



NSE Clearing Limited

Disclosures on Compliance with Principles for financial market infrastructures

Committee on Payments and
Market Infrastructures
Board of the International
Organization of Securities
Commissions

31 March 2019

Responding institution:	NSE Clearing Limited
Jurisdiction(s) in which the FMI operates:	India
Authority(ies) regulating, supervising or overseeing the FMI:	Securities and Exchange Board of India
The date of this disclosure is:	31 March 2019

This disclosure is also made available at www.nscclindia.com.

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1 Executive Summary

This document provides a comprehensive disclosure by the NSE Clearing Limited (NCL) on its governance arrangements, operational procedures and practices, and risk management frameworks that are applied for providing clearing and settlement services.

NSE Clearing Limited has been recognized as a Qualified Central Counterparty (QCCP) and systemically important market infrastructure institution in securities market regulated by SEBI vide its press release no. 1/2014 dated January 03, 2014. NCL has also been granted recognition by European Securities & Markets Authority (ESMA) as a “third-country CCP” and by United Kingdom (UK) under the Temporary Recognition Regime (TRR) of the Central Counterparties (Amendments, etc., and Transitional Provision) (EU Exit) Regulations 2018

This disclosure is based on the guidelines provided by CPMI-IOSCO and the report titled “Principles for financial market infrastructures: Disclosure framework and assessment methodology”, published in December, 2012.

NCL is the clearing corporation for the transactions executed on National Stock Exchange (NSE). NCL aims to provide clearing and settlement services to its clearing members with the objective of bringing and sustaining confidence in clearing and settlement services, promoting and maintaining short and consistent settlement cycles, providing counter-party risk guarantee, and creating a tight risk containment system. To achieve these objectives, NCL has laid down a comprehensive set of rules and regulations that provide the operational level details on key aspects of the clearing and settlement business. The rules, regulations and byelaws describe in detail, NCL’s practice across the following key areas:

- **Participation at NCL:** including membership criteria, ongoing requirements and types of clearing member participation across segments (i.e. cash, equities, currency derivatives and commodity derivatives, Debt)
- **Operational details:** including time of trade settlement, netting of settlement obligations, etc.
- **Risk management:** including details on capital adequacy requirements and margin requirements (initial, variation, extreme loss) across various segments, acceptable collateral, etc.
- **Default procedures:** declaration of default and subsequent actions.

- **Utilization of financial resources in case of default:** including design of the default 'waterfall'

The risk management framework has been designed to cater to various types of risks

- **Legal risk:** The legal basis for activities of NCL is provided for in various acts and regulations as well as NCL's rules, regulations and byelaws.
- **Credit risk:** Risks arising from potential defaults of members are monitored actively at the NCL level. The framework for this includes provisions for covering losses, executing stress tests to determine adequacy of financial resources, provisions for margining and collateral deposit etc.
- **Operational risk:** NCL has put in place robust operational processes and audit mechanism. NCL has a detailed physical and information security policy along with a comprehensive business continuity plan that is tested periodically.
- **Liquidity risk:** NCL has various sources for meeting its liquidity needs: lines of credit from banks and cash portion of the core SGF.
- **General business risk:** NCL recognizes various types of general business risks and has sufficient capital to manage any potential losses that can arise from such risks.
- **Investment risk:** NCL's board approved prudential norms provide the mandates to be considered in making investments. These norms ensure that NCL invests in only safe and high quality assets by applying necessary restrictions and limits.

2 Summary of major changes since the last update of the disclosure

This is an update to NCL's last disclosure document dated March 31, 2017. Major changes since its last disclosure include:

1. The name of the Clearing Corporation has been changed from National Securities Clearing Corporation Limited to NSE Clearing Limited
2. Inclusion for new asset classes i.e. Commodities Derivatives, Tri-party Repo, Currency derivatives on non-INR pairs, Futures on Overnight MIBOR
3. Updation of SE&CC Regulations 2012 to SE&CC Regulations 2018 (Please see Principle 1)
4. The Minimum Period of Risk has been changed to two days for equity derivatives.
5. Implementation of physical settlement in respect of stock derivatives
6. Intraday Crystallised mark to market losses margins (ICMTM). (Please see Principle 6)
7. Tied Participation (TM-CM) in Cash Market segment (Please see Principle 19)
8. The figures have been updated in the disclosure wherever applicable.

3 General background

3.1 General Description and Market Served

NCL is the central counterparty for transactions executed on the NSE. NCL is a 100 percent subsidiary of NSE.

Types of transaction

Cash market segment:

The cash market segment comprises equities, government securities, warrants and exchange traded funds that are cleared and settled by NCL.

Debt Segment:

NCL clears and settles debt securities, bonds, government securities, treasury bills, state government securities, corporate bonds, Tri-Party repos and SLR and Non-SLR bonds issued by financial institutions.

Futures and Options segment:

NCL clears and settles index futures, index options, stock futures and stock options.

Currency Derivatives segment:

NCL clears and settles futures and options on INR and Non-INR currency pairs, futures based on overnight call rate (MIBOR) and interest rate futures.

3.2 General Organization

Governing Board

NCL Board and its various committees oversee the affairs of NCL and are responsible for the management of business and performance of NCL. NCL Board is involved in the formulation and monitoring execution of strategies for NCL. NCL board comprises of shareholder directors, public interest directors and managing director. The managing director is an ex-officio director on NCL board and is not included in the category of public interest directors and shareholder directors.

Operational and oversight committees

NCL is regulated and supervised by the Securities & Exchange Board of India (SEBI) and is governed by the regulations framed by SEBI from time to time. Securities Contracts (Regulation) (Stock Exchanges and Clearing Corporations) Regulations, 2018 has mandated operational and oversight committees for clearing corporations

along with their composition and functions to ensure effective oversight of the functioning of Clearing Corporations.

Segregation of functions

NCL maintains segregation of regulatory departments such as risk management, member registration, compliance, inspection, enforcement, default, investor protection and investor services from other departments. As per the SEBI regulations, NCL adopts a "Chinese Wall" policy which separates the regulatory departments of NCL from the other departments. The employees in the regulatory departments cannot communicate any information concerning regulatory activity to any one in other departments and are physically segregated from them including with respect to access controls. The reporting lines of regulatory departments do not overlap with that of non-regulatory departments. As per the Procedural norms on Recognitions, Ownership and Governance for Stock Exchanges and Clearing Corporations, the Head of Risk Management also reports to the Risk Management Committee in addition to the managing director. Further, as per the provisions of regulation 32(2) of the SECC regulations, the Compliance Officer is required to immediately and independently report any non-compliance to SEBI.

Clearing and Settlement

The Head of Clearing and Settlement oversees matters pertaining to clearing, settlement and management of liquidity for NCL. The head of clearing and settlement reports to the Managing Director.

Risk Management framework

The Risk Management Committee comprising of public interest directors formulates the risk management policy of NCL. The head of risk management implements the policy and reports to Risk Management Committee and the Managing Director. The Risk Management Committee monitors the implementation of its policy and informs NCL Board on its implementation.

Compliance Monitoring

The Compliance officer of NCL reports to NCL Board and is responsible for monitoring the compliance of the Securities Contracts (Regulation) (Stock Exchanges and Clearing Corporations) Regulations, 2018, the Companies Act, 1956, the Securities and Exchange Board of India Act, 1992, rules, regulations, or directions issued thereunder and for the redressal of investors' grievances.

3.3 Legal and Regulatory Framework

NCL is a public limited company incorporated under the provisions of the Companies Act (1956) and is a wholly owned subsidiary of the National Stock Exchange of India Ltd. The entire 100% share capital of the Clearing Corporation is held by the National Stock Exchange of India Limited. NCL was incorporated in August 1995 and it commenced clearing operations in April 1996. NCL carries out the clearing and settlement of the trades executed in the equities, debt, Futures and Options, Currency Derivatives and Commodity Derivatives segments of NSE.

The legal basis for various aspects of clearing and settlement operations performed by NCL can be derived from various sources – NCL byelaws, rules and regulations, Securities Contracts (Regulation) (Stock Exchanges and Clearing Corporations) Regulations (SECC) and the Securities Contracts Regulation Act (SCRA). The legal basis under which NCL operates provides a high degree of certainty for each material aspect of NCL's clearing activities including counterparty guarantee, novation, netting and settlement finality. The Byelaws, Rules and Regulations of NCL and the regulatory specifications provide a sound legal basis for all aspects of NCL's operations, risk management and default procedures.

3.4 Operation of the system

Cash market segment of NSE operates from 09:00 to 15:30, five days a week. Future and Option segment of NSE operates from 09:15 to 15:30, five days a week. Debt segment of NSE operates from 09:00 to 17:00, five days a week. Currency derivatives segment of NSE operates from 09:00 to 19:30. Commodity derivatives Segment of NSE operates from 09:00 to 11:30/11:55, five days a week.

Cash market segment:

All trades executed on NSE are electronically transferred to NCL for clearing and settlement and are settled on a T+2 basis in the cash market segment. NCL, the CCP, becomes the counterparty to every member by novation and meets all settlement obligations, regardless of member defaults. NCL generally adopts net settlement and most of the settlement takes place in this manner, with the exception of securities that need to be settled on a gross basis for regulatory reasons.

Debt Segment:

NCL follows a T+1 rolling settlement cycle for debt securities traded on retail platform and institutional platform. For all trades executed on the T day, NCL determines the net obligations of each clearing member. NCL provides settlement guarantee for trades executed and settled on DvP III basis.

NCL settles trades executed on the negotiated trade platform on DvP I basis (gross settlement). The settlement takes place on T+0 or T+1 basis as per the terms of negotiated trade. No settlement guarantee is provided for trades executed on negotiated trade platform.

Futures & Options segment:

- NCL becomes the counterparty for all trades in NSE futures and options segment. Clearing members are responsible to NCL for the obligations arising from their own trades, their clients' trades and the trades of trading members for whom they provide a clearing service.
- Future contracts are subject to two types of settlements; daily mark to market settlement and final settlement of futures contracts which are cash settled takes place before start of market hours on the next day (T+0). Final settlement of futures contracts which are settled by delivery takes place on Expiry+2 days.
- Settlement of options contracts include premium settlement and the final exercise settlements of options contracts which are cash settled takes place before start of market hours on the next day. Final exercise settlements of options contracts which are settled by delivery take place on Expiry+2 days.

Currency Derivatives segment:

- NCL becomes the counterparty for all trades in NSE currency derivatives segment.
- Clearing members are responsible to NCL for the obligations arising from their own trades, their clients' trades and the trades of trading members for whom they provide a clearing service.
- Futures contracts are subject to two types of settlements; the daily mark to market settlement, which occurs on a daily basis till expiry of the futures contract and takes place before start of market hours on next day, and the final settlement, which occurs after the last trading day of the futures contract.

- Settlement of options contracts include the daily premium settlement for options purchased and sold during the day and the final exercise settlement for options positions at in-the-money strike prices on the expiration day.

Commodity Derivatives segment:

- NCL becomes the counterparty for all trades in NSE Commodity derivatives segments.
- Clearing members are responsible to NCL for the obligations arising from their own trades, their clients' trades and the trades of trading members for whom they provide a clearing service.
- Bullion Futures contracts are settled physically and subject to two types of settlements ;the daily mark to market settlement which occurs on a daily basis till expiry of the futures contract and takes place on T+1 basis, and on expiry all the open positions are marked for delivery . Final settlement of funds and delivery pay-in takes places on Expiry +1 basis.
- Energy Futures contracts are cash settled and subject to two types of settlements ;the daily mark to market settlement which occurs on a daily basis till expiry of the futures contract and takes place on T+1 basis, and the final settlement takes places on Expiry +1 basis.

