NCDEX

Pragati ka Solid Exchange

PFMI Disclosure

NCDEX Disclosures on

Compliance with Principles for Financial Market Infrastructures

Committee of Payments and Market Infrastructures

International Organisation of Securities Commission

September 2017

Responding institution	National Commodity and Derivatives Exchange 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	September 29, 2017

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

For further information, please contact **National Commodity & Derivatives Exchange Limited, Ackruti Corporate Park, LBS Road, Kanjur Marg (W), Mumbai – 400 078, India.**

Contents

Glossary

CCP	Central Counterparty
CPMI	Committee on Payment & Market Infrastructure
CPSS	Committee on Payment & Settlement Systems
CSD	Central Securities Depository
DNS	Deferred net settlement
DvD	Delivery versus delivery
DvP	Delivery versus payment
EWMA	Exponentially Weighted Moving Average
FMI	Financial market infrastructure
IOSCO	International Organisation of Securities Commission
LVPS	Large-value payment system
NCDEX	National Commodity & Derivatives Exchange Limited
PFMI	Principles for Financial Market Infrastructure
SCRA	Securities Contracts (Regulations) Act
SECC	Securities Contracts (Regulation) (Stock Exchanges and Clearing Corporations) Regulations
SEBI	Securities and Exchange Board of India
SGF	Settlement Guarantee Fund
SSS	Securities settlement system
TR	Trade Repository

I. Executive Summary

This document provides disclosure on the 24 Principles for Financial Market Infrastructure (PFMI) specified by CPMI-IOSCO applicable to Central Counterparties. The PFMIs comprise of 24 principles for Financial Market Infrastructure to provide for effective regulation, supervision and oversight of FMIs. 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.

NCDEX is a recognized Commodity Exchange by SEBI and clears and settles trade executed on its platform. SEBI vide a circular no. SEBI/HO/CDMRD/DMP/CIR/P/2016/137 dated December 16, 2016 directed that the Commodity Exchanges shall be required to comply with the PFMIs specified by CPSS-IOSCO as applicable to CCPs until their clearing and settlement functions are transferred to recognised clearing corporations.

The legal basis for the activities of NCDEX are articulated in the Securities Contracts (Regulations) Act, 1956 ("SCRA, 1956"), Securities and Exchange Board of India Act, 1992, Securities Contracts Regulation Rules, 1957 ("SCRR, 1957), and Securities Contracts (Regulation) (Stock Exchanges and Clearing Corporations) Regulations, 2012 and Rules, Byelaws and Regulation of NCDEX.

The Exchange has implemented a robust risk management framework. NCDEX has formulated its risk management framework based on the Comprehensive Risk Management Framework and other directives and guidelines issued by SEBI.

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

The version published on September 29, 2017 is the NCDEX's first PFMI disclosure document.

III. General background on the FMI

General description of NCDEX and markets served

National Commodity & Derivatives Exchange Limited (NCDEX) is a professionally managed multi commodity exchange. NCDEX commenced operations in December 2003.

The shareholders of NCDEX comprises of large national level institutions, large public sector bank and companies. NCDEX is a national level, technology driven de-mutualised on-line commodity exchange with an independent Board of Directors and professional management.

The subsidiaries of NCDEX comprise of NCDEX e Markets Limited (NeML) - the online spot markets and services company, NCDEX Institute of Commodity Research (NICR) – the education and outreach arm, NCDEX Clearing Corporation Limited (NCCL) - clearing and settlement services and National E-Repository Ltd. (NERL) – the online warehouse receipt repository regulated by WDRA.

As of September 29, 2017, the Exchange offered trading in 26 commodity futures contracts, which includes 24 agricultural commodities, 1 bullion and 1 metal.

General Organisation

The business of the NCDEX is subject to the oversight of its Board of Directors. The Board reviews operations of the NCDEX on a regular basis through various committees constituted under it and as required by the procedural norms. 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 of the Exchange.

There are three categories of directors of the clearing corporation viz. Managing Director, Shareholder Directors and Public Interest Directors.

The Board has entrusted the responsibility of day-to-day management of business on the Management Team. The Board of Directors and shareholders of NCDEX appoints MD & CEO to manage the Exchange’s business and operations and implement board’s decisions and policies, along with the management team.

Management is responsible for the day-to-day management of the Company. Each member of the Management Team is responsible for the performance of their applicable business function and is ultimately accountable to the MD & CEO. The roles and objectives of the management are set in accordance with the organisational goals and objectives.

Legal and Regulatory Framework

NCDEX is a public limited company incorporated under the Companies Act, 1956. NCDEX is regulated by Securities and Exchange Board of India. NCDEX is subjected to various laws of the land like the Securities Contracts (Regulation) Act, 1956, Companies Act, Stamp Act, Contract Act and various other legislations.

