized SEs for their transactions in the cash as well as derivative segment of the market. ICCL ensures that it accepts only those assets as collateral which are liquid and realisable in a timely manner. SEBI has prescribed the criteria to mitigate the risk, in respect of the types of collateral which can be accepted towards liquid assets. Through the tie up with global custodians for holding, valuation and liquidating the cross border collateral, if the need arises.

ICCL conducts legal due diligence to ensure that it meets the relevant foreign law requirements for perfecting its legal security interests over its cross-border collateral. This is necessary to ensure the enforceability of ICCLs collateral arrangements. Before accepting foreign sovereign securities as collateral, the CM enters into a written agreement with the FPI and also with ICCL, containing, *inter alia*, the following terms:

- In the event of any dispute regarding liquidation or return of the sovereign securities tendered as collateral, or any other incidental matter, the courts in India will have jurisdiction to decide such disputes. Alternatively, the agreement may contain an arbitration clause.

- The agreement also contains the right of ICCL as well as the CM to liquidate the sovereign securities tendered as collateral, in the event of default by CM or FPI, as the case may be.

ICCL takes adequate care to ensure that the sovereign securities accepted by it as margin are tendered under a mechanism which does not unduly hinder timely liquidation in the event of default by the CM. All of ICCL's cross-border collateral is held with custodian banks in ICCL's name. In this way, ICCL is recognised as the holder of the collateral and can give instructions for the use or liquidation of collateral as and when required.

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

CLASS is fully automated for evaluating the timely calculation and execution of margin calls, managing the margin call disputes, and the daily reporting of relevant margins. The regulatory framework including Byelaws, Rules and Regulations of ICCL and also various circulars issued by the ICCL provide for tracking the utilization of different types of collaterals.

The collateral management system of ICCL is parameterized to take care of the requisite changes needed for ongoing monitoring and management of same. Necessary changes are carried out in such module based on the regulatory, internal assessment and participant requirements. The collateral management system of ICCL is adequately staffed and automated to ensure smooth operations of the same during any time of market conditions.

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.

KC 6.1 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.

ICCL creates its margin system for various products based on the characteristics of each financial instrument it clears. ICCL has adopted models and parameters in setting its margin requirements that capture the risk characteristics of the products cleared and the market liquidity.

The risk containment measures employed at ICCL include capital adequacy requirements of members, monitoring of member performance and track record, stringent margin requirements, position limits based on collateral (liquid assets) deposited with CCP, online monitoring of member positions and automatic disablement from trading when limits are breached, etc.

The collateral (liquid Assets) deposits are taken from the members based on their exposure requirements. In case of Equity Cash Segment, VaR and ELM for non-institutional entities the margins are collected online on an upfront basis by adjusting against the collateral deposits of CMs lying with ICCL at the time of trade, while in case of institutional entities such margins are collected on T+1 day. In case of Derivatives Segment, the SPAN based margins as well as exposure margins are collected from all entities online on an upfront basis by adjusting against the collateral deposits of CMs lying with ICCL at the time of trade. Besides these, MTM margins are also collected at the end of day in case of Equity Cash Segment. Such margins are released to the TMs only on completion of the Pay-in. In case of Derivatives segment, the mark to market settlement is done on T+1 basis for futures, while mark to market Net Option Value is calculated on a daily basis for options.

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.

The trading system of BSE is connected to the ICCL's Risk Management system on an online real-time basis. The margins computed on the respective positions of members is on the basis of real-time trade data received directly from the trading system of the BSE.

For end of day mark to market margin, daily settlement price is used, which is arrived at using the trade data, in absence of which, a theoretical model is used.

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 subportfolio 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 practicable and prudent, limit the need for destabilising, procyclical changes.

ICCL follows in case of Equity Cash segment, the Comprehensive Risk Management System as prescribed by SEBI, which provides for the VaR margin model to cover the largest loss that can be encountered on 99% of the days (i.e. 99% VaR). Accordingly, based on the liquidity categorization of securities, the margin covers one-day losses for liquid stocks, while for illiquid stocks, it covers three-day losses so as to allow ICCL to liquidate the position over three days. As such, for illiquid stocks the margins are scaled up by a factor of square root of three. The margin model is based on the liquidity and impact cost which is calculated on the 15th of each month on a rolling basis considering the previous six months data.

In case of Derivatives Segment, the CCP uses SEBI prescribed portfolio based SPAN margining system. The SPAN model for portfolio based margining is used to take an integrated view of the risk involved in the portfolio of each individual client. The IM requirements are based on worst scenario loss of a portfolio of an individual client to cover 99% VaR over one day horizon across various scenarios of price changes and volatility shifts. Derivatives contracts are offered only on liquid, low impact cost scrips.

Based on the trading frequency and impact cost, the securities are classified into three groups. Accordingly margin are scaled up based on the liquidity and impact cost of the scrips. The margining system followed by ICCL takes into account volatility and liquidity while deciding the margin rates. Beside this, the system also imposes exposure based margins to cover additional risk.

KC 6.4 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.

In case of Equity Cash segment the variation margins are collected before commencement of next day's trading. In case of Derivative Segment, the variation margins are collected on T+1 day. The current exposure is measured on the basis of gross open unsettled positions at a client level. The VaR based / SPAN based margins in case of Equity Cash / Derivatives segment along with the exposure margins are collected upfront on an on-line real-time basis at the time of trade by adjusting against available collateral deposits of CMs. VaR/SPAN based margins rates are recomputed five times during the day on the basis of last traded price at specified time interval and are collected upfront on an on-line real-time basis by adjusting against available collateral deposits of CMs. Besides this, the FMI can also call for additional margins from CMs as and when required.

The Byelaws, Rules and Regulations of ICCL and circulars issued by ICCL provide and define the authority and operational capacity of the ICCL to make and complete intraday margin calls for IM and variation margins.

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.

ICCL's risk management system calculates margins on a portfolio basis. However, for ensuring a higher degree of risk management, ICCL doesn't provide cross-margining benefits by taking into consideration statistical correlations. Such cross-margining is provided only for portfolios in which the derivative and the underlying of the derivative form part of the portfolio or in case of positions in S&P BSE Sensex and S&P BSE 100 indices (the indices have a correlation of over 99%).

Cross Margining Benefits, to all categories of market participants, are available for the positions of clients in both the cash and derivative segments to the extent they offset each other as per the following priority:

- Index futures position and constituent stock futures position in derivatives segment
- Index futures position in derivatives segment and constituent stock position in cash segment
- Stock futures position in derivatives segment and the position in the corresponding underlying in cash segment

The facility of cross margin benefits on off-setting positions is also available between S&P BSE SENSEX Futures and S&P BSE 100 Futures contracts traded on BSE Equity Derivatives Segment.

ICCL provides cross margining benefits to the extent of 75% of the margin amount on the positions at a client level in both the Equity Cash and Equity Derivatives segments to the extent they offset each other as per the norms specified by SEBI and ICCL from time to time. A spread margin of 25% of the total applicable margin is levied on the eligible off-setting positions at a client level in both the Equity Cash and Equity Derivative Segments to the extent they offset each other as per the norms specified is levied. Cross margining benefit is computed at client level (under the same TM in both Equity cash and Equity Derivatives Segment) and provided to the TM/CM on an online-real time basis, as the case may be.

At present there is no cross margining arrangements across CCPs in India.

KC 6.6 A CCP should analyze and monitor its model performance and overall margin coverage by conducting rigorous daily back testing 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.

ICCL has developed own scenarios for a variety of 'extreme but plausible market conditions' (in terms of both defaulters' positions and possible price changes in liquidation periods, including the risk that liquidating such positions could have an impact on the market). Such scenarios also include relevant peak historic price volatilities, shifts in other market factors such as price determinants and yield curves, multiple defaults over various time horizons and a spectrum of forward looking stress scenarios in a variety of extreme but plausible market conditions.

ICCL conducts the stress test of its Core SGF as per the criteria prescribed by SEBI to ascertain adequacy of margins in the case of Equity Cash segment.

Back testing for adequacy of margins

ICCL conducts daily back testing of the margins collected vis-à-vis the actual price changes for the contracts being cleared and settled in every segment to assess appropriateness of its margining models.

Adequacy of financial resources

ICCL ensures that it maintains sufficient financial resources to cover a wide range of potential stress scenarios that include, but are not limited to, the default of the two

participants and their associates that would potentially cause the largest aggregate credit exposure to ICCL in extreme but plausible market conditions. Thus, CC shall continuously monitor the adequacy of financial resources (as available in its default waterfall) against the uncovered loss estimated by the various stress tests conducted by ICCL and take steps to beef up the same in case of shortfall.

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

In order to review and validate its margin system, ICCL conducts daily back testing of the margins collected vis-à-vis the actual price changes for the contracts being cleared and settled in every segment to assess appropriateness of its margining models. In the case of Currency derivatives Segment, ICCL conducts back testing of the margins collected vis-à-vis the margins computed on actual price changes for various currencies based on the criteria prescribed by SEBI.

On at least a monthly basis, ICCL performs a comprehensive and thorough analysis of stress testing scenarios, models, and underlying parameters and assumptions used to ensure they are appropriate for determining ICCL's required level of default protection in light of current and evolving market conditions.

ICCL performs 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 ICCL's participant's increases significantly. A full validation of ICCL's risk-management model is carried out at least annually. The results of tests carried out and reviews conducted are monitored by the RMC of ICCL and the same is communicated for discussion and review by the Board of ICCL.

The RMC of ICCL (comprising of Independent Directors and Prominent outside Experts) reviews and validates the risk management framework of ICCL, including its liquidity risk management frameworks, valuation models, correlation performance in relation to portfolio margining. The Chief Risk Officer identifies monitors and reports the risks to the Managing Director & CEO and the RMC.

