CCIL Disclosures on

Compliance with
Principles for Financial
Market Infrastructures

Committee on Payments
and Market Infrastructures
Board of the International
Organization of Securities
Commissions
**Responding Institution:** The Clearing Corporation of India Ltd.

**Jurisdiction(s) in which the FMI Operates:** India, United States (for settlement of USD funds in Rupee/USD Settlement segment.)

**Authority(ies) regulating, supervising or overseeing the FMI:** Reserve Bank of India

**The date of this disclosure is:** 29th June 2015 (data as on 31st March 2015)

This disclosure is also made available at [www.ccilindia.com](http://www.ccilindia.com)

For further information, please contact Risk Management department at rmd@ccilindia.co.in
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THE CLEARING CORPORATION OF INDIA LTD.

I. Executive summary

The Clearing Corporation of India Ltd. (CCIL), set up in April 2001, is a payment system authorized under the Payment and Settlement Systems Act, 2007 and Regulations thereunder by Reserve Bank of India (RBI). It provides clearing & settlement in OTC financial market products, mainly to the wholesale market players which are also regulated entities. As a CCP and clearing service provider, it has always managed the incidental risks in a proactive manner. It has also provided innovative products and solutions to its users which has helped in deepening the markets and supporting in its secure growth. Reserve Bank of India, as regulator, has declared CCIL as a qualified CCP(QCCP) in January ’14.

II. Summary of major changes since the last update of the disclosure

This is the first disclosure under Principles of Financial Market Infrastructures (PFMI).

III. General background on the FMI

General description of the FMI and the markets it serves

1.1 CCIL was set up in April 2001 to provide clearing and settlement for transactions in the debt, money and forex markets in India. The prime objective of the company is to improve efficiencies in the settlement process and to de-risk the markets. The Company started operations in February 2002.

1.2 CCIL is a payment system authorized under the Payment and Settlement Systems Act, 2007 and Regulations thereunder by Reserve Bank of India (RBI). CCIL is authorized to operate payment systems for the following:


b. Collateralised Borrowing and Lending Obligations (CBLO), a repo variant which is traded anonymously in a trading platform provided by a CCIL subsidiary.

c.  Forex Settlement Segment, comprising of the following sub-segments:

   i.  USD-INR Settlement (Cash, TOM & Spot trades including Forward trades when these enter Spot Window)

   ii.  CLS Segment - Continuous Linked Settlement (Settlement of cross currency trades of members through CLS Bank).

   iii. Forex Forward Segment (CCP Clearing of Rupee/USD Forward trades)

d.  Rupee Derivatives Segment: Rupee denominated IRS & FRA trades.

1.3 CCIL is having a trade repository for Rupee IRS & FRA for market makers (i.e. wholesale market players who are authorized by RBI to trade and take position in this market) since August’07. It is also providing non-guaranteed settlement services for daily cash
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flows of the above-mentioned OTC IRS trades since Nov '08. It now has Regulatory approval from RBI to commence CCP Clearing for these IRS trades.

1.4 The Company also operates trade repositories for all OTC Derivative trades in credit, interest and foreign exchange markets (including for Client trades). Moreover, CCIL’s 100% owned subsidiary Clearcorp Dealing System (India) Limited (CDSL) provides several trading platforms to its members for dealing in Government Securities, Forex and CBLO. It is also planning to start a trading platform for anonymous trading in Interest Rate Swaps for which it has approval from RBI. The trading system will function in co-ordination with CCP Clearing to be started as mentioned in Para 1.3 above.

1.5 CCIL has, as its members, banks and financial institutions operating in India. Indian branches of American as well as European Banks are active players in the markets that CCIL serves. These entities are members of CCIL in Securities, CBLO and Forex Segments.

1.6 CCIL provides CCP Clearing for Securities, CBLO, Forex Settlement and Forward Foreign Exchange. It has also launched CCP clearing of Rupee denominated IRS trades on MIBOR & MIOIS benchmarks; but the same is yet to start commercially. The service of settlement of cross currency trades through CLS bank is not operated as a CCP Clearing.

1.7 CCIL’s clearing and settlement cover trade settlements for wholesale market entities i.e. for banks, institutions, mutual funds, insurance companies etc. in over the counter market. For the year 2014-15, CCIL’s foreign exchange clearing handled settlement of trades of about USD 27.66 billion (Rs. 1,77,024 crore @ Rs.64 per USD) per day on an average with month-end volumes reaching closer to USD 118.00 billion (Rs.7,55,200 crore @ Rs.64 per USD). In Govt Securities market and in Collateralized Borrowing Lending Obligation (CBLO) market, the average daily settlement volumes are of the order of Rs.97,681 Crores (Repo-Rs.54828 crores and Outright-Rs.42853 crores) and Rs.58,413 Crores respectively. Apart from these, settlement of cross currency foreign exchange trades through CLS bank by CCIL for domestic banks are now at an average of USD 2.30 billion (Rs.14,700 Crores@ Rs.64 per USD). In derivatives market, CCIL holds trades of notional principal of about USD 130 billion (Rs.8,32,000 crores) of market participants for risk management purposes.

General Organization of the FMI

CCIL is a public limited company under the Indian Companies Act, 1956. The oversight of the governance of CCIL is vested in the Board of Directors. The roles and responsibilities of the Directors are clearly set out in the Companies Act, 2013 and also in a separate Governance policy put in place by the Company. The overall functions of the Company are supervised and
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managed by the Board whereas specific interest areas have been delegated to the Committees
of the Board. The Managing Director looks into the day to day functioning of the Company
assisted by a very strong group of senior officials who are professionals and market experts and
function as Line Officials. Line Officials are supported by middle management and supervisory
officials.

CCIL has a sound structure of corporate governance. CCIL has put in place a policy on
Director’s appointment, remuneration including the criteria for determining qualifications,
independence, evaluation of Directors performance etc. in terms of the requirements under the
Companies Act, 2013. The Board of Directors presently comprises of fourteen (14) Directors,
consisting of nominees of Shareholders, Independent Directors, Managing Director and a Non-
Executive Chairperson.

Legal and regulatory framework

CCIL has been authorized by RBI as a “Payment System” under the Payment and Settlement
Systems Act, 2007 (PSS Act) for undertaking Clearing and Settlement of transactions in
Government Securities, CBLO, Foreign exchange, Rupee Derivatives. CCIL’s Bye-Laws, Rules
and Regulations that are also included under Schedule to Regulations 5 of the Payment and
Settlement Regulations 2008 provides required legal basis on its various material aspects such
as netting, finality of settlement, default procedures etc.

System Design and Operations

System Design: CCIL is a systemically important payments system recognized under the
Payment and Settlement Systems Act 2007. It offers CCP clearing of secondary market OTC
trades in Govt. Securities, foreign exchange and CBLO, through a process of novation and
multilateral netting. The system operates in line with the rules and conventions governing the
markets.

Operations: The processes followed for clearing and settlement of trades for various business
segments are as under:

a. **Govt. Securities Segment**: Secondary market trades (settlement on T+0 and T+2 basis)
in Govt. Securities flow to CCIL in two modes. Outright and repo trades concluded on
anonymous order matching platforms i.e., NDS-OM and CROMS respectively flow for
clearing and settlement through a straight through process. OTC outright and repo
trades concluded by the members are reported on NDS-OM and CROMS respectively.
These trades are accepted for clearing and settlement by CCIL. In the process, CCIL is
subjected to market risk which is covered through collection of initial margin and mark to
market margin etc.

The trades received as above are subjected to on-line exposure check. Post such
exposure check these trades are novated whereby CCIL becomes counterparty to those
trades. These trades are then settled on DVP basis on their respective settlement dates.
**b. CBLO Segment:** Collateralized Borrowing and Lending Obligation (CBLO) facilitates borrowing/lending money on a collateralized basis. It is issued for a maximum tenor of one year and traded on yield time priority on CBLO anonymous order matching platform managed by CDSL. Most of the trading in CBLO is, however, on overnight basis. The balances in CBLO are maintained at CCIL in electronic book entry form. Members can borrow against the eligible collaterals deposited by them with CCIL. Trades concluded on the trading platform are subjected to margin check and then are accepted for guaranteed settlement. Settlement is carried out on DVP basis as in case of securities segment.

As the repayment of borrowing against CBLO is guaranteed by CCIL, it should have enough collateral to meet any eventuality of a default by the borrower. To take care of this risk, all borrowings are fully collateralized through setting up of Borrowing Limits for the members against their collateral deposits in eligible Government Securities. These collaterals are subjected to hair-cuts and are revalued at least on daily basis. Any shortfall in the value of collaterals (to cover outstanding borrowings) is collected through margin calls.

CCIL is also exposed to the risks due to a member not honoring its obligation to lend or borrow at the time of settlement. To ensure that this risk is adequately taken care of, CCIL collects Initial Margin and MTM Margin from the members in respect of their deals for lending and borrowing.

**C. Forex Segment:** CCIL settles all inter-bank Cash, Tom, Spot and Forward USD/INR transactions on guaranteed basis. All inter-bank trades concluded bilaterally by its clearing participants (members) through various dealing platforms are reported to CCIL. Trades done on FX-Clear and Fx-Swap trading platforms run by CDSL directly flow to CCIL’s settlement system.

Details of trades concluded bilaterally by the members are reported to CCIL in a specified format. These trades are validated and matched in CCIL’s clearing system. Matched trades are subjected to exposure check on an on-line basis and trades that pass such exposure check are accepted for clearing and settlement. The matched non-cleared forward trades are accepted for clearing and settlement on their entering spot window. Exposure check is carried out on-line, both for trades from Fx Clear and Fx Swaps trading systems and for reported trades. CCIL becomes the central counterparty to every accepted trade through the process of novation.

CCIL settles the net positions of the members on a payment versus payment (PVP) basis. The Rupee leg is settled through the members’ current accounts with RBI and the USD leg through CCIL’s account with its Settlement Bank at New York.

For effective risk management, Net Debit Cap (NDC) is set in both currencies for each member in this segment. The limit is in terms of maximum sell permitted in the currency per settlement date. Margin is collected to cover the market risk based on value at Risk...
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based Margin Factor. For entities with lower short term credit ratings, additional margin is collected. Margin contribution of a member to avail the limit is in US Dollar funds.

Members with higher ratings are allowed to avail higher limits for TOM and SPOT settlement dates. CCIL covers the risk arising out of such higher exposures by collecting Additional Initial Margin (AIM).

For covering the liquidity risk in US Dollar, CCIL has collateralized Lines of Credit (LOC) in place from its overseas settlement bank. Collaterals for availing of such credit facilities are furnished out of USD Treasury bill purchased by CCIL out of the contributions made by the members to the SGF for this segment.

For covering the liquidity risk in Indian Rupee, Lines of credit in Rupee have been arranged from the banks. Such Lines of credit are available at Reserve Bank of India at the time of settlement.

In order to take care of the risk arising out of a default, a member contributed default fund is in place. A clearly laid out risk waterfall is also in place.

d. **Forex Forward Segment**: CCIL extends clearing and settlement of USD/INR Forward trades with residual maturity up to 13 months. Forward trades concluded on FX-swap trading platform run by CDSL and OTC trades reported by the members are subjected to on-line exposure check. Trades which pass the exposure check are novated by CCIL and accepted for clearing and settlement in this Segment.

Settlement of the trades happens through the USD/INR settlement segment. On S-2 day, the net position of each member is computed. Such net positions are subjected to exposure check for limit adequacy in the USD-INR settlement segment before acceptance.