The legal basis for the activities of the Exchange are articulated in the Securities Contracts (Regulations) Act, 1956 ("SCRA, 1956"), Securities and Exchange Board of India Act, 1992, Securities Contracts Regulation Rules, 1957 ("SCRR, 1957), and Securities Contracts (Regulation) (Stock Exchanges and Clearing Corporations) Regulations, 2012. The operations and functioning of the trading of futures contracts on the NCDEX are governed by its Rules, Byelaws and Regulations which are approved by SEBI.

System Design and Operations

The new trading system - the NextGen system, is among the country's fastest trading systems. It is better suited to offer products such as options and indices, besides handling high frequency/algo trading. It is able to execute regulatory changes more quickly and cost-effectively, which will assist in efficient intra-day closure, pre-order checks and order flow monitoring.

The clearing & settlement services are designed to serve the requirements of the markets that is geographically diverse and to certain extent, unique to Indian markets. The delivery of commodities is served by a unique system of warehousing arrangements that cater to the specific requirements and practices of a particular commodity. Further, the system of electronic accounting of commodities are specifically designed to cater to the market's need for efficiency and effectiveness.

The trading at NCDEX is conducted from Monday to Friday except for trading holidays as declared by the Exchange. Trading hours of Internationally Referencable Agri Commodities and Non-Agri Commodities is from 10.00 am to 9.00 pm. Trading hours of all other commodities is from 10.00 am to 5.00 pm.

The Clearing House of the NCDEX undertakes to guarantee the financial settlement of all deals arising out of trades in commodities duly executed on the trading system of the Exchange.

Futures contracts are subject to two types of settlements; the daily mark to market settlement, which occurs on a daily basis till expiry and the final settlement, which occurs after the last trading day of the futures contract.

IV. Principle-by-principle summary narrative disclosure

Principle 1: Legal Basis

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

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

National Commodity and Derivatives Exchange (NCDEX) is recognised as a Stock Exchange by Securities and Exchange Board of India (SEBI) under Securities Contracts (Regulations) Act, 1956 (SCRA, 1956) and operates under the regulatory preview of SEBI. The Exchange has operation only in Indian jurisdiction and does not offer services in any foreign jurisdiction. While the Rules and Byelaws of the Exchange are in the nature of subordinate legislations duly gazette notified under the provisions of Securities Contracts (Regulation) Act, 1956 ("SCRA"), the Regulations of the Exchange are notified in terms of the provisions of the Byelaws. The rights and obligations of the participants with respect to material aspects such as novation, netting, settlement finality, rights and obligation of clearing house in collateral arrangements, settlement guarantee fund, default procedures etc. have been well laid down in the Rules, Byelaws and Regulations of the Exchange.

Novation:

NCDEX is not a CCP. However the clearing house of the Exchange clears and settles the trades executed on the Exchange platform. The Exchange's clearing house is a CCP to the extent of ensuring financial guarantee. It novates the contract financially. Bye Law 3.8 (Part-B) of the Exchange Bye Laws prescribe norms regarding the novation by financial guarantee and ensuring to take such adequate measures as it deems fit to ensure good delivery. SEBI has given Commodity Exchanges 3 years' time period (till September 2018) to set an independent clearing corporation that will perform the functions of a CCP as per SECC guidelines.

Settlement Finality:

Provisions relating to Settlement Finality and Netting are provided in newly inserted Bye Law 3.1A of Part B of the Exchange Bye Laws which have been submitted to SEBI for approval and Regulation 9 of the Exchange Regulations. Dematerialisation and Payment provisions are also dealt in Regulation 9 of the Exchange Regulations.

a) Payment and settlement in respect of a deal shall be final, irrevocable and binding on the Clearing Members

b) When a settlement has become final and irrevocable, the right of the Clearing House of the Exchange to appropriate any collaterals or deposits or margins contributed by the clearing member towards its settlement or other obligations in accordance with these Byelaws shall take priority over any other liability of or claim against the said clearing member

c) For removal of doubts, it is hereby declared that the settlement, whether gross or net, referred to in Clause (a) above 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.

d) The payment and settlement in respect of a deal shall be determined in accordance with the netting or gross procedure as specified by the relevant authority with the prior approval of SEBI through the circulars issued by the Clearing House of the Exchange from time to time.

Netting:

The payment and settlement in respect of a deal shall be determined in accordance with the netting or gross procedure as specified by the relevant authority with the prior approval of SEBI through the circulars issued by the Clearing House of the Exchange from time to time.

Client funds obligations are netted and grossed at the clearing member level. There is no netting on the physical delivery of commodities.

Default Procedures:

Provisions relating to default by a Trading Member are provided in Chapter 10 of Part A of the Bye Laws, of Clearing Member in Chapter 7 of Part B of the Bye Laws and Regulation 11.7 and 11.8 and penalties in case of default in Regulation 9.5 of the Exchange Regulations.

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 pre-approved by the regulator and notified in the official Gazette. Any further clarity if required to be brought from time to time are made by way of amendments to these Rules, Byelaws and Regulations either by the NCDEX on its own (with prior approval of the SEBI) or on directives from the SEBI. Further, the Exchange issues circulars, contract specification, product note, FAQ's etc. where ever applicable from time to time which are available on the Exchange's website. All these have relevant references to ensure that the directives, process and procedures are clear understandable and consistent with the relevant laws and regulations.