The regulator has formed a committee to regularly review the Comprehensive Risk Management system. The review of the margin system is done by the Regulator / ICCL on a periodic basis. ICCL incorporates material revisions and adjustments of the margin methodology including parameters into its governance arrangement as per the directions of its regulator. Necessary system changes are done and thoroughly tested before implementing the revisions. Also, the participants are informed about the same through various circulars and other modes of communications.

The method and the results of the review and validation of the margining system are informed to the members through various circulars and other modes of communications.

The stress testing is conducted in line with the standards prescribed by SEBI, which is compliant with PFMI IOSCO and EMIR guidelines.

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.

ICCL has a robust liquidity risk management framework to identify measure and monitor its settlement and funding flows, including its use of intraday liquidity. ICCL measures, monitors, and manages its liquidity requirements and the adequacy of liquidity arrangements and resources through liquidity stress tests. ICCL's liquidity risk management framework ensure with a high level of confidence that the CCP is able to effect payment and settlement obligations as they fall due, in a timely manner, even under stress scenarios.

ICCL's liquidity needs pertaining to the Clearing & Settlement activity are in local currency (INR). The liquidity needs of the FMI are mainly related to fulfilment of shortfall in settlement that may arise due to delay/non-fulfilment of the obligations by its CMs. ICCL has prudent norms specifying the extent in absolute / percentage terms to which investments can be done. Also, overall exposure limits are fixed for each class of investments, institutions, schemes, etc. ICCL has also established lines of credit and other facilities with various commercial Banks which in the event of sudden requirement can provide funds required to complete the settlement.

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.

ICCL has monitoring tools to keep track of the settlement and funding flows. ICCL monitors on an intra-day, daily and historical basis, the following fund flows and requirements:-

- Funds pay-in obligations (Settlement) from members
- Funds pay-in obligations (mark-to-market margins) from members

- Funds pay-in obligations (part of collateral for IM and ELM) from members
- Funds pay-out obligations (Settlement) to members
- Funds pay-out obligations (mark-to-market margins) to members
- Funds pay-out obligations (release of excess collateral) to members

ICCL daily tests the adequacy of its liquidity arrangements in order to ensure that its liquid resources are adequate to meet simultaneous default of at least two CMs and their associates that would generate the largest aggregate liquidity obligation for ICCL in extreme but plausible market conditions.

ICCL has put in place the process of daily evaluation of funds requirements for settlement activity on the basis of various MIS reports. Accordingly, the funding statements are prepared and additional funds requirement, if any, are ascertained. These tools help in identifying the liquidity requirements for meeting any immediate needs of funds to complete the settlement process. Based on these tools ICCL decides about the funds movement across Clearing Banks and liquidation/deployment of investments, if required.

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.

ICCL clears and settles in Indian Currency only and hence ICCL's liquidity needs are in local currency (INR). ICCL has a well laid down treasury management policy to take care of the liquidity requirements pertaining to settlement of various segments of the ICCL. Further, ICCL has adequate line of credits from several banks to take care of sudden liquidity needs. ICCL after several years of operations covering various scenarios has arrived at its liquidity requirements and maintains the required liquidity accordingly. The ICCL's additional liquidity requirements are based on the daily and periodical evaluations. As ICCL's liquidity needs pertaining to the Clearing & Settlement activity are in local currency INR, ICCL is not directly exposed to currency risk.

ICCL ensures that it maintains sufficient liquid resources to manage liquidity risks from members, clearing banks and those generated by its investment policy. ICCL daily tests the adequacy of its liquidity arrangements in order to ensure that its liquid resources are adequate to meet simultaneous default of at least two CMs and their associates that would generate the largest aggregate liquidity obligation for ICCL in extreme but plausible market conditions and compares such obligation with the resources mentioned hereunder:

- a) Cash
- b) Committed lines of credit available to ICCL

The liquidity risk-management framework of ICCL is set up based on historical data and the existing Investment Policy which ensures adequate liquidity. ICCL periodically reviews its liquidity requirements and investment policy. ICCL has put in place the process of concurrent and periodical audit of its treasury operations conducted by external auditors. The observations/suggestions of such audits are placed before various committees and senior management. ICCL periodically conducts stress test and back testing of adequacy of its margins and collaterals as stipulated by SEBI.

The supporting rationales of ICCL are documented in its Investment Policy and the governance of its amount and form of total liquid resources are maintained on daily basis in its accounting records. A daily MIS is also circulated to the management.

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.

ICCL clears and settles in Indian Currency only and hence ICCL's liquidity needs are in local currency (INR). ICCL has a well laid down treasury management policy to take care of the liquidity requirements pertaining to settlement of various segments of the ICCL. Further, ICCL has adequate line of credits from several banks to take care of sudden liquidity needs. ICCL after several years of operations covering various scenarios has arrived at its liquidity requirements and maintains the required liquidity accordingly. The ICCL's additional liquidity requirements are based on the daily and periodical evaluations. As ICCL's liquidity needs pertaining to the Clearing & Settlement activity are in local currency INR, ICCL is not directly exposed to currency risk.

ICCL ensures that it maintains sufficient liquid resources to manage liquidity risks from members, clearing banks and those generated by its investment policy. ICCL daily tests the adequacy of its liquidity arrangements in order to ensure that its liquid resources are adequate to meet simultaneous default of at least two CMs and their associates that would

generate the largest aggregate liquidity obligation for ICCL in extreme but plausible market conditions and compares such obligation with the resources mentioned hereunder:

a) Cash

b) Committed lines of credit available to ICCL

The liquidity risk-management framework of ICCL is set up based on historical data and the existing Investment Policy which ensures adequate liquidity. ICCL periodically reviews its liquidity requirements and investment policy. ICCL has put in place the process of concurrent and periodical audit of its treasury operations conducted by external auditors. The observations/suggestions of such audits are placed before various committees and senior management. ICCL periodically conducts stress test and back testing of adequacy of its margins and collaterals as stipulated by SEBI.

The supporting rationales of ICCL are documented in its Investment Policy and the governance of its amount and form of total liquid resources are maintained on daily basis in its accounting records. A daily MIS is also circulated to the management.

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.

ICCL maintains liquid resources commensurate with its liquidity requirements, which are limited to:

- Cash deposited at the central bank;
- Cash invested in money market funds;
- Committed lines of credit with commercial banks;
- Highly marketable financial instruments which can demonstrably be converted into cash on a same-day basis including in stressed market conditions.

ICCL's liquidity needs pertaining to the Clearing & Settlement activity are in local currency INR. ICCL's liquid resources are mainly done in Time Deposits, AAA rated bonds and in Debt Schemes of Mutual Funds, which are highly liquid. ICCL's determined

reliability of its prearranged funding arrangements on the basis of past experience and the adequate lines of credit from several banks and also from the additional clean line of credits from certain banks. In case of extreme plausible market conditions, ICCL can immediately utilize its collateralized and clean line of credits from certain banks and the same will be replenished by liquidating the liquid and collateral resources. ICCL has adequate collateralized and clean line of credits from some of its designated Clearing banks.

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.

Availability of supplemental liquidity resources

Besides cash, bank deposits, bank guarantees and government securities, ICCL accepts collateral in listed securities which can be liquidated on any of the SEs platform.

ICCL's Existing size of the liquid resources are adequate to meet its liquidity requirements for completion of settlement. ICCL's liquidity needs pertaining to the Clearing & Settlement activity are in local currency INR. ICCL has adequate lines of credit from several banks and also the additional clean line of credits from certain banks. ICCL's liquid resources are mainly done in Time Deposits, AAA rated bonds and in Debt Schemes of Mutual Funds, which are highly liquid.

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.

ICCL has committed lines of credit from a number of commercial banks who are financially sound. The banks which provide the committed bank credit lines are established global banks or strong local banks. They are licensed and regulated by RBI.

ICCL's minimum required qualifying liquid resources major providers are Schedule Commercial Banks, Mutual Funds, Money Market Instruments (AAA rated), liquid collateral deposited by the CMs. ICCL on an ongoing basis determines the liquidity requirements based on the historical data and also on the basis of prescribed investment criteria.

The investments made in liquid resources are based on FMI Investment Policy which is periodically reviewed by the Investment Committee and duly approved by its Audit Committee and the Board of Directors. The Investment Policy specifies the quality as well as exposure limits for each type of the qualified liquid resources. At the time of Investment, ICCL carries out due diligence of the liquidity providers potential based on its detailed Investment Policy. The treasury operations of ICCL are monitored periodically and systematically by its Investment Committee, Audit Committee & Board. ICCL employs some of its credit lines with Banks to test the operational effectiveness of its credit lines.

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.

ICCL meets most of its liquidity requirements either through its internal accruals or through dedicated lines of credit with various commercial clearing banks. The FMI does not have any direct liquidity arrangements with its Central Bank i.e. the RBI. ICCL uses services provided by certain designated banks which have liquidity arrangements with the Central Bank.

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.

ICCL ensures that it maintains sufficient liquid resources to manage liquidity risks from members, clearing banks and those generated by its investment policy. ICCL daily tests the adequacy of its liquidity arrangements in order to ensure that its liquid resources are adequate to meet simultaneous default of at least two CMs and their associates that would generate the largest aggregate liquidity obligation for ICCL in extreme but plausible market conditions and compares such obligation with the resources mentioned hereunder:

- a) Cash
- b) Committed lines of credit available to ICCL

The liquidity risk-management framework of ICCL is set up based on historical data and the existing Investment Policy which ensures adequate liquidity. ICCL periodically reviews its liquidity requirements and investment policy. ICCL has put in place the process of concurrent and periodical audit of its treasury operations conducted by external auditors. The observations/suggestions of such audits are placed before various committees and senior management. ICCL periodically conducts stress test and back testing of adequacy of its margins and collaterals as stipulated by SEBI.

The supporting rationales of ICCL are documented in its Investment Policy and the governance of its amount and form of total liquid resources are maintained on daily basis in its accounting records. A daily MIS is also circulated to the management.