The risk associated is the pre-settlement risk which is equivalent to market risk on forward positions. The risk is managed through collection of margins in the form of initial margin, mark to market margin etc. from the members. Margins collected from the members are based on assessment of exposures on their outstanding trade positions. Exposure checks for adequacy of margins in this segment is also carried out on an on-line basis.

In order to take care of the risk from any default in this segment, a member contributed Default Fund is in place. A clearly laid out risk waterfall is also in place.

**Rupee Derivatives (IRS) Segment**: CCP clearing of Rupee denominated Interest Rate Swap trades was launched by CCIL in Mar’14. The product is however yet to be launched commercially.

The risk management relating to Rupee derivatives segment provides for collection of margins based on the exposures on the outstanding trade portfolios of the members. CCIL seeks to cover the risk through prescription of Initial margin (including spread margin), mark to market margin, volatility margin etc.
In order to take care of the risk of pre-settlement default, a member contributed Default Fund is in place. A clearly laid out risk waterfall is also in place.

CCIL also provides central trade processing services in Rupee Interest Rate Swaps (IRS) and Forward Rate Agreements (FRA). The instruments covered are Interest Rate Swap - Fixed Float and Basis Swaps with maximum maturity of 10 years and Forward Rate Agreements with maximum maturity of 10 years. CCIL extends post-trade processing services like Interest Rate Reset, Tracking payment obligation of members on their outstanding contracts etc. and settlement of daily cash flows on Non - Guaranteed basis.

e. **CLS Settlement** – CCIL also offers settlement of transactions in various currencies through CLS bank on non-guaranteed basis. The trades reported by the members are subjected to clearing based on the base exposure limit set for each member. Settlement at CLS bank happens on PvP basis.
IV. Principle-by-principle summary narrative disclosure

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.*

Key consideration 1: The legal basis should provide a high degree of certainty for each material aspect of an FMI’s activities in all relevant jurisdictions.

Material aspects of the CCIL’s activity requiring legal certainty are:

1. Laws and regulations specific to CCIL’s activities and its rules, regulations thereunder.
2. Rights of CCIL on collaterals
3. Settlement finality.
4. Multi-lateral netting including close-out.
5. Default Procedures.
6. CCP resolution

the relevant jurisdictions are:

1. India
2. United States (for Settlement of USD funds in Rupee/ USD Settlement segment)

Legal basis for each material aspect:

Assurance of high degree of legal certainty as a CCP:

- CCIL has been certified as an authorized “Payment System” under the Payment and Settlement Systems Act, 2007 (PSS Act) for undertaking Clearing and Settlement of transactions in Government Securities, Money Market Instruments, Foreign exchange, Rupee Derivatives.

- CCIL’s Bye-Laws, Rules and Regulations included under schedule to Regulations 5 of the Payment and Settlement Systems Regulations 2008 provides required legal basis on its various material aspects such as netting, finality of settlement, etc.

- The Payment and Settlement Systems (Amendment) bill, 2014 (PSS amended law) as passed by both the houses of parliament further reinforces the legal basis for novation, finality and other material aspects of CCIL’s CCP
activities. With this amendment PSS Act provides for a clear legal framework for CCP resolution.

- The amended PSS Act has extended the applicability of the PSS Act to the designated Trade Repository. The same would further provide legal certainty to the Trade Repository services carried out by the Company under RBI’s mandate. The amended law also provides for legal & regulatory framework for Legal Entity Identifier.

Key consideration 2. An FMI should have rules, procedures, and contracts that are clear, understandable, and consistent with relevant laws and regulations.

The Bye-laws, Rules & Regulations of CCIL approved under PSS Act are in use for many years and have been found by members to be clear and understandable.

The Company has put in place an internal committee comprising of senior officials including officials from Legal Dept. to formulate, review and update the rules and regulations of the FMI. Upon such review the rules and regulations as formulated or amended along with the independent review by the solicitors are placed before the Board’s committee on Bye-laws, Rules and Regulations for recommendation to the Board for its approval. The Board deliberates and accords its approval subject to changes if any. Any change in CCIL Bye-laws, Rules & Regulations requires the approval of RBI as regulator.

Periodic review of CCIL Bye-laws, Rules & Regulations is also undertaken.

Any other change requires to be approved by the authority empowered to do so by the Board of Directors of CCIL. Any change in the mode of operations, settlement procedure etc. to any of the payment systems require prior approval of Reserve Bank of India (RBI) as Regulator. Before approaching RBI with regard to any major change, member consultation is also held.

In regard to its contracts, either legal dept. validates these or external legal opinion is obtained.

Key consideration 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.

The legal basis for activities of the CCIL is amply and clearly articulated in its contractual framework with the members through CCIL’s Bye-laws, Rules and Regulations. The Bye-laws, Rules and Regulations of CCIL which govern the legal
relationship between the CCIL and its members have got the status of subordinate legislation under the Payment and Settlement Systems Regulations, 2008 enacted under the Payment and Settlement Systems Act 2007. These govern the processes under the statute. Accordingly, the legal basis is adequately understood by all stakeholders.

**Key consideration 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.

**Enforceability of rules, procedures and contracts:**

The enactment of the Payment and Settlement Systems Act 2007 by the Government of India has imparted a very high degree of legal basis to CCIL’s Rules and Procedures and consequently the legal enforceability of its operations are fully assured. The statutory support to the Netting, default procedures, Rule of settlement Finality and making the settlement transactions insolvency remote has increased the confidence levels of the market in the functioning of CCIL.

**Degree of certainty for rules and procedures:**

The rules and procedures as approved by the RBI under PSS Act, provides a very clear legal basis and certainty. The functioning of CCIL in terms of its Rules and procedures, authorized and monitored by the RBI as regulator under the Act.

CCIL’s activities or arrangements under its rules and procedures have never been held as unenforceable in any court.

**Key consideration 5.** An FMI conducting business in multiple jurisdictions should identify and mitigate the risks arising from any potential conflict of laws across jurisdictions.

All the operations of the CCP are within Indian jurisdiction except where it has correspondent bank arrangements in other jurisdictions for the purposes of settlement in various currencies and to that extent, it subjects itself for that limited purpose to those jurisdictional rules.
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.

Key consideration 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.

Governance arrangements:
CCIL’s objective is to provide risk mitigated Clearing & Settlement services as a Central Counterparty of institutional trades in OTC financial markets (Securities, Money market Instruments, Forex, and Derivatives etc.). Non CCP clearing and trade processing is also offered for some products such as settlement of daily cash flows of Interest Rate Swap trades and of trades eligible for settlement through CLS Bank. CCIL also runs a Trade Repository.

Periodical assessment of the risk processes of CCIL is conducted by independent outside risk experts from India and abroad. Further all the processes of CCIL are also internally assessed by internal, operational auditors of CCIL who place their report before Audit Committee of the Company for its monitoring. There exists separate Committee of Directors for risk management to address the issues relating to risk management. This ensures tracking of CCIL’s performance in meeting its objectives.

Safety gets top-most priority. Processes are automated wherever feasible bringing in huge efficiency. Safety is also achieved through well laid IT infrastructure with adequate redundancy. CCIL is also compliant with ISO-27001 standards.

Secure CCP Clearing facilitates Financial Stability. Independent experts in CCIL Board of directors help to keep adequate focus on relevant public interest considerations. Apart from this, regular interactions with market bodies like FIMMDA, FEDAI etc. and with User groups help CCIL to identify relevant public interest considerations and include those into its objectives.

Key consideration 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.

Governance arrangements:
THE CLEARING CORPORATION OF INDIA LTD.

CCIL is formed as a public limited company under the Indian Companies Act, 1956. The oversight of the overall governance of CCIL is vested in the Board of Directors. The CCIL has a very healthy and sound structure of corporate governance. It has a number of Committees of Boards and external committees which oversee various functions of CCIL under the overall supervision of the Board.

Under the overall supervision and control of the Board of Directors of CCIL a Managing Director has been appointed who is entrusted with the day to day functions of CCIL. The Managing Director is assisted by a very strong group of senior officials who are professionals and market experts and function as Line Officials. Line Officials are supported by middle management and supervisory officials.

CCIL conducts periodical general body meetings and annual general meetings and report to owners the developments in respect of CCIL’s functioning and take their approvals wherever required under the Companies Act, 2013 or under any other requirements.

The Management and Administration of the Company is within the overall legal framework under the Companies Act, 2013 and PSS Act. The same is also documented under Company’s charter and policies governing its management.

CCIL conducts User Group meetings periodically on critical issues touching upon the functioning of CCIL and take their feedback. For major changes, Consultation Paper is also issued for feedback from all relevant stakeholders. Further, under its Bye-laws and Rules read with PSS Act and its Regulations, the accountability of CCIL to its members and regulator are clearly provided. Further, adequate and timely disclosure of the information is made to the shareholders from time to time in terms of the requirements under the Companies Act, 2013.

Disclosure of governance arrangements:

The governance arrangements and changes, reviews are communicated to the owners, relevant authorities, users through the Annual Report which is mandatory under the Companies Act. The recent Companies Act, 2013 has made the Annual Report to be prepared by the Companies to be more detailed and extensive in terms of information and disclosures. The same is also filed with the Regulators. The audited Financial Statements are displayed on the website as required under the Payment and settlement Systems Act 2007. In addition a separate Code of Conduct for Directors has also been put in place by the Company.
**Key consideration 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.

**Roles and responsibilities of the board:**

The overall functioning of the CCIL is overseen by the Board of Directors of the Company. The roles and responsibilities of the Directors are very clearly set out in the Companies Act, 2013 and a separate Governance policy put in place by the FMI.

The provisions of the Companies Act, 2013 contain detailed disclosure requirements especially those relating to disclosures by Directors of their general and specific interests which the Directors have to furnish from time to time which are broadly as follows :-

a) The Directors are required to furnish disclosure of interest / concern at the time of their appointment at the first meeting of the Board in which they participate as a Director.

b) Further, the Directors are required to furnish yearly disclosure at the first meeting of the Board in every financial year.

c) The Directors are also required to disclose to the Company of any change in their status / interest on an ongoing basis, mainly at the first Board Meeting after such change / becoming interested.

The Disclosures, Registers of contracts in which Directors are interested are also audited by the Internal Auditors and Secretarial Auditors

The composite and overall Policy level decisions of CCIL are undertaken by the Board whereas specific interest areas have been delegated to the Committees of the Board.