Key Consideration 3:

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

The legal basis for the activities of the Exchange are articulated in the Securities Contracts (Regulations) Act, 1956 ("SCRA, 1956"), Securities and Exchange Board of India Act, 1992, Securities Contracts Regulation Rules, 1957 ("SCRR, 1957), and Securities Contracts (Regulation) (Stock Exchanges and Clearing Corporations) Regulations, 2012.

The Exchange having received recognition as a Stock Exchange by SEBI is enabled to frame Rules, Byelaws and Regulations which are in the nature of subordinate legislation with due approval from SEBI. The Byelaws, Rules and Regulations as well the circulars issued by the Exchange is available on the website of the Exchange.

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

NCDEX operates in Indian jurisdiction and its activities are governed by Indian laws, specifically Securities Contracts (Regulation) Act, 1956 and Securities Contracts Regulation Rules, 1957 ("SCRR, 1957). Since the Rules and Byelaws of the Exchange are themselves are in the nature of subordinate legislation, unless the Regulator issues a directive otherwise, are not subject to any impediments. There have been no incident when the actions taken by the Exchange under the Byelaws, Rules and Regulations of the Exchange has been voided, reversed or stayed by any court.

Key Consideration 5:

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

NCDEX does not operate in multiple jurisdictions and therefore the key consideration is not applicable. However, the potential conflict of laws that could arise is on the point of applicability of State Laws and Central Laws over the point of jurisdiction. In general in the event of such conflicts, the Central Laws prevails.

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.

The Exchange has clearly identified all the main objectives and objectives incidental or ancillary to the attainment of the main objectives and documented in the Memorandum of Association.

The main objectives of NCDEX are:

- To facilitate, promote, assist, regulate and manage in the public interest, dealings in commodities of all kinds and to provide specialized, advanced, automated and modern facilities for nation-wide trading in commodities and in all types of contracts for buying and selling of commodities, including its derivatives such as Futures, Options and other kinds of derivatives, permitted and to be permitted in future, clearing and settlement thereof with, high standard of integrity and honesty and to ensure trading in a transparent, fair and open manner with access to all players in the commodity markets including foreign funds, corporates and banks engaged in financing commodity transactions from areas in or outside India;
- To initiate, facilitate and undertake all such activities in relation to Exchange dealing in commodities and its derivatives, as are required for reliable nationwide platform to hedge commodity and price related risks for cross-section of players in the various commodities including producers, manufacturers, traders, exporters and importers; to offer hedging and other related requirements to the community at large; to provide novel and innovative safety mechanisms, to the market participants in such commodities; and to support, develop, promote and maintain a healthy market in the best interest of the all players, market participants and the general public and the economy and to introduce high standards of professionalism among themselves and the commodity(ies) market in general.

The rules, regulations and bye-laws framed to govern the business and operations provides the highest priority to safety and efficiency.

Further governing Board of NCDEX has Public Interest Directors appointed with prior approval of SEBI. The Board monitors the business of the Exchange, regulatory developments and checks and balances in place for safe and efficient markets.

Financial stability is achieved by ensuring maintenance of adequate financial resources including settlement guarantee fund and adherence to the comprehensive risk management framework.

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.

Procedural Norms by SEBI

The Securities Contracts (Regulation) (Stock Exchanges and Clearing Corporations) (SECC) Regulations, 2012 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 Stock Exchanges and Clearing Corporations

Ownership

NCDEX is a public limited company incorporated under the Companies Act, 1956. The shareholders of NCDEX comprises of large national level institutions, large public sector bank and companies. Necessary provisions in this regard are contained in Securities Contracts (Regulation) (Stock Exchanges and Clearing Corporations) (SECC) Regulations, 2012.

Governance

The business of the NCDEX is subject to the oversight of its Board of Directors. The Board reviews operations of the NCDEX on a regular basis through various committees constituted under it and as required by the procedural norms. 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.

There are three categories of directors of the Exchange viz. Managing Director, Shareholder Directors and Public Interest Directors.

The Board of Directors and shareholders of the NCDEX appoints MD & CEO to manage day to day business and operations and implement board's decisions and policies, along with the management team-.as per the approved delegation of power. In general, the Byelaws provides for the relevant authority i.e. the MD & CEO to take all administrative decision for the functioning of the Exchange.

Disclosure

NCDEX provides accountability to its owners, participants and other stakeholders through Rules, Regulations, Byelaws, circulars, norms, member agreements, financial statements etc. NCDEX discloses all the governance arrangements (Rules, Regulations, Byelaws, Annual reports etc) 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.