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.

ICCL takes necessary actions as per as per its Byelaws, Rules, Regulations and circulars, to declare and effect multiple pay-outs, in course of normal business or due to exigencies, including but not limited to Banking holidays.

ICCL also takes necessary actions as per as per its Byelaws, Rules, Regulations and circulars with regard to withholding/ blocking/liquidating of all securities pay-out/ collateral and other deposits of such CMs lying with ICCL and if required may also use its own resources or its Core SGF to declare the pay-out in case of individual or combined default by CMs to settle their payment obligations.

Principle 8: Settlement finality

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

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

The main types of settlement are:

- Cash settlement is relevant for the payment of various margins, option premiums and required core SGF contributions
- Settlement for collateral placements and withdrawals
- Daily mark-to-market and final settlement of contracts

The norms regarding finality of transfer of funds and financial instruments are laid down in the Byelaws, Rules, Regulations, and circulars of ICCL as well as various laws governing transfer of funds / securities, risk management, defaults procedures and various other aspects of the settlement system. ICCL covers the procedural details in various circulars issued by it from time to time and the said information is available to all the market participants & public through website. ICCL uses an empanelled Clearing Bank for daily settlements.

Securities Contracts (Regulation) (Stock Exchanges and Clearing Corporations) (Amendment) Regulations, 2013 dated September 2, 2013

Settlement and netting.

1. 44 A. 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 Byelaws of such recognized stock exchange and recognized Clearing Corporation, with the prior approval of the SEBI.
2. Payment and settlement in respect of a transaction between parties referred to in sub-regulation (1), effected under the Byelaws 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 TM, CM or client towards its settlement or other obligations in accordance with the Byelaws of the recognized stock exchange or recognized clearing corporation shall take priority over any other liability of or claim against the said TM, CM 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.

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 Byelaws, Rules and Regulations of ICCL ensure that there is finality of settlement between the FMI and the participants including discharge of payment / transfer instructions.

The norms regarding finality of transfer of funds and financial instruments are laid down in Byelaws, Rules, Regulations and circulars of ICCL as well as various laws governing transfer of funds / securities, risk management, defaults procedures and various other aspects of the settlement system. ICCL covers the procedural details in various circulars issued by it from time to time and the said information is available to all the market participants & public through website.

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.

ICCL provides final settlement on the value date. ICCL has strict time lines for various settlement related activities. The participants are required to fulfill their settlement obligations as per the scheduled time-lines prescribed by the ICCL from time to time. The Depositories and Clearing Banks also need to adhere to the settlement time lines for completing their part of settlement activity. ICCL publishes the final settlement schedule date and time for Equity Cash Segment and Derivatives Segments on its website. The settlement occurs at the specified timings as published by ICCL, multiple-batch processing is done in case when there are more than one settlements in a day. The final settlement obligations are informed to the participants on the same day after the trading hours.

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.

ICCL does not permit revocation of settlement obligations by participants once a trade is admitted. However, ICCL Byelaws, Rules and Regulations provide for non-settlement/annulment of transactions subject to certain conditions.

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 risk 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.

ICCL carries out money settlement in the local currency (INR) for its settlement purpose for all segments except ICDM Segment which is a reporting platform, through designated Clearing Banks which are commercial banks. ICCL currently settles trades reported on its ICDM platform, using central bank money through a DvP1 system. In case of the Corporate Bonds Reporting Platform, ICCL carries out settlement through a current account opened with the Central Bank i.e. RBI where the participants have to transfer funds against their buy positions and ICCL releases such funds to the seller participant's bank account with a commercial bank after matching the funds and securities. ICCL is in discussion with the capital market regulator SEBI and the central bank RBI to permit it to make all its settlements in central bank money.

Currently, ICCL completes the money settlements for its other segments by using the commercial bank model. ICCL has empanelled 20 commercial banks as Clearing Banks for this purpose, as per ICCL's eligibility criteria. ICCL sends the pay-in and pay-out instructions to the Clearing Banks, subsequent to which the Clearing Banks bank will effect the payments.

ICCL has arranged for lines of credit with various banks for liquidity and operational reliability in times of stress. ICCL while empanelling Clearing Banks considers various factors such as the bank's net-worth, branch network, systems and processes, etc. The Clearing Banks are established organizations recognised and regulated by RBI that follow best accounting practices, safekeeping procedures and internal controls that fully protect the funds they hold.

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.

ICCL currently uses a Clearing Bank framework for carrying out its settlements, under which, ICCL empanels 20 banks as Clearing Banks for carrying out the money settlements. The Clearing Banks enter into an Agreement with ICCL and maintain a deposit with ICCL. The Settlement is carried out on a DvP3 basis.

ICCL only uses those Clearing Banks that satisfy the eligibility criteria specified by ICCL. ICCL has stipulated time lines for settlement activities, the members are required to arrange for the funds for meeting their funds obligations before the stipulated pay-in time. The Clearing banks confirm the completion of pay-in of the members to ICCL before the stipulated timelines. After matching the funds/securities pay-in, ICCL releases such funds/securities pay-out to the members' settlement accounts through their Clearing 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, capitalisation, 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.

ICCL currently uses a Clearing Bank framework for carrying out its settlements, under which, ICCL employs 20 banks, which are empanelled with ICCL as Clearing Banks for carrying out the money settlements. The Clearing Banks enter into an Agreement with ICCL and maintain a security deposit with ICCL. The Settlement is carried out on a DvP3 basis.

A bank must fulfil ICCL's strict conditions before ICCL allows it to be a Clearing Bank. These conditions include the following:

- Must hold a banking license in India
- Recognised by the RBI
- The bank must either be registered in India or have a presence in India through a branch of an International Bank
- Must be certified as Schedule I Bank
- Minimum networth of INR 5 billion as per its last audited Balance Sheet in the format as specified by RBI
- Bank should have implemented Core Banking Solution and be part of RTGS
- Bank should place an interest free deposit as specified by ICCL
- Bank should have a dedicated team to handle the settlement related operations
- Bank will need to, inter alia, adhere to the timelines for confirming/transferring funds from the member's accounts to the ICCL account as per the files/instructions received from ICCL from time to time
- Bank will be provided by ICCL on-line modules for confirmation of cash collateral deposits by member brokers.
- Bank will be required to put in place the systems and processes to log-in to various systems provided by ICCL for collateral, margins, funds settlement and any other obligation of the member brokers payable by them to ICCL.

- Bank should be prepared to implement an on-line interface with ICCL for various activities like collateral deposits by member brokers, settlement confirmation etc.

ICCL monitors net-worth of the Clearing Banks through the periodic financial results published by it and also based on various circulars and reports published by the Central Bank viz. RBI.

The lines of credits with the Clearing Banks help meet any contingencies of liquidity requirements. In order to mitigate the liquidity risk arising out of one settlement bank, ICCL has established lines of credit with multiple Clearing Banks thereby diversifying the risks associated with Clearing Banks. Besides this, the FMI also follows prescribed norms while deciding Clearing Banks with whom the lines of credit are to be established.

ICCL investment policy stipulates that the limits for placement of deposits with individual banks and the Investment Committee monitors and assesses its requirements for line of credit limits based on periodic average amount of settlement data. Accordingly, in case of a failure of its largest settlement bank, the estimated liquidity pressure is evaluated as aforesaid.

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

ICCL doesn't hold a Banking license and uses commercial banks for its funds settlement. As per SECC Regulations, 2012, a recognised clearing corporation shall not engage in activities that are unrelated or not incidental to its activity as a clearing corporation except through a separate legal entity and as permitted by the Board.

ICCL has arranged for lines of credit with various banks for liquidity and operational reliability in times of stress. ICCL while empanelling Clearing Banks considers various factors such as the bank's net-worth, branch network, systems and processes, etc. The Clearing Banks are established organizations recognised and regulated by the RBI that follow best accounting practices, safekeeping procedures and internal controls that fully protect the funds they hold.

- 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

The funds transfers effected through the commercial banks are protected in terms of the Payment and Settlement Systems Act, 2007. The inter-bank and intra-bank transfers are final when effected, and the funds received are transferable at near real time, with batch processing effected by the RBI's RTGS system. All intraday money settlements are similarly final in terms of the aforementioned Payment and Settlement Systems Act, 2007.

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

ICCL doesn't settle commodities trades. With respect to settlement of securities, ICCL has defined the rights, responsibilities and obligations of all parties with respect to the delivery of physical instruments through the Byelaws, Rules and Regulations as well as through various circulars and notifications 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.

ICCL doesn't settle commodities trades. ICCL conducts concurrent audit and reconciliation of various physical instruments of collateral documents deposited by members.

ICCL Byelaws state the following with respect to delivery of securities:-

6.1 Delivery Of Securities

- 6.1.1 Delivery and settlement of all securities, documents and papers and payment in respect of all Deals shall be in such manner and at such place(s) as may be prescribed by the Relevant Authority from time to time.
- 6.1.2 Notwithstanding and without prejudice to what is stated in Byelaw 10.2..2 hereinafter the Relevant Authority shall specify from time to time, the securities, documents and papers which, when delivered in prescribed manner, shall constitute good delivery. Where circumstances so warrant, the Relevant Authority may determine, for reasons to be recorded, whether or not a delivery constitutes a good delivery, and such findings shall be binding on parties concerned. Where the Relevant Authority determines that a delivery does not constitute a good delivery, the delivering party shall be required to substitute such delivery with the good delivery acceptable to the Relevant Authority within such time as may be specified.
- 6.1.3 The norms and procedures for delivery with respect to market lot, odd lot, minimum lot, part delivery, delivery of partly paid securities etc., shall be as prescribed by the Relevant Authority from time to time.
- 6.1.4 The requirements and procedures for determining disputed deliveries or defective deliveries, and measures, procedures and system of resolving the dispute or defect

in deliveries or of consequences of such deliveries or their resolution shall, subject to these Byelaws and Regulations, be as prescribed by the Relevant Authority from time to time.