4 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.

Summary Narrative

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.

The legal basis for the material aspects of NCL is as follows:-

1. NCL to act as counterparty, including the legal basis for Novation

The Securities Contracts (Regulation) Act 1956 (SCRA) provides for granting of recognition to stock exchanges and clearing corporations which intend to function as recognized stock exchanges and clearing corporations. Section 8A of SCRA deals with clearing corporation and stipulates that the provisions of the various sections specified therein shall apply to clearing corporation as they apply in relation to a recognized stock exchange. Pursuant to the said section 8A, the clearing corporation can therefore be granted recognition under section 4 of SCRA as a recognized clearing corporation. Section 5 provides for the circumstances under which the recognition may be withdrawn by SEBI. Under sections 6 and 7, the clearing corporation is subject to the power of SEBI to call for periodical returns or annual report of clearing corporation. Under section 9, clearing corporation is required to make byelaws. Under sections 8 and 10, SEBI is vested with the powers to make or amend the Rules and Byelaws of the clearing corporation. Under sections 11 and 12, SEBI is empowered to supersede the governing body of the clearing corporation in circumstances specified under section 11 or suspend the business of the clearing corporation in accordance with the powers vested in it under section 12.

Securities Contracts (Regulation) (Stock Exchanges and Clearing Corporations) Regulations 2018 (SCRA [SE & CC] Regulations): Under section 31 of SCRA, SEBI is

empowered to make regulations consistent with the provisions of SCRA. Pursuant to the powers, inter alia, vested in SEBI under section 4, 8A and 31, SEBI issued Securities Contracts (Regulation) (Stock Exchanges and Clearing Corporations) Regulations 2018 dealing with recognition, net worth, ownership, governance and general obligations of stock exchanges and clearing corporations. These Regulations also dealt with listing of securities and other regulatory powers of SEBI to call for information, inspection and issue appropriate directions to stock exchanges and clearing corporations. Regulation 34 provides that every stock exchange shall use the services of a recognized clearing corporation for clearing and settlement of its trades with effect from the date specified by SEBI in that behalf. SEBI has granted recognition NCL to function as a clearing corporation under Regulation 4 of SCRA [SE & CC] Regulations.

Securities and Exchange Board of India Act, 1992 (SEBI Act): Under section 11 (1) of SEBI Act, SEBI is vested with the duty to protect the interests of investors in securities and to promote the development of, and to regulate the securities market, by such measures as it thinks fit. SEBI is further specifically empowered to take measures to regulate the business in stock exchanges and any other securities markets. Under section 30 of SEBI Act, SEBI is empowered to make Regulations. SEBI issued the SCRA [SE & CC] Regulations pursuant to its powers under SCRA read in conjunction with its powers under section 11 and 30 of SEBI Act.

SEBI Press Release: SEBI issued Press Release No. 1/2014 dated January 03, 2014 in order to publicly indicate the central counterparties which are Qualified Central Counterparties (QCCPs) in the Indian Securities Market jurisdiction. These clearing corporations have qualified as QCCPs in view of the fact that these are regulated by SEBI under the SEBI Act, SCRA and Rules and Regulations made thereunder. These clearing corporations are subjected on an ongoing basis to rules and regulations that are consistent with the PFMI Report. This Press Release of SEBI not only emphasis the legal basis for activities of the clearing corporations by stating that the clearing corporations are regulated by SEBI under the SEBI Act, SCRA and the Rules and Regulations made thereunder but also explicitly and publicly indicates the clearing corporation which are QCCPS are subjected to the regulation and supervision using PFMI framework thus necessitating the clearing corporations to adhere to the PFMI requirements. NCL has been publicly indicated in this Press release as a QCCP.

2. Netting arrangements and novation

Netting has been defined under Regulation 2(1) (k) of the SCRA [SE & CC] Regulations 2018. Netting has been defined as determination by clearing corporation of net

payment or delivery obligations of the clearing members of a recognised clearing corporation by setting off or adjustment of the inter-se obligations or claims arising out of buying and selling of securities, including the claims and obligations arising out of the determination by the clearing corporation or stock exchange, on the insolvency, winding-up, liquidation or resolution of any clearing member or trading member or client or such other circumstances as the clearing corporation may specify in its bye-laws, of the transactions admitted for settlement at a future date, so that only a net claim be demanded, or a net obligation be owed. Under Regulation 7(4), one of the conditions laid down for an applicant seeking recognition as a clearing corporation is that the applicant has a settlement procedure including netting, novation and guarantee for settlement of trades in place, which is in accordance with the manner specified by the Board. Novation has also been defined in the SCRA [SE & CC] Regulations 2018 under Regulation 2(1) (l) as the act of one or more recognised clearing corporations interposing between the parties of every trade, so as to be a legal counterparty. The concept of novation has also been incorporated in the Byelaws of NCL under Byelaw 10 of Chapter VI of NCL Byelaws applicable to the Futures and Options Segment (NCL F&O Byelaws) and Commodity Derivatives Segment. The Byelaws applicable to the Futures and Options Segment have been made applicable for the Currency Derivatives clearing segment under Byelaw 5 of Chapter II. The novation concept has also been provided in the NCL Byelaws applicable to the Capital Market segment. Further Byelaw 9 of NCL F&O Byelaws and Commodity Derivatives Byelaws provides that clearing and settlement of deals in the F & O Segment and Commodity Derivatives segment may be on netted basis or gross basis or trade-for-trade basis or any other basis as may be specified by the relevant authority from time to time.

3. NCL's interest in collateral (including margin) that a participant pledges or transfers to NCL

NCL Rules, Byelaws, Regulations and Circulars issued thereunder contain various stipulations regarding maintenance of security deposits, margins, etc. Rules 2(3), 5(3), 5(5), 11 and 12 of Chapter IV of NCL F&O Rules deal comprehensively with the collateral provisions. Byelaw 1 of Chapter V of the NCL F&O Byelaws provides that the fees, security deposits, other monies and any additional deposits paid, whether in the form of cash, bank guarantee, securities or otherwise, with the Clearing Corporation, by a Clearing Member from time to time, shall be subject to a first and paramount lien for any sum due to the Clearing Corporation in any Clearing Segment and all other claims against the Clearing Member for due fulfilment of engagements, obligations and liabilities of Clearing Members arising out of or incidental to any

dealings made subject to the Byelaws, Rules and Regulations of the Clearing Corporation in any Clearing Segment. The Clearing Corporation shall be entitled to adjust or appropriate such fees, deposits and other monies for such dues and claims, to the exclusion of the other claims against the Clearing Member, without any reference to the Clearing Member. Chapter VIII of the Byelaws deals with margins and provides for margin requirements, form of margins, quantum of margins, manner of holding of margins by the clearing Corporation, lien on margins, utilization of margins upon failure to meet obligations by clearing member and actions for failure to pay margins. The Securities Contracts (Regulation) (Stock Exchanges and Clearing Corporations) (Amendment) Regulations of 2018 provides regulatory protection to the clearing corporation activities by way of Regulation 43 and 44. Under sub-regulation 3 of Regulation 44, when a settlement has become final and irrevocable, the right of the recognized stock exchange or the recognized clearing corporation, as the case may be, to appropriate any collaterals or deposits or margins contributed by the trading member, clearing member or client towards its settlement or other obligations in accordance with the byelaws of the recognized stock exchange or recognized clearing corporation shall take priority over any other liability of or claim against the said trading member, clearing member or client, as the case may be. Under Regulation 44, regulatory protection has been provided for the clearing corporation to deal with the collaterals, deposits and assets of the clearing members. This Regulation recognizes the rights of the clearing corporation for recovery of dues and priority for such liability to clearing corporation. The Regulation provides that the right of recognized clearing corporation(s) to recover the dues from its clearing members, arising from the discharge of their clearing and settlement functions, from the collaterals, deposits and assets of the clearing members, shall have priority over any other liability of or claim against the clearing members.

4. Default procedures

Chapter XI of the NCL Byelaws applicable to all segments deals with the provisions for default procedures. Byelaw 10 of this Chapter stipulates that the Relevant Authority shall call in and realise the security deposits in any form, margin money, other amounts lying to the credit of and securities deposited by the defaulter and recover all moneys, securities and other assets due, payable or deliverable to the defaulter by any other Clearing Member in respect of any deal or dealing made subject to the Bye-laws, Rules and Regulations of the Clearing Corporation and such assets shall vest ipso facto, on declaration of any Clearing Member as a defaulter, in the Clearing Corporation. These realized assets shall be subjected to the protection of Regulation 43 and 44 of the SCRA [SE & CC] Regulations. Byelaw 19 of this Chapter

provides for the manner of application of these assets. Chapter XII of these Byelaws has been amended to include the provisions relating to Core Settlement Guarantee Fund.

5. Finality of transfers of funds and financial instruments

SEBI has amended the SCRA [SE & CC] Regulations for providing for settlement finality. Regulation 43 of these Regulations stipulates that payment and settlement in respect of a transaction between parties referred to in sub-regulation (1), effected under the byelaws of a recognized stock exchange or a recognized clearing corporation, and shall be final, irrevocable and binding on such parties. SEBI further specified the point of time when the settlement finality is achieved. It is declared that the settlement, whether gross or net, referred to in this regulation, is final and irrevocable as soon as the money, securities or other transactions payable as a result of such settlement is determined, whether or not such money, securities or other transactions is actually paid. Therefore in line with the suggested recommendations of the PFMI Report, SEBI had clearly indicated the point of time for attainment of settlement finality.

Key Consideration 2

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

The Rules, Byelaws and Regulations are approved by Securities and Exchange Board of India and are published in the Gazette of India as well as the Gazette of Maharashtra as required. The Rules, Byelaws and Regulations are published in the official gazette in line with the procedure as prescribed for the stock exchanges Rules, Byelaws and Regulations amendments. The market participants' doubts with respect to the contents of the Rules, Byelaws and Regulations are clarified if and when raised. The Byelaws, Rules and Regulations of NCL and any amendments to the same are intimated to the market participants by way of circulars.

Any amendments to byelaws of NCL can only be done after seeking public comments through a consultative process and prior approval of SEBI.

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.

Legal basis for the activities of the clearing corporation are articulated in the Section 8A of the Securities Contracts (Regulation) Act, 1956 and also in the Securities Contracts (Regulation) (Stock Exchanges and Clearing Corporations) Regulations, 2018 which requires NCL to make an application for recognition as a recognized clearing corporation. NCL has been granted recognition by SEBI under these regulations. Further, the bye-laws of NCL and any subsequent amendments are approved by SEBI.

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.

As already indicated above, the regulatory framework within which NCL functions provides certainty to its activities and the Rules, Byelaws, Regulations and Circulars of NCL and enforceable in India. Further, it may be noted that Section 8A of the Securities Contracts (Regulation) Act, 1956 read with Securities Contracts (Regulation) (Stock Exchanges and Clearing Corporations) Regulations, 2018 require NSCCL to make an application for recognition as a recognized clearing corporation. NSCCL has been recognized as a clearing corporation under these regulations.

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.

NCL does not operate in multiple jurisdictions and therefore the key consideration is not applicable.

Principle 2 Governance

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

Summary Narrative

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.