The roles and responsibilities of the NCDEX Board of directors are clearly defined in its Articles of Association and Rules. SECC Regulations also provide guidance on role and responsibility of each category of Directors of a Stock Exchange. The Board of Stock Exchange comprises of Shareholder Directors, Public Interest Directors and Managing Director. The Managing Director's performance is assessed by the Board and shareholders. Pursuant to Companies Act, the evaluation of the individual directors, Board as a whole and its Committees is carried out on the basis on certain pre-defined parameters. NCDEX obtains feedback on those pre-defined parameters which is placed before the Nomination and Remuneration Committee and Board on an annual basis.

Regulation 26 of SECC Regulations provides for code of conduct for directors and key management personnel of the- Exchange clearing corporations. Every director of NCDEX 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 NCDEX have to abide by the Code of Ethics specified under Part– B of Schedule– II of these regulations. The directors must not be associated with any trading/clearing member and are not allowed to trade on the Exchange. 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 NCDEX or suo motu, shall take appropriate action including removal or termination of the appointment of any director.

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).

SECC Regulation provides that the board should comprise of:

- Public Interest Directors;

- Shareholder Directors; and
- Managing Director

All the Directors are appointed with prior approval from SEBI. The procedural norms have prescribed that the Public Interest Director be selected from diverse field of work. While deciding to propose a person as Public Interest Director, NCDEX take into account the qualification in the area of law, finance, accounting, economics, management, administration or any other area relevant to the financial markets. Every director and key management personnel of a recognized stock exchange shall be a fit and proper person as per SECC Regulations, 2012. As required by SECC Regulations, 2012, NCDEX 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 regarding shareholder directors and public interest directors on NCDEX Board is publicly available on NCDEX 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.

Management is responsible for the day-to-day management of the Company. Each member of the Management Team is responsible for the performance of their applicable business area and is ultimately accountable to MD & CEO.

The roles objectives of the management are set in accordance with the organisational goals and objectives. Half yearly and annual review and assessment is done to evaluate achievement of the objectives. Besides this for key initiatives, there are more frequent reviews.

The selection of the management team is done keeping in view the relevant skill as per the functional area. The Management team as a whole possess diverse and relevant experience in operations, clearing and settlement, finance, technology, compliance, risk management etc. All employees are bound by the code of conduct for employees of the Exchange.

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.

NCDEX 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, Settlement Guarantee Fund, Business Continuity Plan.

The Risk Management Committee (RMC) of the Board is responsible for overall risk management of the Exchange and scrutinizes and approves risk related policies presented to it by the management. It also directs the management to undertake analysis, frame policies and act where it deems necessary.

An Internal Risk Committee has been formed based on delegation of powers from the RMC to look into routine risk issues. Delegation of Authority has been given to MD & CEO, Chief Regulatory Officer and Chief Strategy and Risk to approve new policies in the interim which needs to be subsequently put up to Risk Management Committee for ratification.

The Exchange has appointed an independent auditor for Process (Operational) Audit and Internal (Financial) Audit of the Exchange. The auditors report to the Audit Committee of the Board.

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.

There is continuous dialogue with all stakeholders to take into account their point of view. There are regular member meets for instance. The Warehouse Service Provider's (WSP) feedback is taken into account in meetings with them. Separate teams interact with end-users as well to bring in their perspectives and their requirements. These requirements are discussed and necessary actions taken as deemed appropriate.

NCDEX engages in informal discussions with members / clients' and affected participants at an early stage in the development of any proposal to understand the concerns, including compliance concerns, which they may have in relation to a proposal. In case of products, appropriate product advisory committees have been formed and there exists a structure to take feedback on the proposed contract specifications. Further once a product is launched, regular member and client feedback is taken for any improvements/ amendments, if any, and corrective actions initiated.

The Exchange also have participation of stakeholders in committees such as Settlement Guarantee Fund Committee and Product Advisory Committee.

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.

The key risks as faced by the Exchange are enumerated below:

1. Credit Risk
2. Liquidity Risk
3. Settlement Risk
4. Operational Risk
5. Market Risk
6. Legal Risk
7. Warehousing Risk
8. Reputational Risk
9. Regulatory and Compliance Risk
10. Competition/ Business Risk

The Exchange has implemented a robust risk management framework. Details of policies and processes for management of the risks are provided in the respective principles below.

NCDEX has formulated its risk management framework based on the Comprehensive Risk Management Framework and other directives and guidelines issued by SEBI.

The Risk Management Committee of the board oversees and monitors the risk management of NCDEX and implementation of the risk related policies. The risk management policies of NCDEX are approved by the Risk Management Committee and reviewed and tested regularly for assessing effectiveness. Internal Risk Committee of NCDEX which has delegation from the Risk Management Committee regularly reviews and monitor risk management at NCDEX.

NCDEX has systems and applications for risk monitoring and management. Risk is managed through measures like eligibility criteria and capital adequacy of members, margin requirements, positions limits for member an clients, online monitoring and alerts for increase in risk exposures and limit breaches, norms and guidelines for warehouse service providers 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.