The Committees undertake specific area of activity entrusted to them and take all decisions connected with it and oversee implementation of the same by close monitoring through periodic meetings. The Committees consist of Directors who are Qualified professionals with rich experience for the specific activity entrusted to them. The details of various Committees of the Board along with their scope are under:
LIST OF COMMITTEES

1. Audit Committee

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<tbody>
<tr>
<td>(i) To recommend the appointment, remuneration and terms of appointment of auditors of the Company;</td>
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<tr>
<td>(ii) To review and monitor the auditor’s independence and performance, and effectiveness of audit process;</td>
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<tr>
<td>(iii) Examination of the financial statement and the auditors’ report thereon,</td>
</tr>
<tr>
<td>(iv) Approval or any subsequent modification of transactions of the Company with related parties;</td>
</tr>
<tr>
<td>(v) Scrutiny of inter-corporate loans and investments;</td>
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<tr>
<td>(vi) Valuation of undertakings or assets of the Company, wherever it is necessary;</td>
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<tr>
<td>(vii) Evaluation of internal financial controls and risk management systems;</td>
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<td>(viii) Monitoring the end use of funds raised through public offers and related matters;</td>
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<tr>
<td>(ix) Oversee the vigil mechanism i.e. Whistle blower policy of the Company.</td>
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<tr>
<td>(x) To review the periodic unaudited financial statements and internal and operational audit reports;</td>
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<tr>
<td>(xii) Such other matters as may be referred to by the Board or as required under the Companies Act, 2013 as amended from time to time.</td>
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2. Committee of Directors for Bye-Laws, Rules and Regulations (BRR)

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<tr>
<td>To recommend to the Board such changes /modifications in the Bye-laws, Rules, Regulations, undertakings, other documents etc of the Company as required.</td>
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3. Technical Approval Committee (TAC)

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<tr>
<td>a. To advise / recommend the IT policies/ approach to be adopted in key IT decisions that are critical for CCIL’s business and oversee IT related resources, systems and infrastructure of the Company.</td>
</tr>
<tr>
<td>b. To advise and approve on various technical matters involving any one time capital expenditure above Rs. 25 lakhs per article/item in Computer / IT related items.</td>
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<tr>
<td>(a) To review the current organizational structure of the Company and compensation package for the staff</td>
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<tr>
<td>(b) To recommend and review recruitment, succession, retirement plan and other HR policy issues.</td>
</tr>
<tr>
<td>(c) such other matters as may be referred to by the Board from time to time.</td>
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5. Committee of Directors on Risk Management

**Scope**

(a) To address and decide on all issues relating to the Risk management of the Company and report the same to the Board at their subsequent meetings.

(b) To lay down criteria/policy for membership relating to admissions, continuation, suspension etc. of various business segments from time to time.

(c) To approve the first time membership of the Company by a new entrant, membership screening and approval process, to call for such additional information and/or clarifications as it deems necessary to consider requests for grant of membership.

(d) such other matters as may be referred to by the Board from time to time.

The Managing Director is authorized:

1) to approve the inter se membership to the various segments of the Company of any member and implementation of the laid down criteria and other policy matters

2) to carry out periodical reviews of the financial statements and reports required to be submitted by members to determine continuance of membership rights.

And report the status to Committee of Directors for Risk Management.

6. Nomination and Remuneration Committee of Directors

**Scope**

(i) To identify persons who are qualified to become directors and who may be appointed in senior management in accordance with the criteria laid down.

(ii) To recommend to the Board their appointment and removal.

(iii) To carry out evaluation of every director’s performance.
(iv) To formulate the criteria for determining qualifications, positive attributes and independence of a director.

(v) To recommend to the Board a policy, relating to the remuneration for the directors, key managerial personnel and other employees in terms of the provisions of section 178(4) of the Companies Act, 2013.

(vi) To scrutinize the candidature of Directors to “fit and proper test” in terms of RBI guidelines and then recommend to the Board.

(vii) To determine/recommend the terms and conditions of the appointment/reappointment, compensation of the Managing Director and Chairperson of the Company.

(viii) To look into Governance issues of the Company.

(ix) Such other activities as may be delegated by the Board or as required under the Companies Act, 2013 as amended from time to time.

7. Corporate Social Responsibility Committee

Scope

(i) To formulate and recommend to the Board, a Corporate Social Responsibility Policy which shall indicate the activities to be undertaken by the Company as specified in Schedule VII of the Companies Act, 2013, specifying modalities of execution of such project or programs and implementation schedule for the same and monitoring the process of such projects or programs.

(ii) To recommend the amount of expenditure to be incurred on the activities referred to in clause (i) in terms of the provisions of Section 135 of the Companies Act, 2013;

(iii) To monitor the Corporate Social Responsibility Policy of the Company from time to time by instituting a transparent monitoring mechanism for implementation of the CSR projects or programs or activities undertaken by the Company.
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(iv) Such other activities as may be delegated by the Board from time to time or as required under the Companies Act, 2013 as amended from time to time.

8. Investment Committee of Directors

Scope

To invest the funds of the Company, in terms of Section 292 (1) (d) of the Companies Act, 1956 (Section 179(3) of the Companies Act, 2013) and in accordance with the Investment norms approved by the Board, in the absence of the Managing Director.

9. Premises Advisory Committee (External Committee)

Scope

To advise the Company on its requirements of commercial / residential premises, acquiring of commercial/ residential premises on ownership / lease basis, floating a request for proposal (RFP), inviting proposals from architects for the construction of the proposed buildings, selection and appointment of Project Managers, consultants, contractors etc., to liaise with relevant agencies and other authorities for obtaining necessary permissions / approvals on behalf of the Company and to do all such incidental acts, deeds, matters and things which may be required in this regard.

Review of performance:

Board has delegated many of its core responsibilities to its Committees and decisions taken by the Committees are reviewed by the Board on a continuous basis. Moreover, RBI as Regulator reviews the performance of the Board at the time of its periodic inspections.

The board members are members of various board committees. Thus, their performance as members of such committees is reviewed by the Board.
Further, the Company has also put in place an evaluation mechanism for the Board members, Board Committees and Board as a whole in terms of the requirements under the Companies Act, 2013.

Key consideration 4. The board should contain suitable members with the appropriate skills and incentives to fulfill its multiple roles. This typically requires the inclusion of non-executive board member(s).

The Company has put in place a policy on directors appointment and remuneration including the criteria for determining qualifications, positive attributes and independence of a Director, etc. of the Company.
Skill sets necessary are in the areas of –
  a)  Treasury
  b)  Risk Management
  c)  Information Technology
  d)  Legal
  e)  Management
  f)  Accounts and Audit.

Independent Directors with these skill sets have been inducted in CCIL Board. Further, the core promoters of the Company who are also the market participants are advised to nominate serving officials as Nominee Directors of CCIL.

CCIL has been providing sitting fees to the Board members except to the Managing Director for attending the Board and committee meetings under the Companies Act, 1956 and now the same would be paid in terms of the Companies Act 2013 where in the limits of sitting fees has been revised upwards. However, as it is a public utility organization and the Directors are professionals of very high standing in the market, these incentives however do not have any bearing on the long term achievement of the CCIL’s objectives.

The Managing Director is remunerated subject to the provisions of the Companies Act.

The Board of Directors presently comprises of fourteen (14) Directors, consisting of nominees of Shareholders, Independent Directors, Managing Director and a Non-Executive Chairperson.

The FMI adopts the definition of independent Director as set out under the Companies Act 2013, which is applicable to it and as enclosed herewith. The FMI also categories the Directors into independent and non-independent Directors as per the requirement of the Companies Act as also stipulated by its regulator i.e. RBI and discloses the same accordingly.
Criteria of Independence as laid down under Section 149(6) of the Companies Act, 2013 and rules made thereunder:

(a) who, in the opinion of the Board, is a person of integrity and possesses relevant expertise and experience;

(b) (i) who is or was not a promoter of the company or its holding, subsidiary or associate company;
   
(ii) who is not related to promoters or directors in the company, its holding, subsidiary or associate company;

(c) who has or had no pecuniary relationship with the company, its holding, subsidiary or associate company, or their promoters, or directors, during the two immediately preceding financial years or during the current financial year;

(d) none of whose relatives has or had pecuniary relationship or transaction with the company, its holding, subsidiary or associate company, or their promoters, or directors, amounting to two per cent. or more of its gross turnover or total income or fifty lakh rupees or such higher amount as may be prescribed, whichever is lower, during the two immediately preceding financial years or during the current financial year;

(e) who, neither himself nor any of his relatives—
   
(i) holds or has held the position of a key managerial personnel or is or has been employee of the company or its holding, subsidiary or associate company in any of the three financial years immediately preceding the financial year in which he is proposed to be appointed;
   
(ii) is or has been an employee or proprietor or a partner, in any of the three financial years immediately preceding the financial year in which he is proposed to be appointed, of—
   
(A) a firm of auditors or company secretaries in practice or cost auditors of the company or its holding, subsidiary or associate company; or
   
(B) any legal or a consulting firm that has or had any transaction with the company, its holding, subsidiary or associate company amounting to ten per cent. or more of the gross turnover of such firm;
   
(iii) holds together with his relatives two per cent. or more of the total voting power of the company; or
   
(iv) is a Chief Executive or director, by whatever name called, of any nonprofit organisation that receives twenty-five per cent. or more of its receipts from the company, any of its promoters, directors or its holding, subsidiary or associate
company or that holds two per cent. or more of the total voting power of the company; or

(f) who possesses appropriate skills, experience and knowledge in one or more of the fields of finance, law, management, sales, marketing, administration, research, Corporate Governance, technical operations or other related to companies business and such other qualifications as may be prescribed.

Key consideration 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.

Roles and responsibilities of management:

Responsibility of CCIL’s management is to oversee the overall functioning of the Company and to conduct the affairs of the Company under the control and supervision of the Board. Senior Management is vested with the responsibility of the day to day functions of the Company. They act as line management.

Board through periodic review of the functioning of CCIL in various areas sets objectives and goals. Based on these objectives and goals, the performance of senior management is monitored.

Experience, skills and integrity:

In terms of Company’s policy senior management persons are to be identified based on their professional/technical qualifications, wherever required, market/industry experience as also the knowledge, expertise in the relevant areas of operations for which they are identified. Internally laid down appropriate screening process is also in place.

Management performance is suitably assessed by top management. There are necessary checks and balances built in the contract of employment including the process for removal of Senior Management, if necessary.

Key consideration 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.

Risk management framework:
The Committee of Directors on Risk Management identifies various risk of the Company. The Committee formulates, monitor and review the Company’s risk management framework. The risk related to Information Technology are monitored and reviewed by Technical Approval Committee of the Board. The Audit Committee is responsible for evaluating the risk management systems of the Company in terms of Companies Act, 2013. Various aspects of operational risk are monitored by the Audit Committee, the Risk Management Committee, and the Technical Approval Committee. Further, Regulatory and Compliance Risks are monitored by the Audit Committee.

Board Committee on Risk Management is authorized to examine and approve risk tolerance policies. Some important areas like changes in exposure limits on Settlement Banks are required to be approved by the Board. Limits are approved at various levels as approved in the policy.

Review of risk policies by the Committee of Directors on Risk Management is usually annual. The Committee also periodically reviews the effectiveness of critical control measures.

Authority and independence of risk management and audit functions:
Risk Management Dept. headed by Chief Risk Officer is entrusted with the responsibility of designing and carrying out risk management processes for the CCP. Reporting lines of risk function is to MD who is an Executive Director with an additional line of reporting to the Chairman of the Committee of Directors on Risk Management, who is an independent Director. Audit of risk function is carried out by internal auditors as well as by external professionals.

The Committee of Directors on Risk Management approves all risk models. These models are also validated by taking services of independent experts.

Key consideration 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.

Identification and consideration of stakeholder interests:
User Groups are consulted on all important matters and any suggestion is considered carefully and transparently. For new products and services, such consultation starts at the design stage. Moreover, any change in an existing process is notified to the members (Clearing Participants) 30 days in advance. Market bodies such as FIMMDA
and PDAI are consulted for fixed income products and Rupee Derivatives and FEDAI for Forex products.

Participants meet at regular intervals to discuss about the Clearing and Settlement services. They provide feedback regarding their difficulties, if any and suggestions for improvements. Apart from this, for specific areas taken up for development, users are consulted through user groups. Consultation Papers are issued to members and usually to general public as well when a major structural change is proposed and feedbacks are duly considered.

Inputs received from members and other stakeholders are made available to the Board. Review of products and risk processes by external experts brings out views of the participants and of the market bodies.

Disclosure:

Any change to processes is notified to members at least 30 days in advance as required under PSS Act. All major decisions are disclosed to the relevant stakeholders and where appropriate, to the public through the Annual Report published every year and by publishing its audited financial statements on website. Major announcements and changes are also put on the website.
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.