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.

ICCL's settlement mechanism has been designed to take care of linked obligations risk with the implementation of DvP3 settlement mechanism. The settlement obligations of funds part and securities part of the CMs are matched against the actual pay-in of securities and funds done by CMs. The additional funds payable to ICCL, if any, due to such settlement shortages (of securities) by CMs are also recovered. The settlement shortages pertaining to securities are auctioned/closed out as the case may be, and the replacement cost recovered from the defaulting member. Appropriate risk management measures are in place to handle any shortages either on the funds / securities side.

The trades done on the Exchange are netted at the member/custodian level for settlement, the exception being settlement of trade to trade stocks, for which funds are settled on net basis, but securities are settled on gross basis. The pay-in timing and the pay-out timing have a difference of utmost 90 minutes.

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.

ICCL has set up a Core SGF for each of the segment it clears to guarantee the settlement of trades executed in the respective segment. In the event of a CM failing to honour settlement commitments, the Core SGF shall be used to fulfill the obligations of that member and complete the settlement without affecting the normal settlement process.

Corpus of Core SGF

The corpus of the fund should be adequate to meet out all the contingencies arising on account of failure of any member(s). The risk or liability to the fund depends on various factors such as trade volume, delivery percentage, maximum settlement liability of the members, the history of defaults, capital adequacy of the members, the degree of safety measures employed by the CC/SE, etc. A fixed formula, therefore, has not been prescribed to estimate the risk or liability of the fund. However, in order to assess the fair quantum of the corpus of Core SGF, ICCL considers the following factors:

- Risk management system in force
- Current and projected volume/turnover to be cleared and settled by the CC on guaranteed basis
- Track record of defaults of members (number of defaults, amount in default)

The *MRC of Core SGF* for each segment of BSE is subject to the following:

- i. The MRC is fixed for a month.
- ii. By 15th of every month, ICCL reviews and determines the MRC for next month based on the results of daily stress tests of the preceding month. (For example, by 15th February, ICCL determines MRC for March based on results of various stress tests conducted in January). ICCL also reviews and determines by 15th of every month, the adequacy of contributions made by various contributors and any further contributions to the Core SGF required to be made by various contributors for the next month.
- iii. For every day of the preceding month (i.e., January as per example in (ii) above), uncovered loss numbers are estimated by the various stress tests for credit risk conducted by ICCL for the segment and highest of such numbers is taken as worst case loss number for the day.
- iv. Average of all the daily worst case loss numbers determined in (iii) above is calculated.

- v. The MRC for next month (i.e., March as per example in (ii) above) shall be *higher of the average arrived in at step iv above and the segment MRC as per previous review (i.e., review done on 15th January for the month of February).*

Access to Core SGF

ICCL may utilise the Core SGF in the event of a failure of member(s) to honour settlement commitment.

Further contribution to / Recoupment of Core SGF

Requisite contributions to Core SGF by various contributors for any month is made by the contributors before start of the month. In the event of usage of Core SGF during a calendar month, contributors shall, as per usage of their individual contribution, immediately replenish the Core SGF to MRC.

In case there is failure on part of some contributor(s) to replenish its (their) contribution, the same shall be immediately met, on a temporary basis during the month, in the following order:

- (i) By ICCL
- (ii) By the SE

ICCL clearly define the event of default and method for identifying the default situation in its Byelaws and Rules. ICCL Byelaws and Rules clearly lay down the substantive provisions and well-defined procedure for the aforesaid key aspects, which operates within the regulatory framework laid down by SEBI. ICCL Byelaws and Rules allows to use financial resources such as collaterals, Core SGF for covering losses and containing liquidity pressures arising from default.

Chapter XI of the Byelaw of ICCL clearly define the event of default and method for identifying the default situation including use of financial resources such as collaterals, Core SGF for covering losses and containing liquidity pressures arising from default.

Chapter XII of the Byelaw of ICCL on Core SGF provides for detailed procedure for order of priority in which the margin, collaterals and Core SGF can be used and also provides detailed procedure for replenishment of resources from the various assets realized on account of a defaulter including filing legal proceedings.

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

The procedure to be followed in case of a participant default which delineates roles and responsibilities are clearly articulated in the Byelaws, Rules and Regulations of ICCL. In case of default by a participant a notice is issued to the Regulator, SE, other participants, and other SEs and CCPs informing them of the default. The clients of the defaulting

member are provided with sufficient time to admit their claims against the defaulting member.

The functioning of the actions to be carried in the event of a default is supervised by a 'Defaulters committee' which is a statutory committee of ICCL. The procedure to be followed in case of a participant default which delineates roles and responsibilities are clearly articulated in the Chapter XI of Byelaws of ICCL.

KC 13.3 An FMI should publicly disclose key aspects of its default rules and procedures.

Chapter XI of the Byelaws of ICCL on default rules and procedures covers various issues such as:

- Declaration Of Default
- Notice Of Declaration Of Default
- Defaulter's Books And Documents
- Defaulter's Assets
- Distribution
- Closing Out
- Application Of Assets
- Claims Against Defaulter

The same is public and readily accessible to market participants. The Byelaws are published in the Official Gazette as well as the website of ICCL. The circulars and publications of ICCL are publicly available on the website.

KC 13.4 An FMI should involve its participants and other stakeholders in the testing and review of the FMI's default procedures, including any close-out procedures. Such testing and review should be conducted at least annually or following material changes to the rules and procedures to ensure that they are practical and effective.

ICCL's Defaulters' Committee and its Board reviews the default procedures from time to time on a need basis in line with the directive issued by the Regulator and the latest domestic and international developments. ICCL on an on-going basis engages with market participants and industry associations to review the default and compliance procedures. ICCL conducts stress tests on a periodical basis based on the criteria as stipulated by its regulator and also conducts need based special stress tests as and when required. The stress test methodology and results are disclosed publicly by ICCL on its website.

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.

The market Regulator, SEBI and ICCL have prescribed various rules and guidelines for segregation of positions of a client from the member's own position and collateral management of members at ICCL level and that of clients at respective member level. As per the Comprehensive Risk Management Framework prescribed by SEBI, the margins are imposed on the client level positions. The trading system of the SE maintains client level positions which are segregated from the member's positions for margin purpose. The members are required to maintain client-wise collateral and are prohibited from utilising one client's collateral against its own positions or positions of other clients in the market. Members are also required to provide details of collateral utilization to each client separately on a daily basis.

As per the circulars issued by the Regulator/CCP in respect of Equity/Currency Derivatives Segment, client positions can be transferred from one member to another member subject to necessary conditions. The regulator and ICCL have also prescribed guidelines for protection of customer's collateral by the members. Also regular inspections of members are conducted, inter alia, to check compliance of such requirements by the members.

ICCL maintains a dedicated Core SGF for the equity cash segment, equity derivatives segment, currency derivatives segment and debt segment of BSE to guarantee the settlement of trades executed in respective segment of the BSE. This effectively ring-fences each segment of ICCL from defaults in other segments. The default waterfall applicable in case of loss due to default is published on the ICCL website as part of its Byelaws

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.

The trading system of the SE maintains client level positions which are segregated from the member's positions.

ICCL mandates the segregation of the margins deposited by the CMs for trades on their own account from the margins deposited with it on client account. The client's money is required to be held by the CM on an omnibus basis, for client purpose only.

ICCL holds collateral deposited by its members, inter alia, to cover all types of margins, settlement obligations and various other obligations of the members to the ICCL. The exposure is provided by ICCL to its CMs on the basis of collateral deposited by them with the ICCL. The CM/TMs are required to maintain separate records of their client collateral. The margins are imposed by the ICCL on a scrip-wise client level net position which is grossed across all clients of a TM.

The following process is to be adopted for segregating the client's money vis-à-vis the CM's money:

- i. At the time of opening a position, the member is required to indicate whether it is a client or proprietary position.
- ii. Margins across the various clients of a member are collected on a gross basis and not netted off.
- iii. When a position is closed, the member indicates whether it is the client or his own position being closed.

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.

ICCL allows for portability of clients' positions with or without the CM defaulting. In the event CM defaults, ICCL has set out portability arrangements which allows it to transfer positions and/or collateral of non-defaulting clients of the defaulting CM to one or more non-defaulting CMs.

ICCL may suo moto or on the application of a client of a suspended or defaulter CM or and on such terms and conditions as ICCL deems fit to impose, permit all or any open positions of the CM (whether on his own account or on account of his client) or client to be transferred to another CM who agrees to accept such open positions.

The facility is available for transfer of positions of one member to another member subject to fulfilment of collateral, margins and other requirements as prescribed by the

regulator and ICCL. Byelaws, Rules and Regulations of ICCL provide for transfer of positions of the participants.

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.

The norms pertaining to segregation and portability are available through Byelaws, Rules and Regulations, which are publicly available on ICCL website. CMs can view the amount of collateral held in their accounts by accessing ICCL's online systems and in electronic collateral reports issued to them. SEBI and ICCL have issued various norms/guidelines with respect to customers' positions and collateral requirements and management of customers' collateral by the members which members are required to follow.

In the derivatives segments, for any client trade, client is mandated to give collateral, under the pain of penalty, to its broker/TM/CM who in turn gives collateral to ICCL. This is in contrast to the cash segment where no such stipulation exists upon the client. Despite the daily certification provided by CM to ICCL that collateral placed against margin of each client has been collected from the client, the system of acknowledging the same by ICCL does not exist. CCs in India do not recognize clients/client collateral and obtain an undertaking from broker/TM/CM that the collateral provided by them even for client trades belongs to the broker/TM/CM.