NCDEX's rules and regulations clearly explain the requirements and responsibilities of the participants and their customers while trading on the Exchange. The Exchange provides the members with a full view of the risk profile with respect their proprietary as well as client trading including regular information on margins, MTM values, position, collateral etc. for managing their risks.

Member compliance to risk management measures is assessed on a regular basis and the Exchange has put in place disincentives like suspension, penalties, position limits, closing-out of positions etc. to discourage non-compliance to requirements resulting in risk to the Exchange. The members are required to collect and report the margin collected from their clients to the Exchange and penalty is levied on the member for short collection of margin.

Further, the Exchange provides incentives to the Clearing Members for containing risk to the Exchange e.g. margin exemption for early pay-in of funds and commodities.

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.

The Exchange bears material risks from clearing and settlement banks, custodians, issuers of collateral, liquidity providers and warehouse service providers.

Bank exposure policy prescribes stringent criteria for empanelment of clearing and settlement banks and exposure limit is allocated based on their financial strength and other criteria as laid in the policy. Limits are daily monitored and corrective action is taken in case limits are violated. The custodians are regulated by SEBI and the Exchange has an SLA with them. NCDEX has laid down strict norms and guidelines for the empanelment of the warehouse service providers based on the norms issued by SEBI. These norms and guidelines mitigates operational, regulatory and reputation risks arising out of the services of the warehouse service provider.

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.

NCDEX has put in place a business continuity plan (BCP) and disaster recovery systems to ensure fast recovery and resumption of operations.

NCDEX has put in place a default handling policy. Further SEBI has issued guidelines for regaining a matched book in case of default.

NCDEX has created a Settlement Guarantee Fund (SGF) which can be used as per the default waterfall in case of settlement default. The Exchange has created a Settlement Guarantee Fund (SGF) which can be used as per the default waterfall in case of settlement default. Further, the Exchange is sufficiently capitalized and holds capital far above the regulatory requirement. The equity capital including reserves is Rs. 454 Crore and the expenses (excluding depreciation) in FY 2017 were Rs. 117 crore. The winding up procedure is clearly defined in clause 213 of its Articles of association. This procedure is in accordance with the Companies Act, 1956, the principle Act for companies. NCDEX Board will formulate and approve the plan to raise additional equity capital on a need basis.

The Exchange submits net worth, annual report and other details as required by SEBI from time to time.

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.

NCDEX's framework to manage credit exposures to its participants broadly consists of:

- Regulations, rules and policies;
- Tools to identify measure, monitor and reduce the credit risk exposures;
- A governance structure dedicated to handle the daily operations; and
- Escalation tools and default procedures.

Mechanism of credit risk framework is as follows:

- KYC and net worth criteria admission of Clearing members
- Deposit requirement – Minimum Base Capital, Base Capital and Additional Base Capital
- Life-cycle based Margins
- Approved collateral with haircuts
- Concentration limits on collateral
- Daily MTM settlement
- Position Limits
- Exposure limits based on deposit
- Daily Price Limits
- Alerts and Triggers for monitoring of exposure

- Trade restriction mechanism – square off/ disablement of members
- Margin utilization control through Risk Reduction Mode
- Default procedures and Settlement Guarantee Funds (SGF)

The Exchange conducts back testing of the margin to ensure sufficiency of margin and avoid direct credit risk to its participants.

The potential future exposure are mitigated by collection of initial margin and the current credit exposure are covered by daily Mark to Market settlement.

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.

The key sources of credit risk are Clearing Members, Clearing Banks, Collaterals and Investments.

1. Clearing members:
   For details on monitoring and measurement of credit risk from clearing members, please refer Key Consideration 1 above.

2. Clearing banks
   Exposures to clearing banks are monitored on a daily basis.

3. Collateral:
   The credit risk from non-cash collateral is managed by specifying an overall market wide and member specific limit of acceptable value of the collateral.

4. Investments:
   The credit risk from investments is managed based on by diversifying the investments in various schemes with good investment ratings based on criteria specified in Investment policy approved by the Board.

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 to NCDEX as it is neither a Payment System nor a SSS.

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.

NCDEX does not operate in multiple jurisdictions.

NCDEX follows a practice of regular marking to market of positions and settling the same on a daily basis through payment of funds. NCDEX has adopted margining framework prescribed by SEBI. NCDEX charges VaR based initial margin to cover potential losses with atleast 99% confidence over a margin period of risk horizon. NCDEX imposes initial margins 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. SEBI has fixed the minimum Margin period of risk (MPOR) of 2 days. Further, NCDEX sets the MPOR for specific commodities based on the liquidity estimation. NCDEX charges minimum Extreme loss margin (ELM) of at least 1% to cover risks outside the coverage of VaR. NCDEX also charges additional and special margins where necessary. Further margins are grossed at member level to ensure there is no excessive leverage and availability of risk cover. NCDEX also undertakes review and backtesting of margins to measure the robustness of its risk management framework.