Key consideration 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.

Risks that arise in or are borne by the FMI:
Types of risks faced are: Credit Risk (including Settlement Bank Risk), Market Risk, Liquidity Risk, Operational Risk, Legal Risk and Reputation Risk

Risk management policies, procedures and systems:
Risk Management processes are in place for all settlement segments and related activities. These allow CCIL to identify, measure, monitor and manage the associated risks. The TR also, has adequate system level checks and controls for carrying out the processes.
Credit Risk exposures on members are covered through netting, DVP settlement and through collection of margins. Risk based margining models are used for all products. Back-testing of margining models and stress testing to assess adequacy of resources are carried out on daily basis. Arrangements are in place to take care of settlement shortages. Settlement Bank related exposures are also closely monitored.

There is a provision to aggregate liquidity exposures in various segments. In respect of credit risk exposure, segment-wise approach is adopted. Integrated exposure view is also available.

Review of risk management policies, procedures and systems:
New processes/policies developed internally are put up to the Board Committee on Risk Management for approval. Clearing participants are consulted, if required. Any change in process also requires RBI approval and at least 30 days’ advance notice to the participants is required before implementation.
Board Committee on Risk Management reviews critical control aspects and all major risk related issues during their periodic meetings (average about six in a year). There is also periodic evaluation of risk processes by external experts.
User group consultation, extensive back testing of margining model on daily basis and periodic review by external experts ensures due coverage of the changing environment and market practices.
Key consideration 2. An FMI should provide incentives to participants and, where relevant, their customers to manage and contain the risks they pose to the FMI.

Clearing participants have full access to their own trade data, margin requirements on their trades accepted for clearing and collaterals placed towards margins on an on-line basis through newly developed Integrated Risk Information system (IRIS) and through reports. They also get timely information in regard to their daily settlement obligations with individual details of trades etc. Moreover, any limits set on the clearing participants are informed to them. They also have access to the processes employed for setting limits etc.

In case of margin inadequacy, clearing participants are required to deposit additional margin and also to pay applicable penalty on margin shortfall. Multilateral netting provided by CCIL leads to substantial liquidity savings which provides significant incentives for the participants.

Clearing participants also have on-line access to their trade data, settlement status, collateral position, default fund contribution and liquidity exposures etc. The Clearing Participants have access to adequate information through periodic reports which assist them to manage and contain their risks. Stringent penalties are levied as deterrents to defaults.

Key consideration 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.

Material risks:

As a CCP, CCIL is dependent on Settlement Banks and RBI’s RTGS & CBS systems and also on its member banks which provide Lines of Credit. CCIL has more than one settlement bank for USD – thus, in case one is inaccessible, the services of other Settlement Bank can be used. Similarly, custody holdings are divided across two custodians. INR settlement is in central bank money. CCIL is member of both SWIFT and SWIFT service bureau, and the latter serves as a fall back for the former. In case SWIFT itself fails, CCIL has Fax-Call back arrangements and this arrangement is tested regularly.

Settlement Bank Risk is controlled through setting exposure limits and monitoring such exposures on a regular basis (mostly on on-line basis). Settlements through RBI’s
RTGS & CBS systems are considered as credit risk free. Hence, monitoring happens in terms of tracking of settlement related flows through these systems.

**Risk management tools:**

**Settlement Banks:**

Exposure on the Settlement bank through which the highest volume of domestic settlement passes through is monitored on line. Similar process has also been started for monitoring exposures on 5 other settlement banks for domestic market and 2 banks relating to USD settlements. Exposures beyond set limits are monitored more closely for risk control.

Process of daily back-testing and follow up measure to handle exceptions ensures that the risk management tasks continue to remain efficient. Board Risk Committee also closely supervises the outcome of risk management processes and activities. External review of risk processes are also carried out.

**Key consideration 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.

**Scenarios that may prevent an FMI from providing critical operations and services:**

These are identified through Business Continuity management process. Detailed analysis is recorded in the Business Continuity Plan. The exercise is very detailed and takes all possible disruption scenarios into account.

The scenario analysis as mentioned above also includes failure of connected systems.

**Recovery or orderly wind-down plans:**

CCIL Regulations have been amended to provide for its insolvency and this will guide the requirements. Development of a recovery plan has been taken in hand.

CCIL has adequate capital set apart to handle such strategies.
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.

Key consideration 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.

Credit exposures on Clearing Participants are managed by collecting risk-based margins from them.

Current Exposures are covered through collection of Mark to Market margin. Potential future exposures are taken care of through collection of initial margins. There is provision for collection of Volatility Margin and Intra-day MTM margin to ensure that the margin cover remains adequate even in case of market volatility. Credit risk is mainly equivalent to market risk due to DvP nature of settlement.

Back testing process validates the adequacy of coverage of credit risk.

Settlement Bank risk for all settlements is managed through a separate settlement bank risk management process.

There is a continuous process of evaluation. Periodic interactions with the clearing participants help tracking developments in the market and likely impact thereof on CCIL’s risk processes.
Key consideration 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.

Sources of credit risks:
   i) Exposures to clearing participants
   ii) Exposures to Settlement banks and banks where investments are made.

Exposure Management:
   i. In case of exposures to clearing participants, margining process allows measuring credit exposures.
   ii. Intra-day MTM margining is in place in all segments.
   iii. Exposures to Settlement Banks are controlled through setting of limits (intra-day and end of the day).
   iv. Exposures to banks where investments are made are monitored through setting of maximum limits for such investments

Settlement related exposure management
   i. DvP in Securities and CBLO segments and PvP in Forex (INR/USD) Settlement.
   ii. In Forex (INR/USD) Settlement, Net debit cap is used
   iii. In all segments, marking positions to market is in place.

Key consideration 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.

Coverage of exposures to each participant:
Margins collected from the members, member contributed Default Funds in Forex Settlement and Forex Forward segments and its own resources including specially created Settlement Reserve Fund are the financial resources providing the cover.

Test for sufficiency of financial resources is evaluated through daily back and stress tests. Margins are collected at 99% Confidence Level. The margins collected along with other available resources adequately cover the exposures taken.
Settlement is guaranteed by CCIL in all segments where it offers CCP Clearing. Risk in those segments are measured based on VaR.

**Key consideration 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.

**Coverage of current and potential future exposures to each participant:**

Current and potential future exposures to each participant are covered through margins collected from the members, member contributed Default Funds and its own resources. These financial resources are in the form of Govt. of India Securities and cash. Hence, these are easily accessible.

Margins are collected at 99% Confidence level. Margins along with other resources adequately cover credit exposure to the largest settlement participant and its affiliates. Test for sufficiency of financial assets is carried out on daily basis.

**Risk profile and systemic importance in multiple jurisdictions:**

CCIL does not clear any instrument with “jump-to-default price change” risk. It is also not a CCP which is systemically important in multiple jurisdictions.

**Additional financial resources:**

CCP has its own Settlement Reserve Fund of Rs.840 Crores as on 31st March’15 which has since been increased to just above Rs.1000 crores. Apart from this, it has arranged
for lines of credit in both funds and securities to take care of immediate liquidity shortfall while meeting an event of a settlement shortage.

CCIL does not offer settlement in product with jump to default risk. Risk profile for the CCP clearing offered by CCIL has been taken into consideration while assessing resource requirement.

There is a daily process to evaluate adequacy of resources through Stress test.

**Supporting rationale and governance arrangements:**

Board Committee on Risk Management reviews Stress Test results regularly. Stress Test results are compared as against the total resources available.

The governance arrangements have been described in response to above-mentioned questions.

*Key consideration 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 participant’s increases significantly. A full validation of a CCP’s risk-management model should be performed at least annually.

**Stress testing:**

Stress Test is carried out on daily basis. Resource requirement is assessed from such stress test.

Apart from internal review on monthly basis, results are placed before Board Committee on Risk Management during their meeting (average about six meetings in a year).

Parameters regarding rate scenarios are updated on monthly basis.

Periodic external review for the stress testing is also carried out.
Review and validation:
External review carried out in the past in about once in 3 years – periodicity has now been increased to have the review on yearly basis.

Risk management models are validated through daily back-testing, external validation is in place to validate these models, frequency of which is now increased to once in a year as required under PFMI.

Key consideration 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.

Highest historical volatility seen in the past about 10 years for each of the identified risk factors (tenor-rates) is used. This is further stepped up by 50%.

Key consideration 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.

Allocation of credit losses:
For Forex Forward Segment where member contributed default fund is in place, the approach is to allocate uncovered credit losses in the under-noted sequence:
   a) Contribution of defaulter member to the Default Fund.
   b) 25% of balance in CCIL’s Settlement Reserve Fund.
   c) Any residual loss allocated to Default Fund contribution of surviving clearing participants of this segment.

Similar approach is proposed to be followed for newly started CCP Clearing for Interest Rate Swaps & FRA trades.
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For Forex (INR/USD) Settlement Segment, risk waterfall in place as detailed below:

a) Contribution of defaulter member to the Default Fund.

b) 15% of balance in CCIL’s Settlement Reserve Fund.

c) Any residual loss is allocated to Default Fund contribution of surviving clearing participants of this segment

For other segments, any uncovered credit loss will be absorbed by CCIL by debit to its Settlement Reserve Fund and then from its other resources. Regulatory approval has been sought for introducing Default Fund in Securities & CBLO Segments.

As regards exposure of Liquidity Providers on CCIL as a CCP, counter-value funds/securities of the Defaulter member provides adequate cover.

Replenishment of financial resources:
For member contributed Default Fund, replenishment to be in 1 working day. For CCIL’s own resources, capital and reserves will provide necessary cover.
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.

Key consideration 1. An FMI should generally limit the assets it (routinely) accepts as collateral to those with low credit, liquidity, and market risks.

CCIL accepts Cash and Government of India securities as collateral.

Trading volume in the market (i.e. market liquidity) is the only guiding factor for acceptance of Government Securities as collaterals in all segments other than in CBLO segment. In CBLO segment, all GOI securities and some special securities issued by Govt. of India are acceptable as collateral.

Requirements for acceptable collateral are reviewed on monthly basis. There is no provision to accept collateral on exceptional basis.

No collateral other than the eligible collateral is accepted and if collateral moves out of eligible list, the Clearing Participant is required to withdraw or substitute the same within next fortnight.

As only Govt. Securities and Cash are taken as collateral, no significant wrong-way risk exposure exist at present.

Key consideration 2. An FMI should establish prudent valuation practices and develop haircuts that are regularly tested and take into account stressed market conditions.

Valuation practices:

Daily valuation happens as at the end of the day. In CBLO segment, there is additionally a process to check for value depletion of collaterals on intra-day basis.

As collaterals are usually liquid Govt. of India Securities, model prices are very rarely used for such valuation – applicable only when a liquid security suddenly turns illiquid. In such a case, such security becomes ineligible in the next month-end review.

In CBLO segment where illiquid Govt. of India Securities are also taken as collaterals, valuation using model prices happen; but CCIL collects higher haircut to take care of any risk from valuation using model prices.

Haircutting practices:
Based on Value at Risk. Securities segment back testing provides necessary indirect validation of adequacy of haircut rates used.

Adequacy of haircut is validated indirectly through daily back testing process.

*Key consideration 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.

As the eligible collaterals are Cash and Govt. Securities, potential procyclicality impact is not very significant.

Impact of Stress is being built by extending impact of Volatility Margin on haircut as well. Haircuts on Special Securities accepted as collateral in CBLO segment have been kept at very high level to take care of impact of stress.

*Key consideration 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.