1. Objectives of NCL

The objectives of NCL are clearly defined in the object clause of memorandum of association. The main objective is to facilitate setup and carry on the business of clearing and settlement of various financial securities. NCL provides the highest priority to safety and efficiency which is evident from its rules, regulations and bye-laws framed to govern the business and operations. The rule, regulations and bye-laws stress upon high capital adequacy, strict eligibility criteria and adequate infrastructure.

NCL's key objectives are:

- to bring and sustain confidence in clearing and settlement of securities
- to promote and maintain, short and consistent settlement cycles
- to provide counter-party risk guarantee
- to operate a tight risk containment system

Apart from this, internally NCL has defined Service Level Agreements for most of its processes and deliverable for external customers and internal customers. Thus, safety and efficiency are not only christened in its objectives, they are part of the business process too.

2. Financial Stability

NCL ensures adequacy of financial resources including Core Settlement Guarantee Fund at all times to ensure financial stability even under extreme situations.

Public Interest considerations

As an incorporated entity NCL has its identified social responsibility in line with that of the corporate community in India in general. NCL has enshrined corporate social responsibility as part of its overall objectives.

The NCL Byelaws contains relevant provisions to protect the interest of constituents who are the ultimate investors in the Capital Market.

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.

1. Procedural Norms by SEBI

The Securities Contracts (Regulation) (Stock Exchanges and Clearing Corporations) (SECC) Regulations, 2018 and the Procedural norms on Recognitions, Ownership and Governance for Stock Exchanges and Clearing Corporations (“Procedural Norms”) issued by SEBI prescribe in detail the governance norms to be followed by Clearing Corporations.

2. Ownership

NCL is public limited company incorporated under the provisions of Companies Act (1956) and is a wholly owned subsidiary of National Stock Exchange of India Ltd. The entire 100% share capital of the Clearing Corporation is held by National Stock Exchange of India Limited. Necessary provisions in this regard are contained in Securities Contracts (Regulation) (Stock Exchanges and Clearing Corporations) (SECC) Regulations, 2018. The shareholders of the Clearing Corporation should be fit and proper persons and should not suffer from any disqualifications. As these are continuous requirements, after becoming the shareholder of NCL, if any shareholder suffers any disqualification, they cannot continue to be a shareholder of Clearing Corporation.

3. Governance

All directors can be appointed only after the approval of SEBI. SECC regulations have laid down the eligibility requirements for board of directors. They are required to meet the “fit and proper” criteria and must not be associated with any trading/clearing member. A code of conduct has been specified under the SECC regulation for board members.

There are three categories of directors of the clearing corporation viz. Managing Director, Shareholder Directors and Public Interest Directors. The public interest directors form at least 2/3rd of the total strength of the board.

Various Committees as specified in the procedural norms are constituted to oversee various aspects of the functioning of clearing corporation.

A compliance officer is appointed as per the requirements of SECC regulations to monitor the compliance of relevant acts, rules and regulations by the clearing corporation.

4. Disclosure

NCL provides accountability to its owners, participants and other stakeholders through Rules, Regulations, Byelaws, Member agreements, norms and shareholder agreements. NCL discloses all the governance arrangements (Rules, Regulations, Byelaws, Annual reports) on the website.

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.

1. Roles and Responsibilities

Pursuant to Companies Act, 1956, the roles and responsibilities of the NCL Board of directors are clearly defined in its Articles of Association and Rules. SCR (SECC) Regulations also provide guidance on role and responsibility of each category of Directors of a clearing corporation. The Board of Clearing Corporation comprises of Shareholder Directors, Public Interest Directors and Managing Director. The performance of shareholder director is being monitored by the shareholders and if

the shareholders are not satisfied with the performance of their representatives, they have powers to replace the existing representative. Public Interest Directors (PID) submit periodical reports to the Regulator which approve their appointment. In case the Regulator is not satisfied with concerned PIDs performance, their term is not renewed for a further period. The Managing Director's performance is assessed by the Board every year and their remuneration including increment is fixed based on their performance. Their term is renewed only if the Board and shareholders are satisfied with their performance. No procedures are in place to review the performance of the Board as a whole.

2. Conflict of interests

Regulation 26 of SCR (SECC) Regulations provides for code of conduct for directors and key management personnel for clearing corporations. Every director of NCL has to abide by the Code of Conduct specified under Part- A of Schedule- II of these regulations. Every director and key management personnel of NCL have to abide by the Code of Ethics specified under Part- B of Schedule- II of these regulations. SEBI for any failure by the directors to abide by these regulations or the Code of Conduct or Code of Ethics or in case of any conflict of interest, either upon a reference from NCL or suo motu, shall take appropriate action including removal or termination of the appointment of any director.

The directors must not be associated with any trading/clearing member.

Key Consideration 4

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

The Board comprises of:

1. Public Interest Directors not less than two-third of the entire Board
2. Shareholder Directors not exceeding one-third; and
3. Managing Director

All the Directors are required to be appointed with prior approval from SEBI. Independent Board Member can also be Public Interest Director representing the interests of investors in securities market. Knowledge and Experience in the field of

Finance, Economics, Law, and Risk Management are the skills sets necessary for NCL Board members. As per SCR (SECC) Regulations, 2018, every director and key management personnel of a recognized clearing corporation shall be a fit and proper person. Pursuant to SCR (SECC) Regulations, 2018, NCL does not provide any incentives to the Board members other than the sitting fees. The Managing Director does not get any sitting fees. The information on shareholder directors and public interest directors on NCL Board are disclosed on NCL website.

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.

1. Roles and Responsibilities

The roles and responsibilities of the management are:

- i. To develop and sustain robust clearing and settlement processes which are in accordance with the organizational strategy and statutory regulations.
- ii. To ensure the development, performance, and conduct of employees working in the organization.
- iii. To define clear goals and courses of action to the team members.
- iv. To ensure the well-being and progress of the team members.
- v. To display integrity in all actions of the management.
- vi. To display proper attitude and behavior, job knowledge, and effective communication to build good working relationships thereby motivating people to accomplish set goals and meet objectives.

2. Skills and Expertise

The roles and objectives of the senior management are set in alignment with the organizational strategy and objectives. The process and criteria for selecting senior management are two-fold:

- i. Career Progression: Employees are promoted to the senior management position on the basis of consistence performance and potential assessed through behavioral interventions.
- ii. Lateral Hires: Laterals are hired in key managerial positions on the basis of experience and proven domain expertise in the area of operations. Rigorous hiring and selection process is followed to ensure the best fit to the role.

3. Performance review and assessment

Senior Management personnel are assessed vis-à-vis the competency framework. It encompasses the assessment of behavioral and functional competencies to perform the role.

Performance is assessed in the mid-year as well as at the end of the financial year on the basis of the achievement of goals and competencies displayed through behavioural manifestations. Emphasis is given both to achievement of goals and rightful behaviour.

Senior management personnel may be removed by strictly adhering to the staff rules in force at the time. Principles of natural justice are followed in the process of removal.

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.

1. Risk Management Framework

NCL has adopted and developed upon the risk management framework as prescribed by SEBI. The framework consists of Capital Adequacy norms, Margining Methodology, Position limits, Default handling mechanism, Core Settlement Guarantee Fund, Business Continuity Plan.

NCL Risk Management Committee formulates policies for management of risks that are financial in nature, which are approved by the NCL Board. The enterprise-wide

risk management is monitored by the Risk Assessment and Review Committee. Both these committees are sub-committees of NCL Board.

2. Responsibility and Accountability

The risk management committee of NCL shall formulate a detailed risk management policy as per SEBI guidelines and implement the same as per the directive of the Board. The head of the risk management department is responsible for implementation of the risk management policy and reports to the risk management committee and to the managing director of the clearing corporation.

3. Internal Controls

Operational audits are done on regular basis by an Internal Audit team. Compliance audits are carried out every quarter. NCL has appointed Independent external auditors to perform an operational, process and compliance audit on a regular basis. The Auditor's report is placed before the Audit Committee of the Board.

4. Validation and Review

NCL has adopted the risk management framework as prescribed by SEBI. SEBI has constituted Risk Management Review Committee to review and recommend changes to the risk management framework. NCL participates in Risk Management Review Committee (RMRC) meeting to discuss the risk framework vis-à-vis the current market conditions. NCL's Risk Management Committee also reviews the model adopted by NCL for risk management. Internal risk management policies are formulated and reviewed by the Risk Management Committee of NCL.

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.

NCL seeks feedback from the relevant stakeholders on a continuous basis. Dedicated teams have been formed to understand the views of the participants. Multiple channels are made available for the market participants to give their feedback on any aspect related to the functioning of exchange and the clearing corporation. Customer Satisfaction Surveys are also conducted to assess and improve the overall efficiency.

The advisory committee of NCL based on the feedback received from the participants advises the governing Board on non-regulatory and operational matters including product design, technology, charges and levies. NCL discloses the major decisions through Regulations, Circulars and Press releases to relevant stakeholders and, where appropriate, the public.

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.

Summary Narrative

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.

1. Comprehensive Risk Management framework

NCL has sound risk management policies to monitor credit, liquidity, general business, custody and investment, and operational risks. Details of the policies and processes in place to manage these risks are discussed in principles 4, 7, 15, 16 and 17 respectively.

NCL has adopted and developed upon the risk management framework formulated by SEBI.

NCL Risk Management Committee formulates policies for management of risks that are financial in nature, which are approved by the NCL Board. The enterprise-wide risk management is monitored by the Risk Assessment and Review Committee. Both these committees are sub-committees of NCL Board.

The effectiveness of the policies is assessed by regular review and analysis as well as various tests performed as per the SEBI circular on core SGF, Default Waterfall and Stress Testing.

2. Systems, Policies and Procedures

NCL has built in-house applications for online risk monitoring and management. Risk containment measures include capital adequacy requirements of members, monitoring of member performance and track record, stringent margin requirements,

position limits, online monitoring of member positions, automatic disablement from trading when limits are breached etc. These systems calculate positions, margin requirements etc. at client, trading member and clearing member level. The systems also generate various reports/alerts etc.

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.

NCL's rules and regulations clearly explain the requirements and responsibilities of the participants towards the clearing corporation. These include responsibilities specific to risk management. Clearing members' compliance to the in-force risk management measures is assessed on a regular basis.

NCL has instituted incentives for compliance to the requirements (e.g. margin exemption for early pay-in of funds) NCL has also put in place disincentives to discourage non-compliance to requirements.

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.

NCL bears material risks from clearing members, clearing banks, liquidity providers and issuers of collateral.

Banks that function as clearing banks, liquidity providers and issuers of collateral are regulated by the Reserve Bank of India. NCL has put in place stringent eligibility criteria to ensure that only the banks with highest creditworthiness and capability are eligible for these roles. There is also a continuous monitoring of applicable compliance requirements and exposure.

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.

NCL is sufficiently capitalized to ensure an orderly wind down. The expenses (excluding depreciation) in FY 2018 were INR 1178.6 million. Its equity capital including reserves is INR 11131.30 million. The winding up procedure is clearly defined in clause 195 of its Articles of association. This procedure is in accordance with the Companies Act, 1956, the principle Act for companies. NCL Board will formulate and approve the plan to raise additional equity capital on a need basis.

Principle 4 Credit risk

An FMI should effectively measure, monitor, and manage its credit exposure 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 largest participants and their affiliates that would potentially cause the largest aggregate credit exposures to the CCP in extreme but plausible market conditions. All other CCPs should maintain, at a minimum, total financial resources sufficient to cover the default of the one participant and its affiliates that would potentially cause the largest aggregate credit exposures to the CCP in extreme but plausible market conditions.