The framework is biased against clients in that while the interests of Broker/TM/CM and ICCL are protected within the CCP framework, client may have to take recourse outside the CCP framework to protect its interests which would also be at a higher cost and time delay.

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 materialize. 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.

ICCL has a strong risk governance structure that enables ICCL to identify, monitor and mitigate its general business risks through oversight by the management and Board of Directors who have defined responsibilities and accountabilities.

ICCL has identified various general business risks arising from human errors, technological, physical, economic, political factors. However, ICCL's main business loss risk may arise from its treasury operations, drop in business volumes & fees, regulatory risks and technological failure.

ICCL interacts with all its stakeholders, including shareholders, investors, regulators and government officials on a continuous basis. ICCL has a strong oversight structure in terms of Investment Committee, Audit Committee, Board of Directors (of which majority are independent directors). ICCL has a strong market communications department which also scans all industry issues and news and updates management on a daily basis

ICCL has professional and experienced persons on its Board of Directors and various committees which work independently. ICCL also has a professional and experienced senior management team. All important issues pertaining to operations and business are reported and discussed at the Board Level. ICCL has a strong internal control & compliance department. ICCL business and operations are audited by an independent Internal Audit Firm on a concurrent / monthly basis and is subject to quarterly review / audit by a statutory auditor. ICCL operations are subject to audit and inspection from its regulator, SEBI from time to time.

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.

ICCL through daily liquidity stress tests, ensures that the liquid net assets are at all times sufficient to ensure a recovery or orderly wind-down of critical operations and services.

ICCL's liquid net assets funded by equity are mainly in the form of cash which is deposited in either current or fixed deposits accounts with the Scheduled Banks in India. ICCL assesses and monitors its capital positions monthly to ensure that there is adequate capital to support business activities and meet regulatory capital conditions.

ICCL maintains INR 1 Billion separately towards recovery and resolution for covering operational expenses, business risk, legal cost, regulatory cost, and other liabilities. ICCL holds capital, including retained earnings and reserves that is at all times at least equal to the sum of:

- Annual Gross Operational Expenses
ICCL has estimated a period of 18 months for the effective winding down or restructuring its activities
- The capital necessary to cover its overall operational and legal risks
Using the Basic Indicator Approach, the capital requirement for operational risk is equal to 15% of the relevant indicator. The relevant indicator is the average over three years of the sum of net interest income and net non-interest income.
- The capital necessary to cover its credit, counterparty and market risks
- Business Risk (50% of annual gross operational expenses)
ICCL estimate its business risk as 50% of the annual gross operational expense

As per the capital requirements specified by SEBI through SECC Regulations, ICCL must have a networth of INR 300 Crore.

As per the capital requirements specified by EU through EMIR, a CCP must have a permanent and available initial capital of at least EUR 7.5 million (~INR 50 Crore).

The treasury operations are conducted as per the Investment policy of ICCL, framed by the Investment Committee of ICCL, and approved by the Audit Committee and the Board of Directors. The policy considers various risks involved with investment in different asset classes and the various issuers, and the Investment Committee monitors the investments made by ICCL on a periodic basis. Any investments made in contravention to the Investment Policy are reported to the Investment Committee, listing the reasons for the same, and any such violations, need to be ratified by the Investment Committee and the Audit Committee. The investment policy puts strong emphasis on safety of

investible surplus and lays down norms which prevents excessive concentration at the level of any issuer and even class of securities. Further, investments are placed for various maturities based on the past experience of fund requirements and since a majority portion is placed with banks and liquid funds which can be liquidated at call, ICCL is in a position to cover losses in an extreme situation. Besides, the Byelaws, Rules, Regulations and the Comprehensive Risk management Frame Work as prescribed by the regulator to have sufficient safeguards to manage the risk emanating from acting as a ICCL.

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.

ICCL holds enough liquid net assets funded by equity to cover over 12 months of operating expenses. ICCL's liquid assets are invested in financial assets and spread over various maturities which can be liquidated as and when required. In case of a wind-down, the participants positions would be closed, all their funds returned and they would be ported to another CCP. Since, ICCL funds are invested in high quality and liquid financial assets, it would be able to facilitate the transition in an orderly manner. ICCL maintains separate accounting and investments of its Core SGF which are to be used to cover default of a member. ICCL manages general business risks as per the prevalent laws of the land.

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.

As per the Investment Policy of ICCL, the investments are made in Bank Term Deposits, units of Debt Schemes of Mutual Funds, Fixed Income Investments which are generally very liquid, hence can be liquidated into cash at little or no loss of value even in adverse market conditions. ICCL has an Investment Committee which meets on a periodic basis and reviews the quality and liquidity of its investments. The banks must satisfy the rating criteria as prescribed by ICCL in the Investment Policy.

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.

There are adequate provisions in the Byelaws, Rules and Regulations of the FMI to replenish the Core SGF. However, no such event is envisaged as of now since ICCL is more than adequately capitalized and has a strong earnings flow. The Byelaws, Rules and Regulations of ICCL contain requisite provisions pertaining to replenishment of the Core SGF of ICCL. Any capital raising plan would require approval of ICCL's Board.

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.

The custodians are regulated by SEBI and are subject to SEBI (Custodian of Securities) Regulations. They have to comply with the criteria relating to fit and proper criteria, minimum capital requirements, adequate infrastructure, safe keeping measures, internal controls, etc.

The operations & procedures in respect of custody of collaterals are mandated by the agreement entered between the custodian & ICCL. The assets provided by members in form of eligible collateral are well preserved by the custodian appointed by ICCL. ICCL's interest on such assets can be enforced and the ICCL has prompt access to such collateral in the event of a participant's default. Periodic reconciliation and concurrent audit of the records are carried out by the ICCL for proper supervision and regulation. The collateral held in eligible securities are only accepted through depository mechanism and the Depositories Act provides for auto-invocation of pledged securities.

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

ICCL's own cash is placed in highly liquid financial instruments with minimal market and credit risk and is capable of being liquidated rapidly with minimal adverse price effect. In the event of a member default, ICCL would utilize its own funds as well as the committed lines of credit for a critical liquidity requirement.

The collateral deposited by members are held in the form of cash & cash equivalent and non-cash equivalent. The ICCL Rules and agreements are legally enforceable and ICCL has the legal power to liquidate the collateral, if required.

All the collaterals deposited by the participants with ICCL are in the safe custody of ICCL. Collaterals in various forms are pledged/issued in favour of ICCL by the concerned members/Banks and hence till ICCL releases the pledge/lien, the participants cannot take it back. ICCL also reconciles the collateral deposits on a concurrent basis.

ICCL's Byelaws, Rules, Regulations and circulars issued from time to time as well as the agreements executed with the custodians provide a sound legal basis to support enforcement of its ownership rights of the assets held in custody.

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.

ICCL has policies which restrict exposure to various banks or AMCs on the basis of factors like credit rating profile, shareholders' funds, and assets under management. The Investment Policy ensures that investments are made in banks whose networth is above specified criteria. Further, the exposure limit of these banks are also been defined. ICCL monitors its exposure to make sure that the prescribed limits are not exceeded.

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.

ICCL has a very detailed Investment Policy, which is approved by the Investment Committee, Audit Committee and the Board specifying the extent in absolute / percentage terms to which investments can be done.

The objective of the Investment Policy is:

- To invest in securities / deposits that provide the highest level of Safety;
- To provide for adequate liquidity so as to meet any contingencies;
- To achieve "Risk vs. Return" trade off; and
- To facilitate overall diversification of risk across the investments.

The investment policy mandates that ICCL may invest its financial resources in cash or highly liquid financial instruments with minimal market and credit risk, with objective criteria for various instruments.

The Investment Policy, also defines the class of securities ICCL may invest in, which inter-alia includes deposits with Schedule Banks, AAA rated debt instruments, liquid debt mutual funds, Government Bonds, etc. ICCL may not make any investments in equity or equity derivatives products.

The Policy restricts the exposure of investible resources to any class of security or to any counterparty (based on criteria like networth, etc.).

ICCL has put in place prudent investment norms prescribed by its Audit Committee and the Board specifying the extent in absolute / percentage terms to which investments can

be done. Also, overall exposure limits are fixed for each class of investments, institutions, schemes, etc. The Investment Policy specifies limits to various exposure criteria to avoid concentration of investments. ICCL is subject to concurrent & periodic audits of its investments by Independent Auditors for its treasury operations.

A truncated version of the Investment Policy broadly specifying the asset classes ICCL invests in, is published on the website.

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 fulfilment 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.

ICCL conducts periodical audits of its systems and processes to identify the operational risk on an ongoing basis to take timely measures to manage such risks. ICCL also carries out an impact analysis of any change in the business environment on account of changes in rules and regulations, business competition etc. and accordingly builds systems to mitigate such risks.

ICCL has identified various sources of operational risks namely technological risks, liquidity risk, custody and investment risk, credit exposure risk, market risk etc. ICCL has a well laid down policies and process for identifying & addressing its operational risk. ICCL has also put in place a BCP to identify and address single points of failure in its operations. Necessary actions are taken on the basis of audit observations. The systems, policies, procedures and controls are well documented.

ICCL has laid down SOPs which detail the common procedures in the Post Trade activities. This document defines the policy and activities therein:

- Specifying detailed work steps
- Specifying how each work step is to be performed
- Identifying the person responsible and accountable for each work step
- Inter-linkages with other departments
- Ascertaining inputs and outputs at activity level

The process documents are updated regularly to ensure appropriate implementation of the operational procedures. ICCL's systems, policies, processes, and controls take into consideration various international, national and industry-level operational risk-management standards. ICCL focuses on employing motivated, adaptable employees, having requisite skills and team spirit. ICCL provides a very congenial and vibrant working environment, conducive to bring out the best in every employee. ICCL has put in place various checks and balances in the systems and processes including concurrent and periodical audits to address the risk of fraud. ICCL has put in place a robust environment

for testing the changes in the existing and new systems and processes to ensure smooth functioning of the systems in case of changes in the existing systems and implementation of new major projects.