As prescribed by SEBI, NCDEX maintains a Settlement Guarantee Fund (SGF) to meet potential default, if any, based on stress testing. The SGF corpus as on June 30, 2017 was Rs.122.27 crore. In addition to the SGF, NCDEX has arrangement for drawing liquidity in the form of undrawn lines of credit from highly reputed bank.

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.

The Exchange maintains the Settlement Guarantee Fund (SGF) as per the guidelines of SEBI. The sufficiency of financial resources are determined through stress-test procedure as prescribed for SGF by SEBI. The results are communicated to the regulator, to decision makers within the Exchange and a disclosure of SGF corpus is made on the website.

The Exchange's risk-management model is based on risk management framework as prescribed by SEBI and the validation of the model is carried out on an ongoing basis.

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.

NCDEX conducts stress tests as per the framework on SGF prescribed by SEBI.

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 that address credit losses as a result of default have been specified in bye laws of NCDEX as per the default waterfall as prescribed by SEBI.

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.

NCDEX accepts collaterals which are which are permitted under SEBI guidelines. NCDEX accepts cash, fixed deposits receipts (FDR), bank guarantees (BG), equity shares, select agricultural commodities, Bullion (Gold and Silver), Gold ETF and Steel as collateral. The basic criteria used for determination/ acceptance of collateral by NCDEX are liquidity, low volatility and relative safety of the collateral.

- Cash and cash equivalent assets must be at least 50% of the total collateral.
- BG and FDR issued by approved banks are only accepted and there are bank-level limits in place.
- Total equity and commodity as collaterals at the Exchange level have limits specified.
- Member level limits for commodities have been specified.
- Limits for equity shares and mutual fund at issuer and AMC level respectively have been specified.
- 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.

SEBI has prescribed minimum haircuts that should be applied for valuation of collaterals. NCDEX applies haircuts higher of SEBI prescribed guidelines or the Exchange's criteria.

SEBI has prescribed haircuts on equity securities based on VaR margins. The Exchange currently applies the haircut for equity securities at 15% and 40% depending of the category of securities or VaR based whichever is higher. Mutual funds are applied a haircut of 40% or VaR based whichever is higher.

In case of agricultural commodities, the haircut is 40% and 50% depending on the type of the commodity. 20% haircut is applied to bullions and gold ETF and 60% haircut to steel.

Haircuts have largely been set in line with considerations of stressed market conditions and are reviewed regularly.

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.

The procedures and risk management standards are designed to establish stable collateral haircuts that are typically above current volatility levels associated with collateral prices. Collateral haircuts are set to provide coverage through a broad range of market environments and to remain stable.

NCDEX caps the overall exposure to market risks by having necessary limits on non-cash collateral at any given point of time.

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.

NCDEX has put in place prudent norms to avoid concentrated holdings of certain assets:

- Cash and cash equivalent assets must be at least 50% of the total collateral.
- Limit on commodity as Collateral (agricultural and Steel) is to a maximum of Rs.7.50 crores (after haircut) per member.
- Also, a maximum value of Rs.75 Crores (after haircut including select agricultural commodities and Steel Long) of Agricultural Commodity is presently permitted to be accepted as Collateral across all members' of the Exchange.
- Security of an issuer is restricted to Rs.35 crore at the Exchange Level.
- The Mutual funds from an AMC is restricted to Rs.10 crore.

- Further the total Security, Commodity and Mutual Fund is restricted to 15% of overall effective deposits at Exchange Level.

- Collaterals issued by banks (BG and FDR), are covered by bank exposure policy.

- Banks issuing collaterals have been allocated exposure limit based on their financial strength and other criteria as per the policy.

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.

NCDEX does not accept any cross-border collaterals, therefore this key consideration is not applicable.

Key Consideration 6:

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

NCDEX has robust Collateral Management System. The system is automated & customized to manage this specific nature of business. The System is designed for real time recording and monitoring of collaterals. The posting of equities and commodities as collateral is an automated facility. The system facilitates auto withdrawal of collaterals upon maturity and generates various MIS reports as necessary. The system incorporates various fundamental checks and balances to restrict operational errors, such as those relating to validity of issuer, minimum prescribed duration. The system has the capability to accommodate a wide range of parameters such as issuers, haircuts. The system is customizable and is also capable of accommodating new collateral types.

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.

Risk management framework has been prescribed SEBI which the minimum regulatory requirement. Exchanges/ CCPs can implement additional measures for risk management, as may be deemed fit.

NCDEX offers commodity futures contracts. Sophisticated products like Options, Indices, etc. are yet to be introduced on the Exchange platform. As such the financial risk profile of the products being offered is simple and linear in nature.

NCDEX charges VaR based initial margin to cover potential losses with at least 99% confidence over a margin period of risk horizon. NCDEX imposes initial margins 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. SEBI has fixed the minimum Margin period of risk (MPOR) of 2 days. Further, NCDEX sets the MPOR for specific commodities based on the liquidity estimation. NCDEX charges Extreme loss margin (ELM) at minimum 1% of gross traded value to cover tail risk outside the coverage of VaR. NCDEX also charges additional and special margins where necessary

NCDEX's margin methodology and any changes are made available to participants in the form of circulars published on the website and on any specific requests by 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.