Market liquidity is the determining factor for assets to be considered as eligible.

Concentration risk is evaluated through a monthly review process. However, as collaterals accepted are Central Govt. Securities and cash, no concentration limit was required to be stipulated.

*Key consideration 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.

Cross Border collateral is accepted in the form of USD funds. These funds are kept in US Govt. T-bills. Hence credit, market and operational risk exposures on this account are minimal.

CCIL ensures that cross-border collaterals can be used in a timely manner. Funds are invested in US Govt. T-bills. USD LOCs are committed LOCs and are backed by USD T-bills as collaterals.

Arrangements are periodically reviewed.

Also collaterals maintained in the form of T Bills are liquid and can be sold easily to meet requirements. Such collateral is also maintained in the custody of the Settlement Bank itself- so there is no time lost in transmission.

*Key consideration 6.* An FMI should use a collateral management system that is well-designed and operationally flexible.

*Collateral management system design:*
Arrangements are in place for Clearing Participants to deposit/withdraw/ substitute collaterals within a very short time. Margin calls are on-line and efficient.

There is no re-use of collateral. However, due to having the capability to move collaterals very quickly, clearing participants can use free collaterals effectively.

Operational flexibility:
Operational flexibility is of very high order as clearing participants can even simulate impact of deposit/withdrawal of collaterals on an on-line basis for segments other than CBLO. Even in CBLO segment, users have access to on-line updated values from deposits/ withdrawals. Most of the collateral related processes are automated.

The process of collateral movement is through systems run by Central Bank and is therefore unlikely to be impacted adversely during times of market stress.
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.

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

Description of margin methodology:
Margins cover both already incurred loss in value and Potential Future Exposures. Potential Future Exposures are covered using VaR based margins in all segments. On the other hand, already incurred loss is covered through Mark to Market margins.

Regulations and notifications issued there-under to the members detail the margining methodology. These are available to the participants.

Margin methodology is detailed in regulations and notifications issued thereunder. Moreover, there are utilities given to members so that they can simultaneously verify their margin requirement on an online basis.

Higher Initial Margin is collected from weaker members in Forex and Forex Forward segments.

Margining is risk-based. Hence, it reflects credit exposures adequately. Margin information is made available on-line to the clearing participants.

In segments like Forex Forwards, extra margin is collected through setting replenishment and rejection levels to cover possible cases of delay in replenishing any margin shortfall. In other segments, margins collected usually provide adequate coverage. Haircut is also accounted for in case securities are provided as collaterals.

Operational components:

In case of a margin shortfall due to payment failure, no new trades are accepted. In case of derivative trades, there is margin buffer which ensures that no new trade is accepted after 95% margin utilisation. In case default continues, trades of Defaulter member would be closed out.

Infrastructure facilitates very quick replenishment of margin. Also, penalty is imposed for any delayed deposit of margin. Participants are all based in the same time zone.
Key consideration 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.

Sources of price data:
In some segments (Securities & CBLO), CCIL uses trade data available with it. In case of Forex, it uses rates from Reuter Information System which is considered very reliable.

There is a process to compare the change from previous day's rates which allows necessary control.

Estimation of prices:
There are provisions to handle such situation through use of Model Prices.

Back-testing of margining provides an indirect check on quality of model used to estimate the price.

Key consideration 3. A CCP should adopt initial margin models and parameters that are risk-based and generate margin requirements sufficient to cover its potential future exposure to participants in the interval between the last margin collection and the close out of positions following a participant default. Initial margin should meet an established single-tailed confidence level of at least 99 percent with respect to the estimated distribution of future exposure. For a CCP that calculates margin at the portfolio level, this requirement applies to each portfolio’s distribution of future exposure. For a CCP that calculates margin at more-granular levels, such as at the sub portfolio level or by product, the requirement must be met for the corresponding distributions of future exposure. The model should (a) use a conservative estimate of the time horizons for the effective hedging or close out of the particular types of products cleared by the CCP (including in stressed market conditions), (b) have an appropriate method for measuring credit exposure that accounts for relevant product risk factors and portfolio effects across products, and (c) to the extent practicable and prudent, limit the need for destabilising, procyclical changes.

Initial margin model:
Initial margin is based on Value at Risk at 99% Confidence Level.

Look back period is between 250 days and 1000 days depending upon the segment.
For derivative products, look back period is shorter to lay more emphasis on recent period rate scenario. There is however a provision of minimum margin to take care of situation of low volatility in the shorter period.

Time required to close-out defaulter’s positions from the point of trade has been estimated at 2 to 3 days based on the nature of the instruments cleared. Products are relatively simpler products without any non-linear pay off profile.

The liquidation horizon was taken based on above-mentioned estimate. Confidence interval at 99% has been considered adequate as back testing results have revealed that even in extreme cases, losses are well covered by available resources.

Closeout and sample periods :
As explained above, close-out period is up to 3 days – depends on a conservative estimate of period which should be adequate to close out a defaulters’ position. Stressed market condition is not considered.

For Cash Market Products like Govt. Securities Settlement, Forex (USD/INR) Settlement and CBLO Settlement, sample period of 1000 days are used. For Derivative products like Forward Foreign Exchange and Interest Rates, shorter period of 500 days or 250 days are used. VaR model for Derivatives segments are based on weighted historical models.

Products being less complex, tradeoff between prompt liquidation and adverse price effects has not been considered.

Procyclicality and specific wrong-way risk:
Minimum margin has been prescribed. However, the possibility of margin suddenly moving up due to increased volatility is possible; but the extent of shift is unlikely to be high. CCIL has provision for collection of volatility margin when there is unusual volatility in the market.

Collaterals being cash and government security, impact of wrong way risk is minimal.

Key consideration 4. A CCP should mark participant positions to market and collect variation margin at least daily to limit the build-up of current exposures. A CCP should have the authority and operational capacity to make intraday margin calls and payments, both scheduled and unscheduled, to participants.
Variation margin, MTM margin in CCIL terminology, is collected based on end of the day market rates. Intra-day MTM margin collection process is also in place.

Intra-day margin calls for both additional Initial Margin (in the form of Volatility Margin) and Mark to Market margins are made and collected.

*Key consideration 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.

**Portfolio margining:**
Each product is margined separately. Even at product level, full offset is not allowed for positions on similar securities or positions settling on different settlement dates.

No cross-margining arrangement is in place.

Offset given is between positions settling on different settlement dates. In such cases also, there is a process of disallowance through imposition of spread margin (which effectively reduces extent of offset).

**Cross-margining :**
Cross margining is not in place.

**Robustness of methodologies:**
Back-testing of margining on daily basis helps in assessing the robustness of margining model. Stress testing determines adequacy of financial resources to meet participant default.

*Key consideration 6.* A CCP should analyse 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.

**Back testing and sensitivity analysis:**
Coverage of back testing is 100% and 99% confidence level is used as benchmark to assess efficiency of margining model. As margining model does not allow offset
amongst positions in different asset classes, testing for efficiency of cross margining is not required.

The cases of inadequacies are analyzed in detail and corrective action is taken in consultation with the Board Risk Committee and the Regulator.

Daily back-testing results display adequate coverage. Live market data is used for such back testing.

Potential shortcomings of the margin model:
Minimum margin in Forex Forward Segment was found to be somewhat low during the period of unusually high Rupee-USD exchange rate volatility in June to Aug ‘13; corrective measures were initiated. However, many of these shortfalls could be quickly covered through collection of Volatility Margin.

Margin model performance:
No shortcoming noticed.
Results of the back testing are shared with Board Risk Committee and are considered for internal model review. These results are made available to Regulators when asked for.

Key consideration 7. A CCP should regularly review and validate its margin system.
Periodic external review is in place – used to take place once in about 3 years. Frequency has since been increased to have the review on yearly basis.
Any material revision of margin system is carried out with approval from Board Committee on Risk Management and with Regulatory approval. Changes are notified to Clearing Participants well in advance (usually at least 30 days).
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.

Key consideration 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.

There is a process of on-line monitoring of liquidity exposures on participants and on settlement banks. Liquidity exposures on other entities are not very significant.

Committed Lines of Credit in Rupee and USD funds and in securities have been availed of by CCIL. In addition, CCIL has adequate quantum of Government Securities in its Settlement Guarantee Fund with the help of which it can raise additional liquidity.

As LOCs given by banks for drawal at their RBI accounts are supported by funds kept segregated, no separate treatment is required.

In case of both INR and USD, Clearing Participants can share this risk through shortfall allocation. Moreover, PvP/ DvP settlements in all segments reduce liquidity risk significantly.

Liquidity stress test run on daily basis provides good estimate of maximum liquidity exposures and CCIL’s ability to handle such exposures.

Key consideration 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.

CCIL can track any event of shortfall within a short time and take corrective measures.

For Rupee settlements at Central Bank i.e. Reserve Bank of India and for Dollar Settlement at Settlement Banks, LOC usage for shortage is automatic.

Settlements are monitored on an ongoing basis by tracking transactions in Settlement accounts.

Key consideration 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.

Failure to settle daily obligations in both in Rupees and US Dollars by participants on whom the system would have largest exposures were taken as the basis for carrying out liquidity stress test.

Key consideration 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.

Sufficiency of liquid resources:

Risk profile and systemic importance in multiple jurisdictions

Cover 2 requirement is not applicable. CCIL provides settlement of cash products in the wholesale debt, forex and money markets in India. Additionally, it clears forward forex trades as a CCP and has just started CCP clearing for interest rate swaps. With regard to INR-USD settlement, while it settles USD leg of the transactions in US, clearing is onshore. Hence, it is not treated as systemically important in multiple jurisdictions And thus, liquid resources to Cover 1 requirements are maintained.

Key consideration 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.
Size and composition of qualifying liquid resources and availability and coverage of qualifying liquid resources:

LOC at RBI: in INR Rs.2900 Crs.

LOC at Settlement Bank: in INR Rs.6300 Crs.; in USD 575 million

Further, CCIL has overdraft limits from banks with whom the cash SGF balances are deposited.

In addition, CCIL has adequate quantum of Government Securities (of market value Rs.30,145.43 Crores) in its Settlement Guarantee Fund (excluding collaterals for CBLO) with the help of which it can raise additional liquidity.

As per current estimate no collateral or investment is likely to be encashed on the day of default. However, counter-value assets held back from the defaulter will be used for Default handling.

CCIL does not have access to routine credit from Reserve Bank of India.

Key consideration 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.

Size and composition of supplemental liquid resources:

Settlement Reserve Fund: Rs.840 Crs (since increased to Rs. 1000.00 Crores)

Collaterals in SGF: INR Cash Rs.2163 Crs. & USD Cash equivalent to Rs.3120.64 Cr.

Forex Forward Segment - Default fund Rs.1098.26 Crs.

These funds have been kept totally segregated only for meeting events of shortages/defaults by participants.

Use of supplementary liquid resources is not envisaged except when there is a default in Derivatives Segments [Funds in Settlement Reserve Fund & Segment-specific Default Fund would be used as per risk waterfall to meet the shortfall from close-out effected to manage defaults].
Availability of supplemental liquid resources:
Govt. Securities are likely to be most liquid. Hence, there is no worry regarding liquidation.

Key consideration 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.

Use of liquidity providers:
Providers of the FMI’s minimum required qualifying liquid resources are Clearing Participants and Settlement Banks.
These are banks of excellent financial standing.
Moreover, in case of INR committed LOCs, segregated funds equal to LOC amounts are made available in a separate current account by these banks at Reserve Bank of India.

Securities available in the Securities segment SGF can be used as collateral for accessing central bank credit.