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.

ICCL Board of directors has constituted committees comprising of members having the requisite skill sets, knowledge and experience in various fields related to capital market and business carried out. ICCL has put in place various committees viz. Audit Committee, Advisory Committee and various other committees, inter alia, for management of operational risk, Risk Management Committee, Standing Committee on Technology, etc.

The operations related reports of the concerned committees are discussed by the Board at least on a quarterly basis and over and above this the Board also considers and reviews the operational matters if the need so arises. ICCL has laid down periodic schedules to review and carry out audits and tests its systems both internally and with active participation of the members of ICCL, critical service providers, and linked FMIs. ICCL's Operational risk management framework is subject to periodical audits carried out by Statutory Auditors. ICCL also undergoes a yearly Systems Audit, the report of which is shared with the Standing Committee on Technology, Board and SEBI.

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.

ICCL's operational reliability objective is focused on having a scalable and upgradable system, robust facilities for data back up and DR site pertaining to trading, clearing & settlement and other vital processes to take care of all contingencies and business continuity requirements. The systems are reliable and secured, and they are scaled-up/upgraded on a regular basis. The contingency plan, back up facilities and DR site pertaining to trading, clearing & settlement and other vital processes are periodically tested. ICCL has well documented processes, policies for the same. These objectives enables timely recovery of data so as to resume operations within shortest possible time in any extreme circumstances It also helps in taking timely decisions on scaling up and up gradation of various systems and refinement of processes.

ICCL gives top priority to its process of managing operational risk and accordingly has fully integrated the same into its operational risk management framework. The regulator

has also prescribed guidelines in respect of the BCP. ICCL conducts periodic audits of its systems and processes and also conducts periodical testing of its BCP on mock and live environments.

Based on the laid down objectives, ICCL conducts periodic mock sessions for identifying, monitoring, assessing and managing the full range of problems that may be faced. The result and detailed reports of such review and testing are analysed and appropriate steps are taken to mitigate the operational risks.

The systems are designed to meet performance criteria including average, peak and expected capacity, latency, downtime, etc.

ICCL also appoints a System Auditor to conduct annual system audits. The report, along with the steps taken to rectify the vulnerabilities identified in the report are shared with the Standing Committee on Technology and Board of ICCL, and SEBI on a periodic basis.

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.

The Standing Committee on Technology monitors the adequacy of systems capacity and efficiency. ICCL has adequate systems' capacity for on-line/real time risk management of trades cleared and settled and is supported by a suitable BCP including a far DR situated in a different seismic zone. Capacity assessment is performed for every new system or significant change to an existing system. The capacity plans are reviewed and tested on regular basis and relevant reports with detailed analysis are placed with the appropriate committees for taking necessary action.

ICCL has well maintained back-up systems which ensure proper preservation and recovery of data. The systems are in place and are scaled-up/upgraded on a regular basis. The contingency plan and back up facilities pertaining to trading, clearing & settlement and other vital processes are in place for timely recovery of data. ICCL also conducts periodic testing of its business continuity and contingency arrangements.

The Systems Audit focuses on the following key areas:

- General Controls for Data Center Facilities
- Software Change Control
- Data communication / Network controls
- Security Controls – General office infrastructure
- Access policy and controls
- Electronic Document controls
- General Access controls
- Performance audit
- Business Continuity / Disaster Recovery Facilities
- IT Support & IT Asset Management
- Entity Specific Software
- Any other Item

The Systems Audit report explicitly covers each Major Area mentioned in the ToR, indicating any NCs or Observations (or lack of it). For each section – auditors provide qualitative input about ways to improve the process, based upon the best practices observed. The Executive Summary also includes an overall comment from the Auditors to indicate if a follow-on audit is required and the time lines of respective corrective action for non-conformities.

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

ICCL maintains information technology systems which are adequate to deal with the complexity, variety and type of services and activities it performs. In particular, ICCL takes care to ensure that its systems are reliable, secure and resilient (including in stressed market conditions), are scalable, and have sufficient redundancy capacity to process all remaining transactions before the end of the day in circumstances in which a major disruption has occurred.

ICCL's information technology systems are in line with internationally recognized technical standards and industry best practices. ICCL's policies, processes, controls, and testing take into consideration all relevant standards of security.

ICCL maintains a robust information security framework that appropriately manages its information security risk, including policies to protect information from unauthorised disclosure, ensure data accuracy and integrity and guarantee the availability of the CCP's services.

Access to the server room in ICCL's primary operations centre and the data centres is controlled with entry only to authorized persons. All visitors are escorted by authorised staff.

ICCL conducts periodic mock/live sessions for identifying, monitoring, assessing and managing the full range of physical vulnerabilities and threats. Access is controlled with entry only to authorized persons. All visitors to the server room in ICCL's primary operations centre and the data centres are escorted by authorised staff. ICCL also conducts audits of its systems and other processes and the observations/suggestions of such audits are reviewed and analyzed. ICCL undergoes annual system audit for assessing the systems security risks, the observations/suggestions of which, are reviewed, analyzed and shared with the Standing Committee on Technology and the Board of Directors of ICCL.

The systems security audits are conducted regularly for identifying, monitoring, assessing, and managing the full range of information security vulnerabilities and threats on an ongoing basis and help ensure the smooth functioning of the systems in case of changes in the existing systems and implementation of new major projects.

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.

ICCL maintains an organisational structure that ensures continuity and orderly functioning in the performance of its services and activities. ICCL has well maintained back-up systems. The systems are reliable and secured, and they are scaled-up/upgraded on a regular basis. ICCL periodically (at least on a quarterly basis) conducts testing of its business continuity and contingency arrangements.

ICCL tests, implements and maintains a business continuity policy and DR plan to ensure the preservation of its functions, the recovery of operations and the fulfilment of its obligations taking into account scenarios of large scale disasters and switchovers between primary and secondary sites. The DR plan allows the recovery of all transactions at the time of disruption to allow ICCL to continue to operate with certainty and to complete settlement on the scheduled date. The BCP and DR plans are approved by the Board and filed with the regulator, SEBI. With a well laid down back up facilities and DR site in respect of Clearing & Settlement and other vital process in place, ICCL is capable to resume operations within a very short span of time in any extreme circumstances. The data replication is automated and generates alerts for the failure or delay. In case of disruption, the batch mode facility is used to replicate the data. The recovery time of ICCL, in practice, has never exceeded 2 hours. ICCL has an EMC which consists of functional heads of various functions of ICCL. The EMC is responsible for crisis management in times of any emergency.

ICCL has put in place very efficient crises management procedures. The communication is immediately sent to the concerned team and authorities through various modes viz. email, telephonic communication, circulars/press releases, website, etc.

The secondary site has similar hardware and capacity. On daily basis, both the sites are checked for application version. The requisite staff is available at secondary site. The far secondary site is 800 km away, in a different seismic zone. The secondary sites have sufficient network bandwidth to ensure smooth data operations. ICCL conducts regular mock/live sessions from the Secondary Site.

The contingency plan and back up facilities and DR site pertaining to trading, clearing & settlement and other vital processes are in place.

As live trading sessions are conducted periodically on a quarterly basis from the DR site, the review and testing involves major market participants, all critical service providers and linked FMI's. The members of ICCL, critical service providers, and linked FMIs

regularly participate in the periodic mock testing and live trading sessions from DR site as part of the business continuity and contingency arrangements testing, whenever scheduled.

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.

In a continuous endeavour to improve the level of compliance of members, ICCL conducts inspections of the members and emphasizes on various compliance related issues. Information is sought by members on an annual/semi-annual basis. In case members don't satisfy the access criteria of the CCP, their membership rights are suspended in accordance with the Byelaws, Rules and Regulations, various circulars issued by ICCL from time to time prescribing in detail the membership participant requirement.

ICCL has put in place a stringent Outsourcing Policy and process for vendor selection, which inter-alia, covers the following points:-

- Core activities cannot be outsourced.
- Outsourced activities will be subject to internal, statutory and concurrent audit.
- Routine checks will be conducted at any time by ICCL or any third party authorised by ICCL.
- Outsourced activities will be subject to the same regulatory overview as if they were conducted by ICCL itself.
- ICCL enters into an agreement with the service providers which, inter alia, covers in detail the terms and conditions, roles, rights and responsibilities of the vendors.

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.

The categories of members, along with membership requirements for various categories, networth requirements, statutory fee, etc. in are in compliance with SEBI (Stock Brokers and Sub-Brokers) (Second Amendment) Regulations, 2013 dated September 27, 2013

The requirements for participation are publicly available on the website of the BSE-ICCL. There is no discrimination and any person who qualifies for participation can become the member of the SE. The members are not restricted in any way and no conditions have been laid down for participants which will impair the above. The participants are not restricted in any way to access interconnectivity with other FMI's and service providers ICCL offers fair and open access to its services for all its members. Clearing interface applications are provided to all its CMs to carry out various functions like trade confirmations, give up / take up approvals, collateral deposits, releases, viewing of latest margin details. ICCL does not accord any priority to any member/custodian in terms of processing data, providing reports and other services. All reports are downloaded to members/custodians at the same time. Further, ICCL provides various essential and value added services to its members / custodians to enhance their efficiency. These services include, but are not limited to facilities to view and download trades online, view margin utilization, downloading/uploading of files from/to the CC etc. All these services are available to members/custodians without any discrimination. Services which are essential to clearing, settlement and risk management functions are provided to all the members / custodians. The same are prescribed under Rule 17, 18, 19 and 20 of ICCL.

The members are not restricted in any way and no conditions have been laid down for participants which will impair the above. The participants are not restricted in any way to access interconnectivity with other Clearing Corporation and service providers.

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.