Summary Narrative

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.

NCL has established a robust framework to manage its credit exposures to its participants and the credit risks arising from its payment, clearing and settlement processes.

The three pillars of NCL's approach for management of exposure to clearing members are:

1. Upfront collection of margin in the form of collateral

2. Client-level margining (no netting across clients)
3. Real-time computation and monitoring

The mechanism of credit risk management is as follows:

1. Participant enrolment

NCL has stringent criteria for enrolling participants as clearing members.

2. Collateral

NCL accepts collateral from its participants as stipulated by SEBI circulars. Cash, bank guarantees, fixed deposit receipts, government securities, sovereign gold bonds, units of liquid mutual funds schemes are considered as cash and cash-equivalent collateral. Securities, units of equity mutual fund schemes, and corporate bonds are accepted as non-cash collateral. Members need to maintain at least 50% of the collateral in the form of cash and cash-equivalents.

Collateral is valued on a daily basis, and stable and conservative haircuts are applied.

In addition to SEBI guidelines on acceptance of collateral, NCL has stipulated several prudential norms for collateral to ensure that the accepted collateral has low credit, liquidity and market risks.

3. Initial margins

Initial margins as prescribed by SEBI are levied on an upfront basis. These margins are computed after every trade for each client on a real time basis. One client's positions/margins are not offset against another client's positions/margin or with a proprietary position/margin. Value at Risk (VaR) method is followed for 99% confidence level. Extreme loss margins (ELM) are also imposed on each security. Margin rates for each security are revised multiple times in a day for imposing margins. In case of derivatives SPAN portfolio margins are imposed on an upfront basis. In case of long option positions, unsettled premium is charged as buy premium margin.

4. Intra-day crystallised Losses

Intraday Crystallised mark to market Losses (ICMTM) on all trades which are executed and results into closing out of open positions are collected as margins on a real time basis.

5. Mark to market margins

All open positions are subject to daily mark to market and it is collected or levied as margin to clearing members.

6. Shorter settlement cycle

As prescribed by SEBI, cash market settlements are completed on T+2 day. Mark to market settlement in Derivatives market are completed before start of market hours on next day. Delivery settlement of derivatives transactions are completed on T+2 day for stock derivatives and on T+1 day for commodity derivatives. Participants are provided with a facility to deliver securities against their obligation to reduce the risk and corresponding margins.

7. Market wide position limits and open interest limits

In the derivatives market, as prescribed by SEBI, market wide position limits are prescribed for each security. These limits are monitored at the end of each day. Participant and client open interest limits are also stipulated. Participant limits are monitored on a real time basis and client open interest limits are monitored at the end of each day.

8. Criteria for selection of clearing banks:

- i. Net worth of at least Rs. 15,000 crores in case of Public sector/Private sector Banks & Rs. 7,000 crores in case of foreign banks.
- ii. A track record of profitability in the last three years
- iii. Wide presence, at a minimum in centres where electronic fund transfer facility (EFT) of RBI is available and to extend to such centres as and when EFT is made available by RBI.
- iv. Capital adequacy ratio not less than 11.5 %
- v. Net NPA as a percentage of net advances not more than 5%
- vi. Be a Participant in the RTGS system to ensure quick movement of funds

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.

Various sources of credit risk are as follows:

1. Clearing members

For monitoring and measurement of credit risk from clearing members, refer to Key Consideration 1 above.

2. Clearing Banks

NCL has put in place stringent eligibility criteria for empanelment of banks to ensure that only banks with sound financials, proven track records and sufficient operational expertise are eligible.

3. Empanelled banks for issuance of collateral

NCL has put in place stringent eligibility criteria for empanelment of banks to ensure that only highly creditworthy banks are eligible for issuance of collateral. NCL has also put in place various prudential limits on the collateral issued by banks.

4. NCL's investments

The investment policy of NCL is in accordance with SEBI norms built on the premise of highest degree of safety and least market risk and which governs eligibility of assets, applicable exposure limits etc.

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.

The key consideration is not applicable.

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.

NCL does not operate in multiple jurisdictions.

NCL has adopted the margining framework prescribed by SEBI. VaR/Initial Margin is intended to cover losses with 99% degree of confidence. Exposure Margin/Extreme Loss Margin is additionally levied to provide additional cover and account for the tail risk. Mark-to-market is performed on a daily basis. All margins are collected on an upfront basis in the form of collateral and sufficiency of collateral is validated on a real-time basis. The policies and procedures regarding collateral and margin are detailed in disclosures regarding the principle 5 and 6 respectively.

Further, NCL maintains a Core Settlement Guarantee Fund (Core SGF) in each segment as per the methodology prescribed by SEBI. The minimum required corpus of the core SGF is determined using the stress test which is designed to cover the worst-case loss in extreme but plausible scenario in respect of top two members causing highest credit exposure.

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.

NCL conducts a variety of stress tests to test the sufficiency of total financial resources as prescribed by SEBI under the guidelines on core SGF, default waterfall and stress testing. The guidelines also provide for regular review of model parameters.

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.

NCL conducts a variety of stress tests as prescribed by SEBI under the guidelines on core SGF, default waterfall and stress testing.

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.

The rules and procedures of NCL for any credit losses due to default have been specified in accordance with the default waterfall prescribed by SEBI under the guidelines on Core SGF, Default Waterfall and Stress Tests.

The mechanism of loss allocation has been provided in detail under the disclosure on Principle 13 on Participant Default Rules and Procedures.

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.

Summary Narrative

Key Consideration 1

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

According to SEBI guidelines, clearing members can deposit collateral in the form of cash, fixed deposit receipts, bank guarantees, liquid (group 1) equity shares, mutual fund units, corporate bonds, sovereign gold bonds, Foreign sovereign securities and government securities. SEBI has prescribed composition of cash equivalent (cash, bank deposits, bank guarantees, government securities, sovereign gold bonds, Foreign sovereign securities and liquid mutual funds) and non-cash equivalent (other forms of collateral) component for the clearing corporations as an acceptable form of collateral.

NCL ensures that only those assets with low credit, liquidity and market risks are accepted as collateral through eligibility norms, prudent valuation, concentration limits and haircuts.

- Cash and cash equivalent assets must be at least 50% of the total collateral.
- Only selected banks are empanelled for issuance of Bank Guarantees and Fixed Deposits as collateral based on stringent eligibility criteria. There are limits on total bank guarantees/FDRs issued by an empanelled bank as well as limits on the total issuance by one bank to an individual member. NCL does not accept Fixed Deposit Receipts (FDRs) and Bank Guarantees from members as collateral, which are issued by the member themselves or banks who are associate of member. NCL accepts only the most liquid (Group 1) securities as collateral. There are prudential limits for acceptance at member level as well as an overall limit.

- NCL does not permit listed clearing members to provide own securities as collateral or banks who are clearing members to provide own guarantees to mitigate the wrong-way risk.
- Conservative haircuts are applied on all types of securities accepted as collateral.

Key Consideration 2

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

NCL values its collateral on a daily basis after applying necessary hair-cuts.

NCL applies stable and conservative haircuts. Haircut applicable on equity securities varies for different categories of securities and is VaR rate, VaR rate scaled up by square root of 2 subject to minimum 20%, or VaR rate scaled up by square root of 4 subject to minimum 40%.

Sovereign Gold Bonds are applied a haircut of 10%. Treasury bills and liquid GOI dated securities having residual maturity of less than 3 years are applied a haircut of 2%. Liquid GOI dated securities having residual maturity of more than 3 years are applied a haircut of 5%. Semi liquid and illiquid GOI dated securities are applied a haircut of 10%. Corporate bonds are applied a haircut of 15%. Gilt Mutual funds and Cash Mutual funds are applied a haircut of 10%. Non-cash mutual funds are applied a haircut of 40% or VaR rate scaled up by square root of 4 whichever is higher.

These haircuts have been developed taking into consideration stressed market conditions and are regularly tested.

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.

NCL applies conservative haircuts that are calibrated taking stressed markets into consideration which reduces the need for procyclical adjustments (see Key Consideration 2). The haircuts are generally based on VaR but subject to a minimum level of haircut.

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.

NCL has put in place many prudent norms to ensure that there is no concentration of holdings in few assets:

- Cash and cash equivalent assets must be at least 50% of the total collateral.
- NCL accepts non cash collateral only to the extent of cash collateral.
- NCL does not accept Fixed Deposit Receipts (FDRs) and Bank Guarantees from members as collateral, which are issued by the member themselves or banks who are associate of member. Bank Guarantees and shares of the bank only to an extent of 15% (single bank exposure) of the total liquid assets are acceptable.
- Limits are specified for bank guarantees/FDRs including overall issuance by a bank and also on issuance by a bank to an individual member.
- Overall limits are specified for acceptance of Gilt Mutual funds and Cash Mutual fund accepted as collateral
- Overall limits are specified for acceptance of mutual funds. Debt mutual fund and Non debt mutual fund subject to a maximum of 35 % and 25% of total liquid assets per member respectively
- There is per-member as well as overall limits specified in case of securities (equity shares) accepted as collateral. NCL has also prescribed prudential limit on total quantum of individual securities expressed as a fraction of total cash-equivalent collateral deposited.

- Total deposits of corporate bonds by a member cannot exceed 10% of total collateral.

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.

NCL accepts Foreign Sovereign securities as collateral from its members. US Sovereign securities with AAA rating are only eligible for acceptance as collateral. There are operational mechanisms in place for quick access and timely utilization. The securities are valued with a conservative haircut of 20%.

Key Consideration 6

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

NCL has a robust Collateral Management System which manages entry, valuation and exit of collateral after ensuring sufficiency to continue meeting margin requirements. The system is well-designed, flexible and ensures that the norms for collateral acceptance, valuation and release are met.

NCL has also provided the members with a collateral interface which provides functionalities like online addition, online releases, and online transfers and provides members with various data and reports regarding their collateral deposits.

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.

Summary Narrative

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.

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

NCL has put in place a comprehensive risk management system. Risk containment measures include capital adequacy requirements of members, monitoring of member performance and track record, stringent margin requirements, position limits, online monitoring of member positions and automatic disablement from trading when limits are breached etc.

1. Cash market segment

As specified by SEBI, NCL has VaR based model for margining in Cash Market. The VaR margin is intended to cover the largest loss that can be encountered on 99% of the days (99% Value at Risk). It covers one-day losses for liquid stocks and three-day losses for illiquid stocks so as to allow clearing corporation three days to liquidate the position. The applicable VaR margin rates are updated at least 5 times in a day. In addition to VaR margin, extreme loss margin and daily mark to market loss including Intraday Crystallised Mark To Market Losses (ICMTM) is also charged in the cash market. Extreme Loss Margin and Mark to market are collected on gross of all net positions across all the clients of a member including his proprietary position.

2. Debt segment

In debt segment, the initial margin is intended to cover the loss at 99% confidence level over a one day time horizon. Extreme loss margin is charged over and above initial margin.

3. Futures and Options segment

For Futures & Options, portfolio based SPAN® (Standard Portfolio Analysis of Risk) margin model is used for initial margin to cover the loss at 99% confidence level over a two day time horizon. Margin parameters are updated five times intra-day. Exposure/extreme loss margin (computed on mark to market value of the gross open positions of clearing members) and Intraday Crystallised Losses (ICMTM) is charged over and above initial margin. In addition to above, Delivery margin is applicable for positions that are settled through delivery on expiry of derivative contracts.