Reliability of liquidity provider:
As indicated above, rupee denominated LOCs at RBI are kept separately funded by the LOC extending banks. Such funds are on an automatic draw down basis and as such get tested as a part of settlement process.

USD Settlement banks are selected based on their rating, net worth and access to adequate liquidity in USD funds thus assuring their capacity to perform.

Liquidity providers’ potential access to credit at the central bank of issue is also taken into account.

Liquidity stress test is run on daily basis and the result is reviewed for identification of any exceptional situation.
Key consideration 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.

Access to Central Bank accounts, payment and security services available for settlement in the accounts of clearing participants who have accounts with Central Bank i.e. Reserve Bank of India.

Central bank are used services to enhance management of liquidity risk to the maximum possible extent.

CCIL is developing client clearing structure. With this, use of central bank services would further increase.

Settlement of US Dollar leg of INR/USD Settlement through Central Bank is not possible as Central Bank in US (i.e. Federal Reserve) does not allow foreign CCPs to have such access to their system.

Key consideration 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.

Stress test programme:
Stress test is carried out on daily basis. Settlement default by participants whose default could lead to largest exposures in Rupee and in US Dollar is considered.

Managing Director reviews the Stress Test results on daily basis. Moreover, Board Risk Committee also reviews the result during its periodic meeting.
Stress test scenarios:
Highest shift noticed in the risk factors in the past 10 years stepped up by 50% is now used for stress test.

The stress test model thus takes peak historical volatilities and forward looking stress scenarios into account. Liquidity risk is however monitored through a separate Stress Test model.

Liquidity Stress test model also takes forward looking stress scenarios into consideration to the extent required.

Review and validation:
Parameters are reviewed on a monthly basis. Assumptions are externally reviewed - frequency now increased to once in a year.

External review was being carried out – frequency now being increased to once in a year.

Approved Stress Test Process document lists out rationale for and its governance arrangement.

Key consideration 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.

Same day settlement:
Processes are in place to use Lines of Credit (LoC) availed by CCIL for this purpose. Processes are also in place for handling shortfalls beyond available LoC.

These are expected to take care of all eventualities. Shortfall handling processes are being made more robust to ensure same day settlements

Replenishment of liquidity resources:
Shortfall handling process and Default Handling process combined together will take care of such situation.
Principle 8: Settlement finality

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

Key consideration 1. An FMI’s rules and procedures should clearly define the point at which settlement is final.

Point of settlement finality:
Settlement is final and irrevocable when the netting for settlement is over and obligations are determined.

The settlement finality is provided for under the governing document of CCIL i.e. Bye-laws, Rules and Regulations (BRR). This document is available in CCIL website.

CCIL Bye-laws, Rules & Regulations duly supported by Payments and Settlement Systems Act creates the required supporting structure.

The Payments and Settlement Systems Act and the Bye-laws Rules & Regulations of the CCP which is part of subordinate law, very clearly stipulates legal certainty of finality.

Finality in the case of links:
Consistency of finality is achieved very clearly in terms of the Payments and Settlement Systems Act, the Bye-laws Rules & Regulations of the CCP in respect of SSS which is run by the CCP and the LVPS run by the Central Bank i.e. RBI.

Key consideration 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.

Final settlement on the value date:
Final settlement is provided on the settlement date itself.

CCIL has not experienced any deferral of final settlement so far except to handle unscheduled holidays in terms of its Bye-laws, Rules and Regulations.

Intraday or real-time final settlement:
CCIL settles trades only at the end of the day and provides end of the day settlement finality.
In case of any funds or securities shortage at the time of settlement, there is a clearly laid down process for shortfall handling.

On-line view of balances is available to clearing participants maintaining accounts at RBI. Moreover, Settlement Completion Reports are provided to participants by CCIL after settlement is over.

Risk control in existence is considered adequate for day-end settlement. Intra-day settlement does not appear beneficial to the market as this will adversely impact efficiency by reducing netting benefits.

Settlements are at day-end. Hence, intra-day or real time settlement is not under consideration.

*Key consideration 3. An FMI should clearly define the point after which unsettled payments, transfer instructions, or other obligations may not be revoked by a participant.*

Reported transactions cannot be cancelled unilaterally after those are matched in the system. Delivery/payment, once received from a participant for settlement is final and irrevocable. Similarly obligations cannot be altered after the netting for clearing is completed by CCIL.

No provision to revoke settlement exists.

No extension to the revocation deadline is possible; hence, not applicable.
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 minimise and strictly control the credit and liquidity risk arising from the use of commercial bank money.

Key consideration 1. An FMI should conduct its money settlements in central bank money, where practical and available, to avoid credit and liquidity risks.

Money Settlements are as under:

- **Securities Segment** –
  a) INR funds settlement is in Central Bank money (settlement in identified commercial banks for participants who are not allowed to open funds account at Central Bank).
  b) Securities Settlement – only through depository i.e. the Central Bank.

- **Forex Settlement (INR/USD) Segment** –
  a) INR funds settlement in Central Bank money.
  b) USD funds settlement through a designated commercial bank in US.

- **CBLO Settlement** – INR funds settlement in Central Bank money (settlement in identified commercial bank for participants who are not allowed to open funds account at Central Bank). For settlement of Rupee funds in designated commercial banks, final exchange between designated commercial bank and CCIL happens at Central Bank with minimum delay.

A large part of settlement is in Central Bank money. When the participants maintain accounts with commercial banks, settlements on their accounts are not in Central Bank money. Moreover, CCIL is not allowed to open US Dollar a/c in US with Central Bank (Federal Reserve). US Dollar Settlement is therefore not in Central Bank money.

Key consideration 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.

Settlement Bank Risk Management Policy is in place to manage Settlement Bank Risk which covers both credit and liquidity risk on Settlement Banks.

There is a laid down minimum standard for selecting a bank as a settlement bank. Moreover, limits are set on these settlement banks for intra-day and overnight exposures; exposures against such limits are closely monitored.
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Key consideration 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.

Criteria laid down for selection of settlement bank are:

a) Acceptable Financial standing (credit rating of investment grade, wherever available)
b) Previous experience as Settlement Bank
c) No record of any persistent default
d) Existence of effective Risk Management set up
e) No record of liquidity problem faced in past 3 years
f) Adequate IT infrastructure to support settlement activity (with suitable redundancies) with a well spread out integrated branch net work

Concentration of credit and liquidity risks to the commercial settlement banks is managed by setting limits on exposures and by closely monitoring such exposures.

Limits set as above helps in monitoring concentration as well and settlements passing through such settlement banks are monitored.

Annual review of position regarding adherence to the criteria is carried out.

Key consideration 4. If an FMI conducts money settlements on its own books, it should minimise and strictly control its credit and liquidity risks.

No money settlement happens in CCIL books.

Key consideration 5. An FMI’s legal agreements with any settlement banks should state clearly when transfers on the books of individual settlement banks are expected to occur, that transfers are to be final when effected, and that funds received should be transferable as soon as possible, at a minimum by the end of the day and ideally intraday, in order to enable the FMI and its participants to manage credit and liquidity risks.

CCIL’s legal agreements with its settlement banks state that transfers are final when effected, and that funds received by CCIL are transferable.

Funds are transferred latest by the end of the day. Intra-day transfers are possible but have not yet been resorted to.
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.

Key considerations 1. An FMI’s rules should clearly state its obligations with respect to the delivery of physical instruments or commodities.

Physical delivery: Not applicable

Key considerations 2. An FMI should identify, monitor, and manage the risks and costs associated with the storage and delivery of physical instruments or commodities.

Not applicable
Principle 11: Central securities depositories

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

**Key consideration 1.** A CSD should have appropriate rules, procedures, and controls, including robust accounting practices, to safeguard the rights of securities issuers and holders, prevent the unauthorised creation or deletion of securities, and conduct periodic and at least daily reconciliation of securities issues it maintains.

**Safeguarding the rights of securities issuers and holders:**
- Not applicable

**Prevention of the unauthorised creation or deletion of securities:**
- Not applicable

**Periodic reconciliation of securities issues:**
- Not applicable

**Key consideration 2.** A CSD should prohibit overdrafts and debit balances in securities accounts.
- Not applicable

**Key consideration 3.** A CSD should maintain securities in an immobilised or dematerialised form for their transfer by book entry. Where appropriate, a CSD should provide incentives to immobilise or dematerialise securities.
- Not applicable

**Key consideration 4.** A CSD should protect assets against custody risk through appropriate rules and procedures consistent with its legal framework.
- Not applicable

**Key consideration 5.** A CSD should employ a robust system that ensures segregation between the CSD’s own assets and the securities of its participants and segregation among the securities of participants. Where supported by the legal framework, the CSD should also support operationally the segregation of securities belonging to a participant’s customers on the participant’s books and facilitate the transfer of customer holdings.
- Not applicable
6. A CSD should identify, measure, monitor, and manage its risks from other activities that it may perform; additional tools may be necessary in order to address these risks.

Not applicable
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.

Key consideration 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.

USD/INR Settlement (Forex Segment), settlements are on PvP basis from 6th April ‘15. In all other cases, settlements are on DvP basis.

Finality of settlement of obligations is simultaneous.

CCIL does not rely on PvP settlement of any other FMI.
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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.

Key consideration 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.

Participant default rules and procedures:

Default rules and Procedures are clearly defined in segment regulations.

a) Actions that the FMI can take when a default is declared are specifically provided under "Shortage and Default" Chapter of Regulations of respective segments.

b) Changes to normal settlement practices may also include close out of trades for subsequent days.

c) No new trade is accepted for CCIL novation.

d) CCIL deals only with direct members – no special provision exist so far to distinguish between positions and collaterals in respect of proprietary and client transactions.

e) Default fund has been created for forex and Forex Forward segments. Sequence of appropriation of various resources has been detailed in (f) below.

f) After declaring a default, the defaulter’s withheld assets, collaterals and other receivables will be used up first. For Forex Forward Segment, Defaulter’s contribution to Default Fund will be used up then. At the next stage, funds from CCIL’s Settlement Reserve Fund (SRF) will be used up to the extent of 25% of balance in the fund. In forex segment, the SRF is used to the extent of 15% of the balance in the fund. Any residual shortage will then be allocated to Default Fund of the surviving clearing participants. For other segments – CCIL will bear the residual loss.

g) Regulations of respective sections clearly list out the roles, obligations, and responsibilities of the various parties.
Use of financial resources:
Member margins and contributions to segment wise Default Fund are either in Govt. Securities or in Rupee funds. CCIL’s SRF is also kept in bank deposits with early termination option or in T-bills issued by Govt. of India. This ensures quick availability of resources.

Risk Waterfall is mentioned in Forex and Forex Forward segment regulations. In other segments, non-defaulter participant will not share any loss.

Except in Forex settlement, Forex Forward segment and Rupee Derivatives segment where provision exists for member contributed Default Fund, there is no provision as yet to replenish funds by clearing participants in other segments. Policy for replenishment of CCP’s own resources has been looked into by CCIL Board and it has allowed transfer of funds from General Reserve to Settlement Reserve Fund to meet any shortfall. Provision has been made to opt for rights issue with general body approval as well.

Key consideration 2. An FMI should be well prepared to implement its default rules and procedures, including any appropriate discretionary procedures provided for in its rules.

Default Handling Policy/Procedure for each segment is in place. Roles and Responsibilities are clearly delineated. An internal table top exercise of Default Handling was run recently to ensure better preparedness to handle any default.

All available means (i.e. letter, mail, fax etc.) can be used to communicate to reach in a timely manner to all relevant stakeholders, including regulators, supervisors, and overseers.