NCDEX uses price data based on traded prices in the trading system of the Exchange to the extent these prices are available. Where traded price data is not available, model prices based on related traded prices in the market place or polled prices are applied with some adjustments.

The price data along with the positions data and volatility data is used for determining initial margin.

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

- *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),*
- *have an appropriate method for measuring credit exposure that accounts for relevant product risk factors and portfolio effects across products, and*
- *to the extent practicable and prudent, limit the need for destabilising, procyclical changes.*

NCDEX follows the risk management framework as specified by SEBI. The Exchange has a robust margining system based on rigorous measuring of credit risk to each member over the MPOR horizon flowing from changes in market prices, using initial margin model.

NCDEX charges VaR based initial margin to cover potential losses with atleast 99% confidence over a margin period of risk horizon. NCDEX uses EWMA volatility estimate and scales it by sigma of 3.5 to calculate the initial margin. NCDEX imposes initial margins 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. The SEBI has fixed the minimum Margin period of risk (MPOR) of 2 days. Further, NCDEX sets the MPOR for specific commodities based on the liquidity estimation.

The charging/adjustment of margins takes place on intraday basis, several times in day, based on margin re-computations taking into account the changing market conditions.

The use of EWMA methodology for margining ensures that a relatively longer look-back period is used, such that the model is not influenced by short-term asset prices changes. This is further bolstered by a programme of back-testing to strengthen the margin coverage and mitigate the procyclicality.

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.

The positions of market participants are marked to current prices through a process of valuation at the end of the day. Such valued positions of the market participants are arrived at on a net basis, giving a single figure for a participant. These valued positions (MTM) are settled on a daily basis. The daily settlement of the MTM positions prevents a build-up of exposure with respect to the counterparty.

SEBI has provided right to Exchanges/ CCPs to implement additional measures for risk management, as and when required. The bye laws and regulations of NCDEX provides authority and NCDEX has operational capacity to make and complete intraday margin calls for initial margin. NCDEX currently re-computes the initial margin at discrete time intervals. Intraday volatility is refreshed every two hours, six times a day. The initial margin changes whenever volatility is refreshed. Also the MTM is recomputed for every last traded price change.

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.

NCDEX currently offers only future contract so underlying spread benefit between two products is not applicable. NCDEX gives calendar spread benefits across contracts of same commodity expiring in different months. The spread benefits are also extended for contracts in the same commodity that have different contract sizes.

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.

NCDEX performs tests in accordance with the SEBI guidelines. Back-testing is done to analyse the sufficiency of the initial margin. The mark-to-market valuation for the derivative contracts over the margin period of risk (MPOR) is compared with the initial margin. The observations are checked for adequacy of margin sufficiency for at least 99% confidence. The back-testing involves testing the coverage of the margin for individual products or commodities. NCDEX is working on developing a sensitivity analysis model

Key Consideration 7:

A CCP should regularly review and validate its margin system.

NCDEX has adopted margining methodology as prescribed by SEBI. The adequacy of applicable margins is back tested on a monthly basis. The back testing results are presented before the Risk Management Committee (RMC) of the board which consist of independent directors and experts. The RMC reviews and approve the risk management framework and policies for its implementation.

SEBI has constituted Risk Management Review Committee (RMRC) to review and recommend changes to the risk management framework, including margin system. This committee comprises of external experts, SEBI and stock exchanges. NCDEX participates in RMRC meeting to discuss the risk framework vis-à-vis the current market conditions.

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.

NCDEX faces liquidity risks from its daily clearing and settlement operations of settling participants' mark-to-market positions through funds pay-in and pay-outs. This process involves both the clearing members and clearing banks and a payment delay or default by an entity on pay-ins would pose liquidity pressures on the Exchange. NCDEX can also faces liquidity pressures in case of a commodity delivery settlement related default by buyer, wherein the entire value of the commodity is involved for settlement. In the event of a default, NCDEX can liquidate a defaulting member's collateral.

NCDEX invests its funds in highly liquid instruments and additionally and additionally has lines of credit from various banks to meet any contingent liquidity shortfall. NCDEX also maintains SGF as per the SEBI guidelines.

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.

Day to day liquidity is looked at by taking into consideration the flow of funds via the settlement and collateral systems. Tracking of liquidity is facilitated by generation of various automated reports.

Periodical assessment of liquidity requirement based on shortages from participants is conducted. These analyses have been done based on overnight data and a similar exercise has been underway for intraday liquidity. The resultant figures are compared with the existing liquidity facilities available with NCDEX.

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.

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

The size of credit lines with banks is based on estimation of shortfalls. The day to day operational shortfalls are estimated separately and monitored.

The settlement guarantee fund of the Exchange is maintained as per the methodology prescribed by SEBI which is based on scenario of default by two of its largest members' under adverse price movements . The SGF corpus is invested in liquid 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.*

The liquid resources of NCDEX consist of cash resources involving cash collaterals from members, liquid investments and lines of credit from bank are in form of overdraft limit which can be drawn on demand.