4. Currency Derivatives Segment

For Currency derivatives, portfolio based SPAN® (Standard Portfolio Analysis of Risk) margin model is used for initial margin. Margin parameters are updated seven times intra-day. Exposure/extreme loss margin (computed on mark to market value of the gross open positions of clearing members) and Intraday Crystallised Losses (ICMTM) is charged over and above initial margin.

5. Commodity Derivatives Segment

For Commodity derivatives, portfolio based SPAN® (Standard Portfolio Analysis of Risk) margin model is used for initial margin. Margin parameters are updated nine times intra-day. Exposure/extreme loss margin (computed on mark to market value of the gross open positions of clearing members), Intraday Crystallised Losses (ICMTM), Tender period margin and Delivery period margin is charged over and above initial margin.

6. Disclosure

The details of risk management framework and margin models are disclosed to all market participants by way of circulars and are also made available on NCL website. The various margin parameters as and when updated are made available on the website and downloaded to members.

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.

Price data for margin system is received from the source (exchange systems) directly. As Price information comes to NCL on an online basis in the trade information, the issue of time lag does not arise. In case of unavailability of market price due to illiquid contracts, theoretical prices are used to calculate the margin requirements. NCL uses Black-Scholes model for option pricing and cash and carry arbitrage based model for futures pricing.

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.*

Risk model and parameters

NCL follows the risk management framework as specified by SEBI. VaR based model is used in margining of Cash Market Segment and portfolio based SPAN® (Standard Portfolio Analysis of Risk) margin model is used in Derivatives Segment. Margin models are designed with 99% confidence level. The Initial margin requirement is designed to cover losses with 99% confidence. Extreme Loss/Exposure Margin is additionally levied as additional cover to manage tail risk. All exposures of NCL to members are fully collateralized. Members are required to deposit collateral on an upfront basis. For liquid securities, the margin required is designed to cover one-day losses while for illiquid securities; it covers three-day losses so as to allow the Clearing Corporation to liquidate the position over three days.

Minimizing procyclical changes

Margin framework specifies minimum margin requirement for various types of securities/contracts to limit destabilising changes in margin rates leading to procyclical effects.

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.

Clearing Members are required to pay initial, ICMTM and exposure/extreme loss margin on an upfront basis. The margin parameters used by NCL are revised five times for cash market and equity derivatives, seven times for currency derivatives and nine times for commodity derivatives segment during a business day to account for latest prices and volatility.

NCL performs mark-to-market of positions on a daily basis using end-of-day prices. The market regulator SEBI has provided the right to clearing corporations to impose additional risk containment measures over and above the risk containment system mandated by SEBI. The Risk Management Framework and rules permit NCL to call upon members to deposit additional margin if a need is felt.

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.

A portfolio based margining approach is adopted which takes an integrated view of the risk involved in the portfolio of each individual client.

NCL levies lower margin for the offsetting positions in different segments or within a segment by providing cross margin benefit. Cross margin benefits are provided for positions in index futures/index ETFs and constituent stock futures/ETFs. Cross margin benefit is also provided for offsetting positions in stock futures and underlying stocks. These are very highly correlated. NCL provides margin benefit to the extent of 75% of the margin requirement.

There is no inter-CCP linkage and cross margin among CCPs is not applicable.

Key Consideration 6

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

NCL performs a variety of tests in accordance with the SEBI guidelines on Core SGF, Default Waterfall and Stress tests. Various kinds of tests are carried out at the specified intervals for extreme but plausible scenarios. The testing involves

simulation of a number of extreme but plausible scenarios including extreme historical events and hypothetical scenarios; and evaluating their effect on resources available with the clearing corporation.

Key Consideration 7

A CCP should regularly review and validate its margin system.

NCL has adopted the margin methodology prescribed by SEBI. SEBI has constituted Risk Management Review Committee to review and recommend changes to the risk management framework, including margin system, for the cash and derivatives segment and consider measures in reducing transmission of risk from other segments of the stock exchange. This committee comprises of external experts, SEBI and Clearing Corporations. NCL participates in Risk Management Review Committee (RMRC) meeting to discuss the risk framework vis-à-vis the current market conditions. The sufficiency of the quantum of margin is back tested against market experience to evaluate performance at the targeted confidence level. The test results are also placed before the Risk Management Committee/Board of NCL.

NCL also performs sensitivity analysis on margin models to identify most critical factors that affect margins.

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.

Summary Narrative

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.

A key source of liquidity risk for NCL is the potential shortfall in funds pay-in by one or more clearing members. In case of a shortfall in funds pay-in by one or more clearing members, NCL maintains pool of liquid and easily accessible financial resources. NCL's liquidity arrangements are sufficient to cover this maximum total market pay-in requirement historically.

Liquidity needs are met through two sources (in order of utilization of resources)

- (1) Available cash with Clearing Corporation
- (2) Credit lines from clearing banks

To avoid concentration of lines of credit amongst few banks, NCL has established limits with multiple clearing banks.

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.

NCL's proprietary clearing and settlement systems provide for functionality to track scheduled member-wise pay-in and pay-out of transactions, bank wise scheduled settlement flows, bank-wise transaction status, fulfilment of obligations of members in settlement cycles etc. Various automated reports are generated throughout the day and this facilitates tracking of intra-day liquidity.

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.

The key consideration is not applicable.

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.

NCL carries out all settlements only in Indian Rupees and operates only in Indian jurisdiction.

NCL maintains a Core Settlement Guarantee Fund (Core SGF) in each segment as per the methodology prescribed by SEBI. NCL has also established committed lines of credit with multiple banks to provide liquidity on need basis.

NCL carries out various stress tests as per the SEBI requirements on Core SGF, Default Waterfall and Stress Testing to ensure adequacy of resources.

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.

1. Core Settlement Guarantee Fund

NCL maintains a Core Settlement Guarantee Fund (Core SGF) in each segment as per the methodology prescribed by SEBI.

2. Lines of credit

NCL has entered into arrangements with select commercial banks, which are “clearing banks”, by way of committed lines of credit, to provide liquidity on need basis to NCL. Selection of such clearing banks is against stringent empanelment criteria approved by NCL board. To avoid concentration of lines of credit amongst few

banks, NCL has established limits on lines of credit with multiple clearing banks. NCL does not have access to credit from the Reserve Bank of India.

3. Testing for adequacy of resources

NCL carries out various stress tests as per the SEBI requirements on Core SGF, Default Waterfall and Stress Testing to ensure adequacy of resources.

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.

NCL may utilise its resources not forming part of Core SGF.

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.

NCL's liquidity providers are clearing banks. NCL has stringent qualifying criteria for banks to be eligible as clearing banks, which includes that banks should have -

- i. Net worth of at least Rs. 15,000 crores in case of Public sector/Private sector Banks & Rs. 7,000 crores in case of foreign banks.
- ii. Track record of profitability in the last three years
- iii. Wide presence, at a minimum in centres where electronic fund transfer facility (EFT) of RBI is available and to extend to such centres as and when EFT is made available by RBI.
- iv. Capital adequacy ratio not less than 11.5%
- v. Net NPA as a percentage of net advances not more than 5%
- vi. To be a Participant in the RTGS system to ensure quick movement of funds.

NCL maintains lines of credit with its clearing banks. The clearing banks are large institutions capable of understanding and managing their liquidity risks. All information required by these liquidity providers for specifying a limit on the line of credit is provided. These clearing banks also have access to liquidity from the Reserve Bank of India.

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.

The key consideration is not applicable. NCL does not have access to accounts and is not eligible to obtain access to accounts, payment services and securities services of central bank.

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.

NCL conducts stress tests as specified by SEBI to test the sufficiency of liquid resources in extreme but plausible scenarios and to measure the adequacy of its resources to manage its liquidity risks.

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.

NCL maintains sufficient amounts of liquidity arrangements to complete the payment obligations to meet the regulatory guidelines for cut-off timings and avoid unwinding, revoking and delaying obligations.

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.

Summary Narrative

Key Consideration 1

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

The Securities Contracts (Regulation) (Stock Exchanges And Clearing Corporations) (Amendment) Regulations, 2018 issued by SEBI provides point of settlement finality in Explanation to Regulation 43 (3) as follows: *"For removal of doubts, it is hereby declared that the settlement, whether gross or net, referred to in this regulation is final and irrevocable as soon as the money, securities or other transactions payable as a result of such settlement is determined, whether or not such money, securities or other transactions is actually paid."*

Thus Obligations become final once NCL generates and provides the final obligation reports to its members. The finality of obligations and the finality of settlement are determined by the CCP and the settlement is done through the Central Securities Depositories (i.e. NSDL or CDSL) for securities and through Clearing Banks for funds. All the payments and transfer instructions are electronic and subject to the jurisdiction of the place of CCP's registered office.

The norms regarding finality of transfer of funds and financial instruments are laid down in Rules, Regulations, Bye-laws and circulars of NCL as well as various laws governing transfer of funds / securities, risk management, defaults procedures and various other aspects of the settlement system. The procedural details are also covered in NCL Circulars. The information is disclosed to all the market participants & public through website.

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.

Value date for the cash segment is T+2. Value date for the currency derivatives segment and Equity Derivatives segment is T+1 before market hours for daily mark-to-market settlements. Value date for contract expiration in currency derivatives segment is T+2. For Equity Derivatives Segment for cash settled contract the value date for final settlement is T+1 before market hours and for delivery settled contracts is T+2. . NCL processes are designed to perform final settlement on the respective value dates.

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.

NCL does not permit revocation of obligation by participants once a trade is admitted. However, as per Chapter VII of NCL Byelaws, provisions have been made for NCL not to settle transactions subject to certain conditions. The relevant authority can approve annulment of trades on account of fraud or wilful misrepresentation or material mistake in the trade.

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.

Summary Narrative

Key Consideration 1

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

NCL uses the commercial bank model for settlement. NCL offers settlement of funds through 13 clearing banks. NCL carries out all settlements only in Indian Rupees and operates only in Indian jurisdiction.

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.

Clearing banks act as a pass through for settlement of funds. Presently NCL offers settlement of funds through 13 clearing banks. The Clearing members are free to choose one of these banks as clearing bank.

Criteria like net worth, capital adequacy requirement, asset quality, operational capabilities, reach and presence etc. has been prescribed for appointing Clearing Banks. In addition, the Clearing Banks have to enter into an Agreement with the Clearing Corporation wherein the obligations of the clearing banks are clearly defined.

As part of the settlement process, NCL ensures completion of payin of funds before the payout. The timelines for payin and payout (across all the segments of NCL) are kept insignificantly minimal so as to reduce any risk of bank failure. The designated clearing banks are subject to the prudential supervision by Reserve Bank of India.

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.

1. Empanelment criteria

NCL has prescribed the following criteria for selection of clearing banks which broadly covers creditworthiness, capitalisation, and access to liquidity, and operational reliability:

- i. Net worth of at least Rs. 15,000 crores in case of Public sector/Private sector Banks & Rs. 7,000 crores in case of foreign banks.
- ii. A track record of profitability in the last three years
- iii. Wide presence, at a minimum in centres where electronic fund transfer facility (EFT) of RBI is available and to extend to such centres as and when EFT is made available by RBI.
- iv. Capital adequacy ratio not less than 11.5%
- v. Net NPA as a percentage of net advances not more than 5%
- vi. To be a Participant in the RTGS system to ensure quick movement of funds

2. Compliance Monitoring

The clearing banks are supervised and regulated by Reserve Bank of India. The clearing banks compliance is also monitored by NCL on a regular basis. The banks are required to submit half yearly certificate of net worth and key financial ratios as may be specified duly certified by a Chartered Accountant along with the Audited balance sheet. Credit lines through overdraft facility are available with the clearing banks in order to meet any temporary funds requirements.