Default handling procedures in various segments are reviewed once in a year by the Board Committee on Risk Management.

Key consideration 3. An FMI should publicly disclose key aspects of its default rules and procedures.

Regulations of each segment containing these processes are publicly available. Based on its Default Handling Policy, CCIL has made available to members a clearly articulated document covering these details.

Key consideration 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.
Internal table top exercise carried out. In next phase, members will also be invited to participate in the table top exercise.

Test results of the table top exercise are shared with the Board Risk Committee and all other relevant authorities.

The resolution mechanism is under development. This table top exercise is proposed to cover failure by participant which will create largest exposure.
Principle 14: Segregation and portability

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

Key consideration 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.

Customer protection from participant default:

CCIL deals with its members directly. Members deal on their own account except in Govt. Securities Segment where scheme allows trading by constituents through CCIL members is in place. Even in this segment, CCIL members take all responsibilities to settle all transactions relating to their clients as per a scheme formulated by RBI regarding Constituent Members of large players.

CCIL has however initiated a process to implement segregation and portability in its Securities, Forex (INR/USD) and CBLO segments. The proposed approach will be as under:

Some of CCIL members, based on agreed upon criteria may become Clearing Members (CMs) and indirect participants (constituents) can access the clearing system through these CMs.

CMs will take responsibility for settlement of the trades of their constituents. CMs will also take responsibility for depositing collaterals to meet margin requirements in respect of the trades of constituents accessing the clearing system through them. CCIL will arrange to keep the collaterals segregated.

Constituents will have option to select fully segregated collateral accounts or allow their collaterals to be part of pre-decided collateral groups as agreed between them and their CM. For CBLO & forex Segments, only segregated collateral option would be available. This approach will facilitate segregation of client collaterals and portability of client trades, margins and collaterals in case of any default on the part of a CM. Special processes proposed to handle default by CM.
After the proposed changes are implemented, portability of both collaterals and trades would be available. The legal aspects have been validated.

*Customer protection from participant and fellow customer default:* 
Not applicable at present. The proposed approach will allow members to have segregated collateral accounts.

*Legal basis:*
A legal opinion on the validity of the proposed model has been obtained.

**Key consideration 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.

In the proposed structure, both models would be supported in securities segment. In forex and CBLO segments, there will be segregated collaterals only.

After proposed approach is implemented, for constituents who opt for group or omnibus collaterals, fellow customer risk will be there.

**Key consideration 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.

Not Applicable at present. After proposed approach is implemented, there will be certainty of high order.

About the porting and the relevant disclosures, the processes will be developed in consultation with members after the proposed approach is approved by the Regulator.

**Key consideration 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.

Not Applicable at present. After proposed approach is implemented, the rules will be part of CCIL Regulations which will be made available to all clearing participants and members of public.
After proposed approach is implemented, necessary disclosures will be made to the clearing participants.
Principle 15: General business risk

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

Key consideration 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.

Recovery or orderly wind-down plan:

CCIL has put in place Management and control systems to identify, monitor, and manage general business risks through a review of each type of operation on quarterly basis and annual structured budgeting process.

As stated above CCIL has put in place Management and Internal control systems to monitor and manage general business risks through a review of each type of operation on quarterly basis and annual structured budgeting process. Performance reviews happen at Managing Director’s level and Board monitors these risks.

Key consideration 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.

Net assets funded by equity & reserves are more than adequate to take care of this risk.

CCIL periodically looks at liquid net assets funded by equity as multiple of amount it requires to continue its operations and services as going concern. In last two years (as on year end date), net assets funded by equity & reserves are 38 and 47 times of its current monthly operating expenses requirement, respectively, which is more than adequate for any orderly wind-down of critical operations and services.

Key consideration 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.

Recovery or orderly wind-down plan:
CCIL has provided for its insolvency in its Bye-laws and this will guide the requirements. Development of a recovery plan has been taken in hand.

Resources:
Liquid net asset cover (excluding liquid funds set apart towards Settlement Reserve Fund) is far higher than six months' current operating expenses.

Resources designated to cover business risks and losses are separated from resources designated to cover the default of a member.

Settlement Reserve Fund balances are to be used to meet the default of a member. These balances are kept separately in liquid instruments such as bank deposits and Treasury Bills.

The minimum capital/equity for CCPs has not been prescribed.

Key consideration 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.

Liquid net assets funded by equity are invested in Deposits with Banks and at times in government treasury bills or held as bank balance.

Key consideration 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.

The Board at its meeting held on August 25, 2014 had approved the plan for raising of resources in the event the equity capital falls below the amount needed in terms of Principle 15 of the PFMI guidelines, which provides for transfer of funds from the General Reserves and Surplus to the Settlement Reserve Fund, subject to approval of shareholders of the Company, in case of any depletion due to its use for the purpose of meeting any event of loss as approved. If the balance in Capital, General Reserves and Surplus falls below the minimum required amount equivalent to at least six months’ operating expenses as required under the Principles, the Company would initiate the process to raise additional capital through a Rights Issue.
The Board reviews overall financial position of the Company on quarterly basis which also includes review of additional capital requirement.
**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.

**Key consideration 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.

Characteristics of the entities at which the FMI holds its assets:

1. Securities received as collaterals or towards margin are kept in CSGL A/c with Reserve Bank of India.

2. Liquid net assets funded by equity and reserves are invested in Deposits with Banks and at times in government treasury bills or held as bank balance.

3. Rupee funds received towards members margin contributions are invested in Deposits with Banks and in government securities / treasury bills.

4. USD funds are invested in USD T-bills – residual amount remains with Settlement Bank. USD funds received as pre-funding kept in deposits with highly rated banks including settlement banks.

Custodian entities dealt with are either Central bank or regulated entities in the respective countries. All these entities are governed by strict local regulations with regard to accounting practices, safekeeping procedures and internal controls applicable to respective countries. CCIL has put in place a process to review the standing of the banks on on-going basis through its investment policy which has a detailed framework to assess investment related risks.

**Key consideration 2.** An FMI should have prompt access to its assets and the assets provided by participants, when required.

Funds are kept in the name of CCIL itself. In case of securities, the balances are kept in CSGL A/cs with Central Bank where CCIL’s beneficial ownership is clearly recognized. In addition to the rights available to it through its Bye-laws, Rules and Regulations, CCIL also takes Power of Attorney from the members to ensure CCIL’s right to appropriate such securities, if needed.

Funds and Securities available as collaterals are in effective custody of CCIL and can be used promptly in the event of a participant default.
**Key consideration 3.** An FMI should evaluate and understand its exposures to its custodian banks, taking into account the full scope of its relationships with each.

US T-bills are held in insolvency remote custody accounts with highly rated custodians. Exposures on the custodians are thus minimal. Exposure for Indian Govt. Securities is on Reserve Bank of India, Central Bank of the country.

**Key consideration 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.

**Investment strategy:**

Investment Policy is vetted by the Committee of Directors on Risk Management (CODRM) and approved by the Board of Directors. In terms of the Investment Policy the Investments are only in bank deposits, govt. securities etc. which are most liquid instruments. Investment Policy has also been disclosed to clearing participants and the Regulator. In case of bank deposits, investments are made only with highly rated and well capitalised banks, subject to ceilings/limits for individual banks.

There is a process to track exposure on banks on account of investments made. Further, a quarterly investment analysis is reviewed by the CODRM.

**Risk characteristics of investments:**

Investments in Govt. Securities are in T-bills only, hence minimum price risk is taken in respect of investments. Investment Policy prescribes limits for its investments with each eligible entity.

CCIL does not invest in any of the securities issued by its participants. Investments are in the deposits with banks which happen to be its participants. CCIL has put in place counterparty exposure limits for all such deposits and balances lying with various banks.

Investments are made only in bank deposits, govt. securities etc. which are most liquid instruments. Bank deposits can be liquidated with a very short notice without any loss to the capital. Similarly Investment in Govt. Securities is kept in Treasury bills, which are very liquid and can be normally sold with very little adverse impact on the principal amount invested.
Principle 17: Operational risk

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

Key consideration 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.

Identification of operational risk:
Process is in place for tracking any disruption in system. Tracking of other operational risks is also in place. The source is divided into IT System related and non-IT system related. All possible risks are analyzed and appropriate steps taken to address issues considered as potential risk.

IT process failure has been identified as one of the critical failure point. Technical Approval Committee and Committee of Directors on Risk Management oversee the Incident Management Process which covers failure of IT related processes as well.

Management of operational risk:
Operation manuals for all activities are in place to ensure that guidance is available for running the systems efficiently.

Policies, processes and controls:
Tracking and monitoring of disruption events are in place. The positions are compared with various relevant standards. CCIL processes are certified as compliant with ISO 27001 standards.

Human Resources Development is a key activity looked after by a separate dept. which through its recruitment and training policies takes care of all manpower need of CCIL. Fraud prevention is taken care of through pre-employment verification and through extensive use of maker-checker principle.

Change management process implemented in consultation with all stakeholders.
Key consideration 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.

Roles, responsibilities and framework:
Responsibilities are linked to organisational positions. A policy approved by Committee of Directors on Risk Management is in place.
The operational risk management framework has been approved by Board Risk Committee which has been taken note of by the Board. All operational risk events are reviewed by the Committee on half yearly basis.

Review, audit and testing:
Operational processes and deficiencies are regularly reviewed through operational audit carried out by independent auditors and their reports are reviewed by Audit Committee of the Board.
Business Continuity related activities are subject to operations audit carried out by external auditors. These technical arrangements and executions are also subject to review by System Auditors.

Key consideration 3. An FMI should have clearly defined operational reliability objectives and should have policies in place that are designed to achieve those objectives.

BCP document covers this aspect. Through tracking of disruption events and their causes these objectives ensure a high degree of security and operational reliability.

BCP document is reviewed once in a year at the Board level and also submitted to Regulators.

Reliability objectives are integrated into its operational risk-management framework to a great extent as far as customer facing activities are concerned.

Audit process covers BCP (Business Continuity Planning) areas and there are periodic drills to assess effectiveness of the BCP processes.

Key consideration 4. An FMI should ensure that it has scalable capacity adequate to handle increasing stress volumes and to achieve its service-level objectives.
Scalable capacity: IT capabilities and capacity utilisation are periodically reviewed. This is a monthly process.

Operational capacity is neared or exceeded:
No such situation was observed.

Key consideration 5. An FMI should have comprehensive physical and information security policies that address all potential vulnerabilities and threats.

Physical security:
Vulnerabilities are reviewed as part of BCP process and any shortcoming observed is plugged.

Physical security related aspects are well controlled and subject to Information Security Management System (ISMS) audit process. ISMS controls are in place.

Information security:
FMI’s policies and processes, including change management and project management policies and processes, for addressing the plausible sources of information security vulnerabilities and threats are kept in special focus while carrying out any change involving IT system.

CCIL’s policies, processes, controls, and testing take into consideration relevant international, national, and industry-level standards for information security—CCIL is an ISO 27001 Company since 2006.

FMI’s change-management and project-management policies and processes ensure that changes and major projects do not affect the information security of the system:
This critical aspect is given due importance before making any change. External assistance is also taken to assess any vulnerability.

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.

Objectives of business continuity plan:

FMI's business continuity plan reflects objectives, policies and procedures that allow for the rapid recovery and timely resumption of critical operations following a wide-scale or major disruption.

The objective and processes are clearly laid down in the Business Continuity Plan of CCIL.

Design of business continuity plan:

Recovery within 2 hours will be possible under almost all circumstances – improvements under consideration to cover these exception situations as well.