ICCL has established different categories of admissible CMs and admission criteria. Such criteria is non-discriminatory, transparent and objective so as to ensure fair and open access to ICCL and its services and ensures that CMs have sufficient financial resources and operational capacity to meet the obligations arising from participation in a CCP. Criteria that restricts access is only permitted if the objective is to control risk.

The different categories of CMs are based on different types of market participants, taking into account their activities, needs, interests and risk profile. There are different classes of participants like Individuals, Corporate, Partnership Firms, Limited Liability Partnership's and the criteria as applicable to each class are applied with respect to the admission of the member. Such criteria includes the eligibility norms, specific documentation etc. The participation requirement is disclosed to the public through circulars uploaded on the website, notices etc. Further, the Net worth requirements for different classes of participants are prescribed separately for example CMs in Derivatives Segments, Custodian Clearing Members etc.

All members of ICCL are regulated either by SEBI (or by RBI in case of Banks). The criteria for participants differ from segment to segment and also according to the role (Self Clearing Member, general Clearing Member). The rationale for different criteria is based on the potential risk, size of the business due to the different CM status.

ICCL ensures the safety and efficiency in various ways by undertaking regular inspections of the members by conducting surveillance activities, monitoring members' collaterals vis-à-vis their exposures etc.

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.

ICCL ensures the application of the membership criteria on an ongoing basis and annually conducts a comprehensive review of compliance with these provisions by its CMs.

Periodical compliances of the member are monitored on an ongoing basis by the regulatory compliance department. The members are required to make regular filings giving the latest information. The same is monitored to ensure compliance with participation criteria. Penal/Disciplinary actions are prescribed for non-compliance of

various specified requirements by the participants. Special monitoring through reports generated for this purpose is done of participants who are perceived to be financially weak. Weak members are identified based on their defaults in margin / settlement obligations, investor complaints etc. These members are also required to deposit additional collaterals with the SE.

A member may become ineligible to participate on his committing a default in obligations towards ICCL or his own clients, failure to comply with regulatory orders and failure to comply with rules and regulations of the ICCL / the SE / SEBI. ICCL has objective procedures for the suspension and exit of CMs that no longer meet the admission criteria. ICCL denies access to CMs meeting the criteria where justified in writing, based on a comprehensive risk analysis. The procedure with respect to suspension and orderly exit of a member that no longer complies with the requirements is stated in the Byelaws, Rules and Regulations of ICCL and is compliant with the Regulations prescribed by SEBI. The following activities are carried out when the risk profile of the participant deteriorates:

- Disciplinary action by levying enhanced penalty amount for Repeat Violation cases observed during Inspection or report of Internal Auditor.
- Blocking of member's deposits.
- Disablement of the member and preventing him from taking further exposures.
- Exception handling mechanisms for any shortages during settlement (withholding payouts, auction mechanism, valuation debit etc.).

Periodical compliances such as margins, maintenance of records, net worth requirement, maintenance of sufficient collaterals are assessed of the members are monitored on an ongoing basis. Chapter III under Rule 21 of ICCL lays down the procedure to follow in case of change in structure, composition, designated director by the participants. Under the said Chapter, the Participant is required to obtain approval of the SE in case of any development in the Participant. Further, SEBI approval is required in certain developments. Rule 28 and 30 to 45 of ICCL provides the procedures, powers and consequences in case disciplinary action is initiated against the defaulting participant.

Principle 19: Tiered participation arrangements

An 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.

The direct participants of ICCL are the CMs who hold an account with ICCL.

The indirect participants of ICCL are the TMs, whose proprietary and client trades are cleared by the CMs. They do not hold an account directly with ICCL rather they hold accounts with CMs. The indirect participants could thus include TMs and clients, customers or intermediaries of CMs.

ICCL's rules for CMs allow it to gather relevant basic information to identify, monitor and manage relevant concentrations of risk relating to the provision of services to clients. CMs must, upon request, inform ICCL about the criteria and arrangements they adopt to allow their Clients to access the services of ICCL. Responsibility for ensuring that Clients comply with their obligations remains with CMs. Information is sought by members on an annual/semi-annual basis. In case of members who don't satisfy the access criteria of ICCL, their membership rights are suspended in accordance with the Byelaws, Rules and Regulations of ICCL and SE and various circulars issued from time to time prescribed in detail the membership participant requirement.

ICCL has robust information and risk-control systems which allow ICCL to obtain timely information and apply risk management policies and procedures appropriately (including sufficient information to ensure that credit and liquidity exposures are monitored continuously at CCP-level, CM-level and, to the extent practicable, TM and client-level).

ICCL gathers information about its TMs from the SE. The information is updated on a daily basis. The trading and surveillance system of the SE is designed to monitor traded positions at all levels viz. client level, TM level and CM level. The risks arising from the indirect participants are monitored on an on-line real time basis by imposing client level margins, position limits, etc.

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

The inter dependencies between direct and indirect participants are considered in terms of the trading, clearing and settlement activities. The financial obligations are identified on the basis of various reports generated by the system pertaining to client level traded positions. The source of interdependency is obligation settlement by indirect participants through direct participants. The identification is done on the basis of data provided by the SE.

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.

The direct participants through whom the indirect participants settle obligations have to provide the collateral towards the margin requirement of these indirect participants. The direct participants are also provided with additional controls and limits that they can set upon the indirect participant exposures. The additional control is in terms of limits defined in the system.

As per the Comprehensive Risk management Framework of ICCL the margins for TMs are levied at a client level. Further, in case of Derivatives Segment, the TMs are required to collect margins from their clients and report the same to ICCL. All the margin requirements of the TMs are monitored against these limits defined. The TM's terminal gets disabled for any breach of the limits (Margin Violation).

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

ICCL informs the CMs and their Clients of the risks associated with the services provided. When providing services to its CMs and their TMs / Clients, ICCL acts fairly and professionally in line with the best interests of such CMs and their TMs / Clients and sound risk management. ICCL maintains effective written organisational and administrative arrangements to identify and manage potential conflicts of interest between its CMs, including TMs / Clients of a CM which are known to the CCP. It maintains and implement adequate procedures to resolve possible conflicts of interest. If in case, such arrangements are not sufficient to ensure that damage to the interests of a CM or TMs / Clients are prevented, ICCL will clearly disclose the general nature or source of conflicts of interest to the CM (and their TMs / Clients) before accepting new transactions from that CM. CMs that clear transactions on behalf of their clients must have

the necessary additional financial resources and operational capacity to perform this activity.

The FMI's policies for reviewing its rules and procedures in order to mitigate risks to the FMI arising from tiered participants are as per the directions of SEBI. ICCL along with the regulator regularly assesses the risks pertaining to the indirect participants and prescribed rules and regulations for the market participants based on such assessments. ICCL takes action when the aggregate margin requirement of direct participants (incl. requirement for indirect) exceeds the collateral they have deposited. ICCL also takes action when the margin requirement of an indirect participant exceeds their risk limits, set by their direct participant. Actions taken by ICCL include disablement in the SE, penalties, etc., and are in line with SEBI guidelines.

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.

ICCL is mandated by regulation to have connectivity arrangements with both the depositories. Before entering into a link arrangement with any FMI, ICCL carries out due diligence of the FMI for a thorough assessment of potential risks.

ICCL collects, collates and analyses the relevant documents, discusses relevant details with the other FMI, collects required data from the other FMI to assess various types of risks like counterparty risk, regulatory, liquidity, operational and legal risk while establishing links with the depositories. ICCL has necessary legal agreements signed with both the depositories clearly defining the contractual arrangements and the legal aspects. ICCL instructs the depositories to debit or credit the account of CMs and the depositories act as per the instructions.

ICCL currently has established links with the two depositories CDSL and NSDL for carrying out the securities settlement. The two CSDs (CDSL and NSDL) are also FMIs regulated by SEBI, and is subject to stringent risk management measures, as specified by SEBI, which inter-alia includes DR and BCP requirements. ICCL and depositories have implemented adequate systems with all the required checks to ensure smooth operational flow. Back up procedures are created at ICCL for the purpose of BCP. ICCL also has a far DR Centre (in a different seismic one). Periodic audits of the systems and processes are conducted to identify, monitor, and manage risks arising from an existing link. In India, there are two CSDs, who work on an inter-operable basis, ICCL has connected itself to both the depositories thus has an inbuilt redundancy against failure to connect with any of the two 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.

ICCL has necessary legal agreements signed with both the depositories clearly defining the contractual arrangements and the legal aspects. The link arrangements are bound by legal agreements. ICCL follows prescribed guidelines and processes prescribed by the respective regulators/authorities including its internal guidelines for establishing the links with other FMIs.

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.

This key consideration is not applicable to ICCL as a CCP.

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.

This key consideration is not applicable to ICCL 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.

This key consideration is not applicable to ICCL 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.

This key consideration is not applicable to ICCL 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.

This key consideration is not applicable to ICCL.

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.

This key consideration is not applicable to ICCL.

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.

This key consideration is not applicable to ICCL 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.

ICCL systems and procedures are designed in a manner to meet participant requirements after taking consideration, factors such as the regulatory requirements, feedback of market participants, efficient and reliable technology, need of the market for the product, etc. while designing the systems and processes including clearing and settlement scheme, operating structure, delivery systems, technologies, and its individual services and products.

ICCL obtain feedback of participants before the design and also after the launch of the product and services, in order to ensure that various products and services offered by ICCL to meet the requirements on a continuous basis. ICCL engages with market participants through the Advisory Committees comprising of various market participants and experts from other related fields, which is chaired by the Chairperson of the respective governing Boards of the ICCL.

ICCL has processes in place for proposing and implementing amendments to its rules and procedures and, prior to implementing any material changes, consults with all affected CMs and submit the proposed changes to SEBI. Market feedback is taken into account during the formulation of new rules and processes.