Key Consideration 4

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

NCL does not conduct money settlements in its own books. NCL uses commercial banks for the purpose of settlement.

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.

NCL's legal agreement with settlement banks clearly specifies the requirements for transfers to be carried out at banks.

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.

Summary Narrative

Key Consideration 1

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

NCL does not accept physical delivery for shares.

NCL accepts physical delivery for commodities on which derivatives are traded on National Stock Exchange. NCL has published detailed circular (Download Ref No: NCL/COM/ 39106 dated: October 10, 2018) on public domain listing out the procedures of clearing, delivery and settlement along with risk and collateral management.

Key Consideration 2

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

Currently no physical deliveries are accepted for shares

For commodities, NCL do not bear any cost for storage and delivery, the cost is borne by the seller up to commodity pay-out date and hence forth the cost is borne by the buyer.

Principle 11 Central securities depositories

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

Not Applicable to NCL

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.

Summary Narrative

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.

NCL mostly uses DvP-III settlements in cash market. While provision for DvP-I is also available for trade-for-trade securities, only a small fraction of the total settlements in the cash market are carried out using DvP-I. Different timings for pay-in and pay-out of obligations ensure that NCL eliminates all the principal risk associated with settlement processes.

For F&O segment, settlement obligations are in the form of net funds pay-in/pay-out for daily Mark to Market settlement and cash settled contracts. DvP-III settlements are adopted for contracts settled through delivery on expiry. These are processed in batches at the time of settlement which eliminates principal risk.

For the currency derivatives segments, settlement obligations are in the form of net funds pay-in or net funds pay-out for each clearing member. These are processed in batches at the time of settlement. Therefore, there is no principal risk involved in this case.

Principle 13 Participation-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.

Summary Narrative

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.

1. Declaration of Default

NCL's byelaws clearly outline definitions of both financial and operational default. The default event when a clearing member may be declared a defaulter by relevant authority of the segment (cash, F&O, Currency Derivatives) are given below:

- i. he is unable to fulfil his clearing or settlement obligations; or
- ii. he admits or discloses his inability to fulfil or discharge his duties, obligations and liabilities; or
- iii. he fails or is unable to pay within the specified time the damages and the money difference due on a closing-out effected against him under the Rules, Bye Laws and Regulations; or
- iv. he fails to pay any sum due to the Clearing Corporation as the relevant authority may from time to time prescribe; or
- v. he fails to pay or deliver all moneys, securities and other assets due to a clearing member who has been declared a defaulter within such time of declaration of default of such clearing member in such manner and to such person as the relevant authority may direct; or

- vi. he fails to abide by the arbitration award as laid down under the Rules, Bye Laws and Regulations; or
- vii. Under any other circumstances as may be decided by the relevant authority from time to time.

In addition to foregoing provisions, NCL's byelaws also provide that a clearing member will be declared as defaulter;

- (1) If he, being an individual and/ or Partnership firm, has been adjudicated as an insolvent or it, being a Company incorporated under the Companies Act, has been ordered to be wound up by a court of law in the petition filed by any of his creditors, as the case may be, he/ it shall ipso facto be declared a defaulter though he/ it may not have at the same time defaulted on any of his/ its obligations on the Clearing Corporation.
- (2) If he, being an individual and/ or Partnership firm, / it, being a Company incorporated under the Companies Act, files a petition before a Court of law for adjudication of himself as an insolvent or for its winding up, as the case may be, he/it shall ipso facto be declared a defaulter though he/ it may not have at the same time defaulted on any of his/ its obligations on the Clearing Corporation.
- (3) Without prejudice to the foregoing provisions contained, where a clearing member, who is also a member/ trading member of any of the recognized Stock Exchanges, is declared a defaulter by such Stock Exchange, the said Clearing Member shall ipso facto stand declared a defaulter by the Relevant Authority.
- (4) Notwithstanding anything contained in the Byelaws and Rules of Clearing Corporation, if a clearing member is an Associate of a member/trading member declared a defaulter by any recognized stock exchange, the said clearing member shall render itself liable to be declared a defaulter by the Relevant Authority.

2. Resources to meet losses in case of default

The resources that may be used in case of default have been specified in the default waterfall and include defaulter monies, corpus of the Core SGF and own resources of NCL. All resources are maintained in highly liquid assets with low credit, liquidity and market risks.

3. Default handling

NCL Bye laws mention default handling procedures and the usage of settlement fund in case of a default. In case default occurs, bye-laws give authority to deal with the assets of defaulter available with the CCP. It also allows to promptly close out or to transfer the positions of a defaulting participant and to apply the defaulting participants' collateral or other resources.

4. Default Waterfall

The default waterfall mechanism to be followed for allocation of losses is as under:

1. Monies of defaulting member (including defaulting member's primary contribution to Core SGF(s) and excess monies of defaulter in other segments)
2. Insurance, if any
3. NCL resources (equal to 5% of the segment Minimum Required Corpus [MRC]).
4. Core SGF of the segment in the following order:
 - i. Penalties
 - ii. NCL contribution to the extent of at least 25% of the segment MRC
 - iii. Remaining Core SGF: NCL contribution, NSEIL contribution and non-defaulting members' primary contribution to Core SGF on pro-rata basis.
5. Proportion of remaining NCL resources (excluding NCL contribution to core SGFs of other segments and INR 100 Crore) equal to ratio of segment MRC to sum of MRCs of all segments. INR 100 Crore to be excluded only when remaining NCL resources (excluding NCL contribution to core SGFs of other segments) are more than INR 100 Crore.
6. NCL/NSEIL contribution to Core SGFs of other segments (after meeting obligations of those segments) and remaining NCL resources to that extent as approved by SEBI.
7. Additional contribution by non-defaulting members, limited to the extent of their primary contribution to core SGF at the time of default. In case of shortfall in recovery of assessed amounts from non-defaulting members, further loss can be allocated to layer '6' with approval of SEBI.
8. Any remaining loss shall be covered by way of pro-rata haircut to payouts. In case loss allocation is effected through haircut to payouts, any subsequent usage of funds shall be with prior SEBI approval. Further, any exit by NCL post using this layer shall be as per the terms decided by SEBI in public interest.

5. Replenishment of resources

As per the SEBI guidelines on core SGF, Default Waterfall and Stress Tests, In the event of usage of Core SGF the contributors are required to immediately replenish the Core SGF to Minimum Required Corpus. In case there is failure on part of some contributor(s) to replenish its (their) contribution, same shall be immediately met, on a temporary basis during the month, in the following order:

(i) By NCL

(ii) By NSE

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.

The aspects relating to default, non-delivery of securities and non-payment of funds are covered under NCL byelaws and Regulations.

The Declaration of Default is done by the relevant authority of NCL. In case of default by a participant; SEBI, NSE and other participants are informed through a notice. A public notice is also issued (on the website as well as media) for the benefit of the clients of the defaulting participant. Such clients are provided with sufficient time to admit their claims against the defaulting member.

The relevant authority may conduct a strict enquiry into the accounts and dealings of the defaulter in the market and shall report anything improper, un-business like or unbecoming a clearing member in connection therewith which may come to its knowledge. 'Defaulters committee/SGF Utilization Committee', a statutory committee of the clearing corporation, supervises actions to be taken in the event of a default. The committee comprises of majority public interest directors/independent members.

Key Consideration 3

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

NCL's participant default rules and procedures are made publicly available through the website. NCL Byelaws outline the circumstances in which action may be taken and the scope of the actions which may be taken, including the treatment of both proprietary and customer positions, funds, and assets. It also provides mechanisms to address an FMI's obligations to non-defaulting participants and its customers. NCL regulations stipulate who may take those actions.

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.

NCL engages with market participants and industry association on an on-going basis to discuss the default and compliance procedures. The Board from time to time reviews the default procedures on a need basis in line with the directive issued by the Regulator.

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.

Summary Narrative

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.

NCL calculates client positions separately and uses separate accounts to maintain them. As a result, the positions are fully segregated at client level.

Based on client positions, NCL also calculates margin requirements separately for each client. NCL does not accept collateral from clients and clearing members are required to deposit their own assets as collateral for meeting margin requirements of proprietary as well as client positions.

Clearing members need to maintain client collateral in segregated accounts and report the margin collected from clients to NCL on a daily basis in F&O and Currency Derivatives segments. Thus, NCL itself maintains the positions and margins on a fully segregated manner; and maintains the information pertaining to the individual client margins based on the reporting done by the clearing members.

As per NCL byelaws and regulations for F&O segment, in the event of default, relevant authority may decide to close out the open positions or transfer them to any other clearing member who agrees to accept such transfer.

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.

Clearing members are required to deposit their own assets as collateral for meeting margin requirements of proprietary as well as client positions.

Clearing members need to maintain client collateral in segregated accounts and report the margin collected from clients to NCL on a daily basis in F&O and Currency Derivatives segments. Thus, NCL itself maintains the positions and margins on a fully segregated manner; and maintains the information pertaining to the individual client margins based on the reporting done by the clearing members.

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.

NCL shall be able to port positions of the customer from one participant to another without having to close out the positions. Chapter VI of NCL Byelaws (Clearing & Settlement of Deals) and Regulation 6 of NCL Regulations (Closing out) gives NCL the legal assurance to transfer the position of the customer from one participant to another only after taking consent from the participant who is accepting the positions.

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.

Rules, regulations, byelaws and circulars of NCL provide clients of clearing members and the market at large with all the relevant information.

There are no explicit costs associated with segregation and portability arrangements.

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.

Summary Narrative

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.

NCL was established in 1995 and has built up equity capital over the years. NCL is highly capitalized and its equity capital including reserves is INR 11959 million. The expenses (excluding depreciation) in FY 2018 were only INR 1179 million. High capitalization of NCL mitigates the business risk. NCL has developed adequate capacity to assess the business risks on an on-going basis.

There are three sources of business risks identified as follows-

- i. The business risks of NSE have a direct impact on NCL's business as it provides clearing and settlement services to NSE.
- ii. NCL invests the cash deposits of members according to its prudential norms in assets with minimum risk. The treasury income from investments forms a significant portion of NCL's income. The cash deposits of members are commensurate with their trading activity, and if these deposits are withdrawn then the treasury income shall be impacted.
- iii. An increase in the cost of operations.

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.

NCL is highly capitalized and its equity capital including reserves is INR 11959 million. It holds negligible fixed assets and nearly all the assets are financial in nature and liquid. The expenses (excluding depreciation) in FY 2018 were only INR 1179 million. The reserves are 10 times the annual operating expenses. This would provide cushion in case of general business losses and mitigate the business risk.

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.

NCL is sufficiently capitalized to ensure an orderly wind down. Its equity capital including reserves is INR 11959 million. The expenses (excluding depreciation) in FY 2018 were INR 1179 million. The reserves are 10 times the annual operating expenses.

Such high capitalization of NCL ensures that sufficient resources are available to meet business losses.

The default waterfall of NCL, as prescribed by SEBI covers the recovery scenario in the case of default. If all the financial resources available in the default waterfall are

insufficient, then remaining loss shall be covered by way of pro-rata haircut to payouts.