BCP processes are clearly laid out in the BCP plan and the plan also ensures that the extent of data loss is minimal.

The Contingency plan as designed will ensure that the status of all transactions can be identified in a timely manner.

Steering Committee involving Head of Depts. is in place. Approach regarding communication to all stakeholders has been listed out in the Plan.

Secondary site:

Considering the robustness of the recovery process, manual, paper-based procedures or other alternative arrangements to allow the processing of time-critical transactions have not been considered.

Review and testing:

BCP Plan reviewed once in a year - tested through quarterly drills.

Participants, service providers etc. are involved / participating in almost all drills. There is no linked FMI.
Key consideration 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.

Risks to the FMI’s own operations:

All processes including settlement related transactions are monitored on a regular basis. In respect of risks from participants, CCIL monitors any development relating to its clearing participants that may have the potential to adversely impact their functioning. For Service and utility providers, fall back arrangements are in place.

IT Services are considered critical for CCIL operations. Software development is through team deployed by software vendors which are based in CCIL locations. They have been located in CCIL offices to ensure better control and to identify and address any potential risks upfront. Moreover, the database and server management etc. is done by in-house personnel.

Risks posed to other FMIs:

CCIL has adequate back-ups to guard against any disruption in its services.

CCIL is part of RBI group on Crisis Management monitoring system-wide vulnerabilities.

Business Continuity related exercises are conducted by involving other stakeholders.
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.

Key consideration 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.

Participation criteria and requirements:

Policies for accessing of CCIL’s clearing & settlement segments are clearly included in the Regulations of each segment and are made available through CCIL’s websites as well.

This information is in public domain for last so many years and no significant inconsistency has so far been pointed out.

Access to Clearing & Settlement Services:

Access related requirements for Clearing and Settlement services ensure that there is no denial of access other than on risk consideration.

Access to trade repositories: Entities including banks, PDs and others that are required to report transactions concluded by them in certain instruments to the TR do so on the basis of a mandate by the RBI. Access to TR is provided to all entities that are mandated to report. As of now, such reporting is allowed only by the members and no third party reporting is as yet permitted. However, eligible trades reported for the purpose of settlement by the CCP are copied to the TR to avoid duplicate reporting by the member. Similarly trades concluded on trading platforms that are linked to CCIL’s settlement platforms flow into TR if the member has agreed for such direct flow.

CCIL TR will have life cycle processing – no obstruction will be created for post trade processing by any other entity.

Key consideration 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 endeavor to set requirements that have the least-restrictive impact on access that circumstances permit.

Justification and rationale of participation criteria:
Participation requirements are adequately tailored to ensure participation of all eligible entities and any restriction imposed is only on risk ground or due to Regulatory prescriptions. Participation requirements are reviewed on periodic basis.

Access criteria are different for different segments. It depends on the conditions required to be fulfilled for trading/dealing in the respective market and/or the minimum requirement to settle such trades (like for Forex Settlement only authorised dealers can be participant).

Trade Repository: The eligibility criterion to undertake transactions in each product is clearly specified by RBI. Since the reporting is mandated by RBI, any transactions undertaken by these entities have to be reported on the Trade Reporting platform.

For membership of Securities Settlement Segment, Negotiated Dealing System (NDS) membership and having a Securities Account at RBI are mandatory.

Least restrictive access:
Membership criteria is reviewed periodically as and when situation in market requires revision in access criteria

Disclosure of criteria:
Participation criteria and restrictions are available publicly through CCIL website.

*Key consideration 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.

Monitoring compliance:
Monitoring of compliance with participation requirements is carried out through a process of annual review. At the time of such review, latest financial data and information is used to assess the adherence to the eligibility criteria.

Processes are in place to track any deterioration of risk profile.

Suspension and orderly exit:
Participants are required to report any major change in their status to CCIL.
For any existing participant which does not fulfill eligibility criteria, already accepted positions are frozen and no new positions are accepted. Such members are usually required to move out of all segments. For Forex Settlement segment, if the member seeks to continue in the segment, margin factors may be stepped up; limits may also be reduced substantially.

Procedures for managing the suspension and orderly exit of a participant is mentioned in CCIL Bye-laws

In case of suspension of a participant or declaration of such participant as defaulter, all other clearing and settlement participants are duly notified.
Principle 19: Tiered participation arrangements

An FMI should identify, monitor, and manage the material risks to the FMI arising from tiered participation arrangements.

Key consideration 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.

Tiered participation arrangements:

No tiered participation arrangement in place except in Securities Segment where direct participants settle trades of their constituents as well in terms of a scheme formulated by Reserve Bank of India. CCIL however has taken up development of client clearing model so that the dealings with the end customers can ensure segregation and portability related requirements.

Information is gathered from the trade data available with it.

Risks from such trades are monitored on regular basis.

Risks to the FMI:

As mentioned above, these risks are reviewed on a regular basis. Tiered participation arrangement with segregation and portability related requirements are being put in place for Securities Segment as well.

Additionally, in securities segment, regular monitoring is in place to track any unusual exposure on this account. As indicated above, in other segments, no indirect participation is in place.

These risks observed were through disproportionately higher volume of trades of one or two indirect participants. The Clearing Participants were duly alerted.

Key consideration 2. An FMI should identify material dependencies between direct and indirect participants that might affect the FMI.

Considering that the value of client transactions are relatively small, dependencies between direct and indirect participants are not significant. The extent of dependencies is however monitored on regular basis.

Key consideration 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.

Processes are in place to identify the activities of such indirect participants and of the direct participants through whom they access the system.

As indicated above, the risks arising from the key indirect participants of the direct clearing participants are kept under close watch.

Key consideration 4. An FMI should regularly review risks arising from tiered participation arrangements and should take mitigating action when appropriate.

No tiered participation arrangement is in place except in Securities Settlement Segment where the risks are monitored on monthly basis.

Members are alerted about any unusual activity on this count.
Principle 20: FMI links

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

Key considerations 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.

No such link in place, hence not applicable

Key consideration 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.

No such link in place, hence not applicable

Key consideration 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.

Not applicable

Key consideration 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.

Not applicable

Key consideration 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.

Not applicable

Key consideration 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.

Not applicable

Key consideration 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.

Linked CCP default:
Not applicable as no link exists with another FMI

Key consideration 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 fulfill its obligations to its own participants at any time.

Exposures and coverage of exposures -Management of risks & information provided to participants.
Not applicable

Key consideration 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.
No link in place, hence not applicable. Monthly review of scalability is carried out.
Principle 21: Efficiency and effectiveness

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

Key consideration 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.

Frequent interaction with User Groups and Market Bodies ensure that the products developed/enhanced meet the needs of the users.

Periodic interactions with the users through User Group meetings and at individual level ensure that the requirements of the participants are met.

Key consideration 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.

CCIL’s goals and objectives are to provide efficient risk mitigated Clearing, settlement and Trade Warehouse related services.

Feedback from participants during individual interactions and through User Group meetings are used to measure extent of achievement.

Key consideration 3. An FMI should have established mechanisms for the regular review of its efficiency and effectiveness.

CCIL review its efficiency and effectiveness through tracking of quality of services through User group meetings.

User Group meetings are held in such a manner that a participant gets an opportunity to meet CCIL officials at least once in a year.
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.

Key consideration 1. An FMI should use, or at a minimum accommodate, internationally accepted communication procedures and standards.

Communication procedures:
CCIL uses message based communication procedures to interact with participants and other connected parties.

IBM MQ is used as the standard messaging layer for exchanging data with RBI.

Secure channel SSL is used for data file exchange with settlement banks and participants.
CCIL uses the SWIFT for its cross-border operations.

Communication standards:
Some of the message structures exchanged with settlement banks are based on the SWIFT standard.
CCIL uses the SWIFT message standard for its cross-border operations.
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.

Key consideration 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.

Rules and procedures:
Rules and key procedures are publicly available. Feedback from participants and other stake-holders provide basis for assessing the level of clarity of the Rules and key procedures. Periodic internal review is also carried out.

Issues like Default Handling etc. are included in detail.

These rules and procedures are in public domain for years and apart from CCIL’s internal reviews, new members joining CCIL’s clearing have also examined and found those to be comprehensive.

Disclosure:
All possible eventualities have been covered in the Rules & Regulations of CCIL.

Any change in rules and procedures require prior approval of its regulators, Reserve Bank of India and these are required to be notified to all participants at least 30 days’ in advance before implementation.

Soft copies are available publicly through CCIL website. Hard copies of these are also made available to the Clearing Participants.

Key consideration 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.

Regulations for each segment describe these processes.

These details are disclosed to participants, regulators and other stake-holders through Fact book, notifications, Regulations, etc. These are also broadly available to public.

Areas where discretions can be exercised are listed out in the respective segment regulations. Processes followed to change rules is listed in CCIL Bye-laws, Rules & Regulations.
Description of participants’ rights and obligations are detailed in Membership documents, CCIL Bye-laws, Rules and Regulations and notifications.

Key consideration 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.

FMI documentation and training for its Participants are through various interactions including by providing written clarifications.

Interactions with the participants and potential participants provide indirect evidence to this effect.

Training programs are organized for participants so that they are fully aware of the processes followed by CCIL and are in a position to reassess the risk they take by availing the services of CCIL.

Key consideration 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.

Pricing information is publicly available. These are made available through public notification.

Any change is required to be notified at least 30 days in advance. For effecting any major change, before obtaining appropriate internal authorization, User Group inputs are taken and regulator’s approvals are taken wherever necessary.

Comparison with services offered by other CCP is not possible as no other CCP provides similar service in India.

CCIL also publishes the fee structure for its TR services. The fees are comparable with similar services offered by TRs in other countries.

Key consideration 5. An FMI should complete regularly and disclose publicly responses to the CPSS-IOSCO Disclosure framework for financial market infrastructures. An FMI also should, at a minimum, disclose basic data on transaction volumes and values.

Self assessment on CPMI-IOSCO Disclosure Framework is part of of this principle. Usually updated once in a year or after any material change.
Trade volume, Settlement data, CCIL financials etc. are publicly available through CCIL website.

Any change to the process or any proposal to carry out any change to any existing process is disclosed to the public.

These are made available through CCIL website (www.ccilindia.com). Disclosures are in English.
Principle 24: Disclosure of market data by trade repositories

A TR should provide timely and accurate data to relevant authorities and the public in line with their respective needs.

Key consideration 1. A TR should provide data in line with regulatory and industry expectations to relevant authorities and the public, respectively, that is comprehensive and at a level of detail sufficient to enhance market transparency and support other public policy objectives.

Data relating to trades in market, rate range etc. are made available publicly through CCIL website for products in which such data dissemination has been approved by RBI. Additional details are shared with the Regulator.

Demands made by various stake-holders are kept in mind while deciding on data disclosure.

Key consideration 2. A TR should have effective processes and procedures to provide data to relevant authorities in a timely and appropriate manner to enable them to meet their respective regulatory mandates and legal responsibilities.

Structured information requirement received from Regulator are met as required. Adhoc information is also provided wherever required.

Trade repository strictly follows the processes approved by Regulator.

Key consideration 3. A TR should have robust information systems that provide accurate current and historical data. Data should be provided in a timely manner and in a format that permits it to be easily analysed.

Life cycle Processing is in place for certain products like IRS and CDS ensures that the data is up to date and accurate. For other products, accuracy of information is ensured through i) built in validations for all fields; ii) requirement of matching all economic data reported by both counterparties; iii) daily reports to members for reconciliation

Strict quality control ensures that the data remains accurate. Also facilitates various comparisons.