ICCL is a member of CCP12 - The Global Association of Central Counterparties, Asia – Oceania Central Counterparties (“AOCCP”) and Asia-Pacific CSD Group. These memberships help ICCL keep abreast of the latest trends, market updates and regulations.

ICCL measures satisfaction level for each service-interaction that it has with its external stakeholders. All contact points are covered such as e-mails, calls and member portal whereby participants can contact ICCL with their requests. ICCL follows besides other factors, two most important aspects of service performance i.e., “speed of resolution” and “quality of service.”

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.

ICCL's goal is to provide secure Clearing and Settlement products/services with robust Risk Management Systems to the market participants as per the norms/guidelines prescribed by the Regulator, Byelaws, Rules and Regulations of ICCL and under various Laws. ICCL additionally, provides its members with a RTRMS terminal, free of cost, to monitor and manage their own risks and that of their constituents. The RTRMS terminal enables the member to track the collateral utilisation on a real time basis, allows him to set limits for himself and his constituents and generate customised alerts for his own risk management needs.

ICCL has put in place following mechanism in order to assess the goals and objectives are as follows:

- Periodical Audit of certain systems and processes
- Daily Stress Tests
- Assessment based on feedback from market participants

ICCL has put in place the following guiding principles for operational effectiveness:

- Completion of the operation with the required output and within the specified time lines.
- Internal Service Level Standards of various are monitored on a regular basis
- Ensuring safety and confidentiality of the members information while dissemination
- Ensuring maintenance of Capital Adequacy Requirements as prescribed from time to time.

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

ICCL has a Concurrent audit process, the results of which are presented to the Audit Committee and the Board of Directors. ICCL is also subject to Statutory Audit and Internal Audit conducted on a quarterly basis, the results of which are presented to the Audit Committee and the Board of Directors. ICCL also undergoes annual system audit, the results of which are shared with the Technical Committee and the Board of Directors of ICCL.

ICCL conducts stress tests, liquidity stress test and back tests for adequacy of financial resources on a daily basis. ICCL also periodically conduct reverse stress test and the adequacy of financial resources.

ICCL carries out assessment based on feedback from market participants, root-cause analysis of the system problems, etc., to evaluate efficiency and effectiveness. The evaluation of efficiency and effectiveness is done on continuous basis. Besides this, ICCL

also evaluates efficiency and effectiveness of its certain processes on periodical basis viz. daily, monthly quarterly, yearly depending on the type of process. ICCL regularly interacts with industry participants to seek feedback on its business and operations.

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.

ICCL uses commonly accepted communication procedures and standards to communicate with CMs, clients and other linked FMIs

ICCL uses reference data standards, such as the ISIN system, to identify stock and government securities. All counterparties are identified by their PAN and each client is assigned a UCC.

ICCL has a real time module CLASS to manage collateral. The module has in built parameters to control, modify and monitor the collateral deposited by the CMs. The module also monitors the applicable acceptance criteria on a real time basis.

ICCL provides it members with the RTRMS terminal, free of cost, to monitor and manage their own risks and that of their constituents. The RTRMS terminal enables the member to track the collateral utilization on a real time basis, allows him to set limits for himself and his constituents and generate customized alerts for his own risk management needs.

ICCL's systems interact with its customers and participants through various secured modes viz. Leased lines, V-SAT, web-based etc. These modes provide an online interface as well as a file-based interface. ICCL's systems use the standard ISO messaging standards for the mandatory STP messaging for certain processes pertaining to institutional trades. The non-institutional transactions use the ISO standards on a voluntary basis as per the requirements of the client. Further, the communication protocol among the stock brokers and the SE / ICCL is through a secured CUG network.

The system interaction with other parties (banks, depositories, etc.) is achieved by using a combination of binary and text files. For banking transactions, ICCL has defined message formats and communication standards with banks. The formats for these files are defined by ICCL, in consultation with the relevant parties.

STP has been implemented for certain processes for institutional transactions using internationally accepted messaging standards, to facilitate seamless processing of transactions.

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.

ICCL makes information relating to the following available in the public domain as well as on the Company website:

- Governance arrangements (eg. Code of Conduct for Directors)
- Byelaws, Rules and Regulations (including default procedures, risk management systems, rights and obligations of CMs and Clients, clearing services and rules governing access to ICCL (including admission, suspension and exit criteria for Clearing Membership), contracts with CMs and Clients and use of collateral and default fund contributions);
- Eligible collateral and applicable haircuts
- Settlement process and timelines
- Margin requirements
- Other General Information

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.

The rights, obligations and risks of CMs are clearly and comprehensively outlined in ICCL's Byelaws, Rules, Regulations, Circulars, Notifications and other information published on the website. In addition, ICCL informs the market participants through various circulars, emails, SMS, user manual of the modules and through website information about the systems design and technological requirements required at their end for availing various services offered by the ICCL. ICCL discloses the system's design and operations to the participants through similar mode.

A few of the disclosures made by ICCL, to enable participants to assess the risks they would incur are:

- The products that ICCL clears/settles or may clear or settle in future, the terms and conditions under which transactions will be cleared or settled.
- The risks inherent in the operation of ICCL's clearing facility.
- Default handling procedure
- Daily reports showing individual margin requirements, collateral deposit and further assessment amount.
- The contract specifications and the terms and conditions of contracts which ICCL clears and settles
- Mark-to-market and margining practices
- ICCL on a monthly basis, makes the following details available
 - Policy on composition and contributions to be made to the Core SGF
 - Investment policy for Core SGF
 - Default waterfall for each segment along with the quantum of resources available in each layer of default waterfall
 - Contribution to Core SGF

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.

ICCL holds interactive sessions with CMs to help them become familiar with ICCL's processes, systems and requirements. ICCL, additionally provides specific training and help to CMs whenever necessary. In terms of risk and regulatory issues. ICCL also holds briefing and training sessions for its CMs in relation to relevant regulatory changes.

There is no evidence to suggest failure on the part of the participant to understand the Byelaws, Rules and Regulations of ICCL and circulars issued from time to time. In case of lack of understanding, ICCL takes steps to facilitate the understanding of the participant. In case, an event demands, clarification may be issued by ICCL via a circular/notification/press release. CMs that demonstrate a lack of understanding are assisted in the form of further dialogues and consultations.

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.

ICCL publicly discloses the fees in respect of its membership admission / subscription, transaction fees, etc. The information is made available to the public through various circulars and website of the ICCL. The changes in the services and fees structure once

finalized and approved by ICCL are immediately disseminated to the market participants through various circulars and website. Fee information provided in respect of such services is sufficient to enable comparison with the fees charged by other clearing houses. Public information on ICCL's operating costs is available through ICCL's own financial accounts, which are published on the ICCL website on a quarterly basis.

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

ICCL publishes the data pertaining to transaction volumes and values on a daily basis on its website. ICCL, in addition to the information pertaining to various products and services provided by it, also discloses on a periodic basis information as required by the regulatory / relevant authorities to be disclosed to market participants from time to time. ICCL disclose the information in English through various circulars issued by it from time to time and also through website.

ICCL will henceforth amend its self-assessments *CPMI-IOSCO* Disclosure framework for FMIs as and when required and disclose the same.

List of publicly available resources/ Relevant Websites

ICCL

www.icclindia.com

ICCL Daily Statistics

<http://www.icclindia.com/>

(Archives: http://www.icclindia.com/Dynamicpage/setcal_arch.aspx)

ICCL Annual Report

http://www.icclindia.com/static/about/annual_report.aspx

Board of Directors & their profiles

<http://www.icclindia.com/static/about/boardofdirectors.aspx>

KMP & their profiles

<http://www.icclindia.com/static/about/keymanagementpersonnel.aspx>

Code of conduct for Directors

http://www.icclindia.com/downloads/Code_of_Conduct_for_Directors.pdf

Disclosure on Core SGF and Default Waterfall

http://www.icclindia.com/downloads/Contribution_to_Core_SGF.PDF

http://www.icclindia.com/downloads/Policy_on_Composition_and_Contribution_to_Core_SGF.PDF

http://www.icclindia.com/downloads/Investment_Policy_for_Core_SGF.PDF

http://www.icclindia.com/downloads/Default_Waterfall.pdf

ICCL Byelaws & Proposed Changes

http://www.icclindia.com/downloads/ICCL_Byelaws.pdf

http://www.icclindia.com/downloads/Proposed_Changes.pdf

ICCL Rules

http://www.icclindia.com/downloads/ICCL_Rules.pdf

ICCL Regulations

<http://www.icclindia.com/downloads/ICCL%20Regulations.pdf>

BSE

www.bseindia.com

SEBI

www.sebi.gov.in

SEBI Circular: Core Settlement Guarantee Fund, Default Waterfall & Stress Test

http://www.sebi.gov.in/cms/sebi_data/attachdocs/1409136206919.pdf

SEBI Master Circular for SEs

http://www.sebi.gov.in/cms/sebi_data/attachdocs/1400588203091.pdf

Section 8A of the Securities Contract (Regulation) Act, 1956

<http://www.sebi.gov.in/acts/contractact.pdf>

SECC Regulations, 2012

http://www.sebi.gov.in/cms/sebi_data/attachdocs/1340272091708.pdf

Procedural norms on Recognitions, Ownership and Governance for Stock Exchanges and Clearing Corporations

http://www.sebi.gov.in/cms/sebi_data/attachdocs/1355463824798.pdf

SEBI Act, 1992

<http://www.sebi.gov.in/acts/act15ac.html>

RBI

www.rbi.org.in

ESMA

<https://www.esma.europa.eu/>

CCPs established in non-EEA countries which have applied for recognition under Article 25 of EMIR

http://www.esma.europa.eu/system/files/list_of_applicants_tc-ccps.pdf

List of third-country Central Counterparties recognised to offer services and activities in the Union

https://www.esma.europa.eu/system/files/third-country_ccps_recognised_under_emir.pdf

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