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.

NCL's liquid assets funded by equity are held in high quality assets with low credit, market and liquidity risk as per investment policy specified by the market regulator SEBI. NCL's liquid assets are invested in Fixed deposits with Banks [only those banks which have a net worth of more than INR 500 crores and are rated A1 (or A1+) or equivalent, Central Government Securities and liquid schemes of debt mutual funds.

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.

SEBI (SECC) Regulations have stipulated a net worth requirement of Rs 300 crores for clearing corporation and NCL maintains the required net worth criteria (Rs. 11959 million as of March, 2018). However, in the event of the capital going below the minimum requirements, it can infuse additional capital from its shareholders. NCL's Articles of Association (Article 66) details a provision that empowers the Board of Directors at NCL to raise additional equity capital. The plan to replenish equity capital is reviewed as and when necessary. NCL Board will formulate and approve the plan to raise additional equity capital (on a need basis).

Principle 16 Custody and investment risk

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.

Summary Narrative

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.

Assets of NCL as well as its clearing members' assets are held either with NCL itself, or with supervised and regulated entities.

Cash is maintained by banks that are regulated by RBI and they are also empanelled by NCL wherein annual review of eligibility of banks is done to ensure their creditworthiness. NCL has well-defined and comprehensive criteria for empanelment of banks. These criteria include both financial (minimum net worth requirement, track record of profitability, minimum capital adequacy, cap on NPAs etc.) and operational (high level of automation, electronic funds transfer capability, participation in RTGS etc.) parameters. Legal agreements with empaneled banks ensure that NCL is indemnified in case of any operational failures related to systems, hardware, software; backups etc. that may result in potential losses from fall in NCL's service levels.

The bank guarantees deposited by members as collateral are held by NCL in its own custody. The bank fixed deposits deposited by members as collateral are held either by NCL or by its empanelled custodians. For providing securities as collateral, clearing members are required to open designated accounts with custodians empanelled by NCL and pledge these securities in favour of NCL.

Presently there are five custodians empanelled by NCL. These custodians are regulated entities who are registered as custodians of securities with SEBI. All the / custodians are required to submit various compliance certificates to NCL on a

monthly / quarterly / yearly basis. These certificates cover operational, technological and financial requirements. They certify that they have adequate internal control systems to avoid any errors, omissions. Operations & procedures in respect of custody of collaterals are mandated by the agreement entered between the custodian & NCL.

The custodians are also required to take an insurance cover as stipulated by NCL covering all risks including but not limited to losses arising out of any error, omission, commission, acts of negligence etc.

Key Consideration 2

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

NCL has prompt access to its assets and the assets provided by members. The assets provided by members are either in the custody of NCL itself, or in the custody of empanelled custodians. The agreement between NCL and empanelled custodian provides assurance of prompt access to NCL. Further, the pledging of securities is done in the depository system itself, which has a very strong legal basis.

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.

NCL has empanelled five SEBI approved custodians for the purpose of custody of securities placed by members. In the model of securities acceptance, the custodians act on behalf of NCL based on the instructions given. Securities are actually marked as a Pledge in favour of NCL and hence, till NCL releases the pledge, the shares cannot be given back to the member. NCL also reconciles the pledge balances with each of the depositories' on a daily basis.

NCL has empanelled multiple custodians for safekeeping of its assets to diversify exposure to any single custodian. No exclusive norms are defined to monitor concentration risk as the pledges are created in favor of NCL in the depository system

directly and the custodian only acts on behalf of NCL in accepting the pledge and sharing the valuation details.

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.

NCL's liquid assets are held in high quality assets with low credit, market and liquidity risk as per investment policy specified by the market regulator SEBI. NCL's liquid assets are invested in Fixed deposits with Banks [only those banks which have a net worth of more than INR 500 crore and are rated A1 (or A1+) or equivalent, Central Government Securities and liquid schemes of debt mutual funds (subject to the maximum of 10% of the investible surplus of NCL at the time of making such investments). All investments will be subject to suitable transaction/investment limits.

NCL ensures that the financial instruments in which the Core SGF corpus is invested remains sufficiently diversified at all times.

Principle 17 Operational risk

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

Summary Narrative

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.

Under its operational risk management framework, NCL has a defined policy to conduct a comprehensive risk assessment. NCL has identified the human error, system failure and internal and external touch points as the sources of Operational risks. The same is monitored through the operational & process audit carried out by an independent auditor on a quarterly basis in order to identify the full range of operational risks. The independent audit team ensures that NCL complies with the operational procedures. The findings of the audits are placed before the audit committee.

To address operational risk-

- (i) NCL has implemented the following procedures to address the identified operational risks: Maker checker to avoid any human error, automation of processes to avoid any human intervention, Process logs / Check lists for control purpose, Standard operating procedures, Process maps giving all the internal & external touch points etc.

- (ii) NCL's risk-management policies address fraud prevention include restricted internet access, non-usage of mobile phones in sensitive areas of operation, disablement of USB ports, secured access
- (iii) NCL's human resources policies to hire, train, and retain qualified personnel, and to mitigate the effects of high rates of personnel turnover or key-person risk. The key measures to address people risk include internal job rotation, conducting work surveys to measure employee satisfaction levels.
- (iv) NCL's change-management and project-management policies and processes to ensure that changes and major projects do not affect the smooth functioning of the system. Moreover, dedicated team is in place for NCL to analyse the impact of any system change, test the new product along with regression testing to ensure smooth functioning.

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.

The Board of Directors of NCL has formed a sub-committee 'Risk Assessment and Review Committee' for operational risk review and management. The entire audit for the operational risk-management framework is carried out by an independent auditor.

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.

The operational reliability objectives of NCL have been set as 100%. NCL's reliability objectives are integrated into its operational risk management framework. NCL applications are mission critical and hence downtime/failures/non-compliance of Service Level Agreement (SLA) is unacceptable. Some of the SLAs are also published

to the participants and regulators. The reliability objectives are included in the audit conducted by independent auditors.

In case, if any failures are encountered, immediate steps are taken to rectify and exceptions are generated. These exceptions are then reported to the higher management by means of daily reporting.

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.

NCL reviews, audits, and tests the scalability and adequacy of its capacity through Enterprise system management tool which monitors online resource utilization of all the systems with appropriate alert mechanisms. As a best practice, daily reports for key system resource indicators are shared with all stakeholders, which would enable proactive action for any deviation observed. Annual external audit is conducted in which capacity management is one of the aspects.

Capacity management is an on-going exercise, capacity of systems are kept well above the current utilization levels. It is reviewed with every major upgrade in business service or infrastructure. As part of annual budget exercise, capacity planning is done by using tools like trend analysis and performance manager.

Key Consideration 5

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

- NCL has defined and implemented a Board approved Cyber security Policy that is aligned to the requirements specified by Securities Exchange Board of India (SEBI) and industry best practices. This policy outlines the purpose, scope and governance related requirements in the context of Cyber security. The policy segregates various controls, based on the following domains:
 - Identification
 - Protection

- Monitoring and Detection
 - Response and Recovery
 - Sharing of Information
 - Training
 - Periodic Audits
- NCL has been awarded the ISO 27001:2013 certification for the Information Security practices. ISO 27001:2013 is a globally recognized standard for an Information Security Management System (ISMS). The ISMS is a framework of best practices that ensures adequate safeguards for the Confidentiality, Integrity and Availability of NSE Clearing's information and services. This certification indicates our commitment towards ensuring a robust framework for its Information Security systems and also helps develop greater confidence amongst all its stakeholders including members, connected financial institutions and the investor community at large.

Key Consideration 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.

1. Business Continuity Plan

NCL's Business Continuity Planning (BCP) Policy has been approved by the Board. BCP Plan is aligned to BCP policy. BCP procedures too are in place to ensure rapid recovery and resumption of operations. Disasters have been classified into 4 levels depending on their intensity and recovery approach. BCP plan mentions four levels of disaster and respective recovery strategy within defined RTO as mentioned in BCP policy. In the eventuality of data loss, the last recognized trade and order number available at BCP would be declared to the market participants as mentioned in BCP

policy. Identified Crisis Management team will declare disaster based on level of impact. Media management team is a single window for external communication as per direction from Crisis Management Team.

2. Business Continuity Plan / Disaster Recovery site

NCL's Secondary site set up as of PDC in terms of hardware, software, applications systems, network devices and equipment's is adequate to carry out business operations from BCP/DR Center without major degradation in the performance of the systems. Secondary site set up is located at Chennai which is at a distance of over 1000 kms from Primary Site. Mumbai and Chennai are on opposite coastal directions and therefore probability of both the Centers getting affected simultaneously by same disaster seems remote. In case of unavailability of primary site, operations will continue from DR site.

3. Review

BCP arrangements are reviewed periodically. Test drills are conducted based on management approvals. Internal stakeholders are involved in test drills. Live sessions are also conducted from the BCP sites involving members. Reviews are done on a periodic basis.

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.

1. Clearing banks

NCL is linked with clearing banks for funds settlement. There is an eligibility criterion for clearing banks which includes operational capability in addition to creditworthiness. There are thirteen clearing banks and hence, the settlement is not concentrated at one place. Further, clearing banks are regulated by Reserve Bank of India and their operational capability is monitored. The interface with clearing banks is electronic. In case of an operational failure, NCL has the capability to perform manual operations.

2. Depositories

NCL is linked with depositories for securities settlement. Depositories are regulated by SEBI and their operational capabilities are monitored. The interface with depositories is electronic. Technically, the systems are not tightly interlinked and there is a file based interface. NCL completes the settlement in small period of time and does not hold any balance in its settlement account. In case of an operational failure, NCL has the capability to perform manual operations.

Hence NCL does not pose any significant risk to depositories. Further, Business continuity arrangements are designed in a manner that they would not affect any other interdependent FMIs.

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.

Summary Narrative

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.

1. Type of membership

NCL offers various kinds of memberships that provide open access to a wide variety of market participants –

- i. Self-clearing member
- ii. Trading member cum clearing member
- iii. Professional clearing member

The total deposit requirement and total net worth requirement varies by membership type. Moreover, requirements also vary by type of entity applying for a membership – proprietorship or corporate. All information regarding eligibility criteria and requirements for membership is available publicly.

2. Access to services

NCL does not accord any priority to any member or custodian in terms of processing data, providing reports and other services. All reports are downloaded to members/custodians at the same time. Further, NCL provides various essential and value added services to its members or custodians to enhance their efficiency. These services include, but are not limited to facilities to view and download trades online, modify trades, clear trades, view margin utilization, downloading/uploading of file from/ to the CC etc. All these services are available to members/custodians without any discrimination. Services which are essential to clearing, settlement and risk management functions are provided to all the members / custodians free of cost.

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 endeavour to set requirements that have the least-restrictive impact on access that circumstances permit.

The membership criteria defined by NCL for different categories of membership takes into consideration risk profile of the member. The criteria for membership differ for different segments and also according to the category of membership i.e. self-clearing member, clearing member, professional clearing member. The rationale for different criteria is based on the potential risk, size of the business due to the different clearing member status. The NCL rules on clearing membership empower the relevant authority, which in this case is Board of NCL to:

- (i) Define and admit more than one category of Clearing Member for the same segment or for different segments and may specify different norms including eligibility, admission and cessation of membership for each type of Clearing Members.
- (ii) Specify different categories of Clearing Members and Requirements regarding qualification, net worth, infrastructure and other relevant norms for each such category.
- (iii) Specify pre-requisites, conditions, formats and procedures for application for admission, termination, re-admission, etc. of Clearing Members to all or any of the segments of the Clearing Corporation. The relevant authority may, at its absolute discretion, refuse permission to any applicant to be admitted as Clearing Member to all or any of the segments.

Key Consideration 3

An FMI should monitor compliance with its participation requirements on an on-going 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.

NCL monitors that membership criteria are met on an on-going basis. Operational requirements from members include margins and membership requirements include deposits, financial net worth etc. The deposits and margins are monitored on an online basis.

There is a dedicated membership compliance team that monitors on-going compliance of members with various requirements of NCL.

Participants are required to report their financial status such as net worth, annual return etc. to the compliance team of NCL on a half yearly basis. Participants are also required to seek approval from the compliance team for any change in their dominant promoters. In case of non-fulfilment of requirements, NCL can carry out following suitable actions as per the provisions of its rules, regulations and byelaws.

The participation requirements, including arrangements for orderly exit of participants, are laid out in the Rules and Byelaws of the clearing corporations and are publicly disclosed on the website.

In cases of non-compliance, the matter is referred to the Disciplinary Action Committee (DAC) of NCL. The DAC may expel or suspend and/or fine and/or penalize under censure and/or warn and/or withdraw all or any of the membership rights of a Clearing Member if it be guilty of contravention, non-compliance, disobedience, disregard or evasion of any of the Bye Laws, Rules and Regulations of the Clearing Corporation or of any resolutions, orders, notices, directions or decisions or rulings of the Clearing Corporation or the relevant authority or of any other Committee or officer of the Clearing Corporation authorized in that behalf or of any conduct, proceeding or method of business which the relevant authority in its absolute discretion deems dishonourable, disgraceful or unbecoming a Clearing Member of the Clearing Corporation or inconsistent with just and equitable principles or detrimental to the interests, good name or welfare of the Clearing Corporation or prejudicial or subversive to its objects and purposes.

Principle 19 Tiered participation arrangements

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

Summary Narrative

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.

The direct participants of NCL are identified as Clearing Members and the indirect participants are Trading Members registered with the NSE, who access the services of NCL through a clearing member. Tiered participation exists in cash market, equity derivatives, currency derivatives, commodity derivatives and Debt segment.

Information about its trading members is gathered from the exchange and is updated on a daily basis. The position calculation and margin requirement is done for indirect participants on a real-time basis. The direct participants can set risk management limits for indirect participants they serve.

Key Consideration 2

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

The source of interdependency is obligation settlement by indirect participants through direct participants. Every participant on the exchange is required to be either a direct participant of NCL or linked to a direct participant of NCL.

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.

The margin requirement of the direct participants is an aggregate of all the margins payable by the indirect participants. In the risk management framework of NCL, the risks arising out of the transactions executed by the indirect participants are managed by the direct participants. The direct participants are provided with risk controls and limits to manage the risks posed by indirect participants to them.

For all the indirect participants specific position limits are defined for each derivative underlying. The indirect participants are not allowed to take additional positions above the limit defined.

Key Consideration 4

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

NCL takes action when the aggregate margin requirement of direct participants, including requirement for indirect participants, exceeds the collateral they have deposited and when the margin requirement of an indirect participant exceeds their risk limits set by their direct participant. These actions may include pre-trade risk management, permitting close-out only, withdrawal of trading facility, penalties etc.

Principle 20 FMI links

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

Summary Narrative

Key Consideration 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.

NCL currently has established links with the two central securities depositories National Securities Depository Limited (NSDL) and Central Depository Services Limited (CDSL) for carrying out the securities settlement. It is a regulatory mandate that NCL establishes connectivity to both the depositories. Necessary legal agreements have been signed with both the depositories clearly defining the contractual arrangements and the legal aspects.

NCL and depositories have implemented adequate systems with all the required checks to ensure that any risks arising out of the linkage are effectively managed. NCL carries out audits every six months to measure operational and system level efficiencies and the findings are submitted to the depositories.

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.

The link arrangements are bound by legal agreements signed by NCL with both NSDL and CDSL. The links are in Indian jurisdiction only.

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.

The key consideration is not applicable for NCL.

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.

The key consideration is not applicable for NCL.

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.

The key consideration is not applicable for NCL.

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.

The key consideration is not applicable for NCL.

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.

There is no inter-CCP linkage/CCP interoperability.

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 fulfil its obligations to its own participants at any time.

There is no inter-CCP linkage/CCP interoperability.

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.

The key consideration is not applicable for NCL.

Principle 21 Efficiency and effectiveness

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

Summary Narrative

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.

NCL communicates with market participants in different ways –

1. Advisory committee, a committee of clearing member representatives to advise NCL board on non-regulatory matters
2. Member associations
3. Annual customer satisfaction surveys
4. Regular meetings with members at each regional level

Through these channels, NCL incorporates the views of the markets in its business decisions such as scope of products, use of technology and procedures etc.

NCL's clearing and settlement arrangement; operating structure; scope of products cleared, settled, & reported; and use of technology and procedures are designed in a manner to best meet participant requirements. Regular feedbacks are also solicited from market participants so as to continuously upgrade the procedures/ processes / system-features to meet the needs of the participants.

Mock sessions are conducted so that market participants get familiar with the processes and feedback are collected so as to make appropriate changes to the systems. NCL uses latest technology while ensuring minimal cost and integration issues for its participants.

NCL has set up an 'NCL advisory' committee to advise the NCL board on non-regulatory and operational aspects including product design, technology, charges and levies. The advisory committee comprises of representatives of clearing members.

NCL measures satisfaction level for each service-interaction that it has with its external stakeholders. NCL measures “speed of resolution” and “quality of our service delivery” to assess the stakeholder satisfaction at the end of each interaction.

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.

NCL’s primary goals are –

1. To provide timely, reliable and cost effective clearing and settlement services to market participants
2. To ensure that appropriate risk management measures are adopted by market participants

NCL has defined internal Service Level Agreements (SLA) defined for all the processes and operations. These are monitored on a regular basis.

NCL Risk Management Committee and NCL Board monitor achievement of the objectives in the areas of Risk Management expectations.

NCL’s has clearly defined medium and long term business objectives. NCL Board reviews the achievement of these objectives.

Key Consideration 3

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

The efficiency and effectiveness of NCL operations are measured by independent auditors on a regular basis and the report of such audit is placed before the audit committee of NCL.

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.

Summary Narrative

Key Consideration 1

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

NCL's systems interact with its customers and participants through an Internet-based platform. This platform provides an online interface as well as a file-based interface. NCL's systems currently use internationally accepted message formats with the participants for trade confirmation using the ISO 15022 format. Financial Instruments are defined using ISIN specifications. The formats are defined by NCL and published to relevant stakeholders and public.

The system interaction with other parties (banks, depositories, etc.) is achieved by using a combination of binary and text files. Exchange of files is facilitated either by NCL's file-based interface or through the other party's software interface. For banking transactions, NCL has defined message formats and communication standards with banks. The formats for these files are defined by NCL, in consultation with the relevant parties.

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.

Summary Narrative

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.

1. Disclosure of rules and procedures

NCL has put in place adequate rules and procedures that comprise rules, regulations, byelaws, and circulars. In order to disclose information about the relevant rules and procedures to the members and the public, the above is made available on the NCL's website.

2. Notification of relevant amendments

Any amendment in the byelaws takes place through a consultative process wherein the proposed amendment is published in the official gazette to seek public feedback. The amendments are finalized after considering any feedback received subject to approval of Securities and Exchange Board of India (SEBI).

3. Update of relevant rules and procedures

In order to ensure that the relevant rules and key procedures are clearly articulated, NCL issues / updates the circulars on a regular basis. NCL generally issues circulars well in advance to ensure that clearing members as well as other stakeholders have sufficient time to adapt for the change.

4. Information to Key stakeholders

Moreover, for any key procedural change or a proposed new requirement, NCL connects with all its key stakeholders (viz. Clearing Banks, Custodians, Empanelled custodians from acceptance of securities as collateral, and Clearing Members) to make them aware of the proposed changes.

5. Dissemination of key financial data

Key financial data such as results of stress tests, size of Core SGF, amounts available in each layer of default waterfall for each segment, financial statements of NCL etc. are publicly disclosed on the website.

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.

NCL discloses all its design and operational procedures to the market participants, public and also to the regulator for any new product design / operational / procedural change to the existing process. The disclosures to the market participants are made available through circulars and also on the website. The information about the system's design and operations are contained in the rules, regulations, byelaws, circulars of NCL. User manuals are also published for all the participant interface applications.

The rights and obligations of the clearing members are clearly disclosed and are articulated in the byelaws of NCL.

NCL provides information to the market participants for them to identify and evaluate accurately the risk and cost associated with its services. All relevant information is available to the participants in rules, regulations and bye-laws of NCL as well as through their various circulars and website.

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.

In order to facilitate its members' understanding of the NCL's rules, procedures, and the risks associated with participating, NCL conducts regular programs and interactions for all its existing / new members to facilitate better understanding of the procedures.

There are also certification programs for the market participants to get a better understanding of the rules, procedures and risks associated in dealing with NCL.

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.

NCL does not levy any direct clearing/settlement fee on its members.

However, charges in the nature of empanelment charges, collateral release charges, annual subscription fees, premium services are charged to Members, Banks and Custodians. These charges are disclosed.

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.

NCL publishes regularly the basic data related to transactions. All aspects to NCL's financial condition are published on the website. Information related to risk management methodology, settlement statistics along with the timelines are also published on the website.

Information pertaining to NCL; its Shareholding pattern; Board of Directors; all the Business partners; Products and Services etc., is published on the web-site. As part of the financial information, NCL also publishes all the schedules pertaining to Balance sheet and Profit & loss statement.

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.

Not Applicable to NCL

5 List of publicly available resources

The Companies Act, 2013	Available on Ministry of Corporate Affairs website at: http://www.mca.gov.in/Ministry/pdf/CompaniesAct2013.pdf
Securities Contract (Regulation) Act, 1956	Available on SEBI's website at: http://www.sebi.gov.in/cms/sebi_data/attachdocs/1444898310496.pdf
Securities Contract (Regulation) Rules, 1957	Available on SEBI's website at: http://www.sebi.gov.in/cms/sebi_data/attachdocs/1399433501593.pdf
Securities and Exchange Board of India Act, 1992	Available on SEBI's website at: http://www.sebi.gov.in/cms/sebi_data/attachdocs/1456380272563.pdf
The Securities Laws (Amendment) Act 2014	Available on SEBI's website at: http://www.sebi.gov.in/cms/sebi_data/attachdocs/1409135096979.pdf
Procedural norms on Recognitions, Ownership and Governance for Stock Exchanges and Clearing Corporations	Available on SEBI's website at: http://www.sebi.gov.in/cms/sebi_data/attachdocs/1355463824798.pdf
Securities Contracts (Regulation) (Stock Exchanges and Clearing Corporations) (Amendment) Regulations of 2013	Available on SEBI's website at: http://www.sebi.gov.in/cms/sebi_data/attachdocs/1378378058586.pdf

**Securities Contracts
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NCL Board of Directors

Available on NCL's website at:
http://www.nscclindia.com/NSCCL/about_us/nsccl_bod.htm

NCL Shareholding Pattern

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**NCL Byelaws, Rules and
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**NCL Consolidated
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Available on NCL's website at:

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