A large proportion of the collaterals are in the form of issuances from commercial banks, licensed and regulated by the central bank. These collaterals are in the form of bank guarantees and fixed deposits and can be considered to be quite liquid involving low credit risk.

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.

NCDEX maintains cash resources to meet the liquidity requirements. In case these resources are insufficient, overdraft/line of credit from banks can be drawn to meet the shortfall.

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.

The credit line facilities used are from commercial banks which are financially sound. The commercial banks operate under a banking license from the central bank are subject to own stringent liquidity planning, stress testing and regulatory oversight by the central bank and also have access to central bank facilities for funding.

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 as NCDEX does not have access to central bank accounts, payment services, or securities services.

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.

The day to day liquidity requirements of the Exchange are estimated on a daily basis by taking into consideration settlement flows and release of cash collaterals.

Further the Exchange is in the process of developing a liquidity stress test framework.

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.*

NCDEX maintains sufficient liquidity arrangements to effect settlements within the regulatory timelines to address unforeseen and potentially uncovered liquidity shortfalls and to avoid unwinding, revoking, or delaying the same-day settlement of payment obligations.

NCDEX has lines of credit from various banks to meet any contingent liquidity shortfall. NCDEX also maintains SGF as per the SEBI guidelines.

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, 2013 issued by SEBI provides point of settlement finality in Explanation to Regulation 44A 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."

The provisions for settlement finality are laid down in the bye laws of NCDEX and are approved by SEBI. Upon expiry of the Contracts all outstanding positions are settled in terms of bye-laws 3.1B (Part-B) through the clearing house of the Exchange.

Daily Settlement:

Settlement finality for daily settlement is as per the Mark-to-Market calendar at the end of the day for pay in and pay out of the funds. If there is default in meeting such obligation, rules and regulations of the Exchange provide for penal provisions.

At Expiry of the Contract:

Settlement finality is at the expiry of the contract where allocation of the commodities is made and rights and liabilities of counterparties is crystalized. No unwinding is possible thereafter.

As directed by SEBI, the existing Bye Laws have been amended to consider the point of Settlement Finality vide Bye Law 3.1A, a newly inserted clause in part B of the Bye Laws of the Exchange (as mentioned in Key Consideration 1 of Principle 1 – Legal Basis), submitted to SEBI for approval.

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.

In terms of the bye-laws of the Exchange, all trades are settled on the expiry of the contract in accordance the Final Settlement schedule which is intimated to the market in advance through Exchange Circulars. The Exchange ensures that the settlements are completed on value date.

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.

Bye-laws provide for inviolability of trades. Trades as well as delivery obligations are not permitted to be cancelled / withdrawn/ revoked.

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.

Money Settlements at the Exchange are effected through its approved list of Clearing Banks, which are commercial bank entities, regulated by the Reserve Bank of India. All money settlement are in Indian Currency and no foreign currency is accepted.

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.

The money settlements are achieved through settlements across the books of commercial banks that act as the NCDEX's clearing banks. Commercial banks in India are tightly regulated entities and all rupee settlements are finally achieved through payment systems authorized/operated by the Reserve Bank of India.

NCDEX's selection of clearing banks is based on the policy approved by the Risk Management Committee of the Board wherein the clearing banks are selected based on parameter like their net worth, credit rating etc.

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.

NCDEX periodically assesses parameters relating to the banks, as per the policy and monitoring of exposures are done on a regular basis.

As part of the criteria, a cash deposit is taken from the selected banks as an added risk mitigation measure. There are legal agreements signed with each of the clearing bank that requires them to maintain net worth and operational capability specified by the exchange.

The banks selected are from the Central Bank’s list of Scheduled Commercial Banks. The Reserve Bank of India supervises them and subjects these banks to stringent norms of capital adequacy, asset liability management, asset quality and disclosures. NCDEX periodically reviews the above criteria.

Liquidity and credit risks are diversified by having about a dozen clearing banks. The exposures typically tend to be concentrated in a few large high quality private and public sector banks. Internal limits are set on individual clearing banks and are monitored on a regular basis, in order to limit credit and liquidity risks. Market developments are watched for adverse news or developments and actions are taken to further limit exposures.

Key Consideration 4:

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

This key consideration is not applicable as NCDEX use 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.

NCDEX’s legal agreement with settlement banks clearly specifies the requirements that within a prescribed time frame, the clearing bank carries out instructions of NCDEX and report the same.

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.

The derivative contracts traded on NCDEX's platform are in asset classes such as agricultural commodities, bullion and metals. Majority of the contracts in agricultural commodities results in physical delivery.

NCDEX defines its obligations and responsibilities with respect to the delivery of physical commodities in line with its rules, regulations and bye-laws.

The rules, regulations and bye laws besides the contract specifications/ product note are available on the NCDEX's Website.

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.

NCDEX facilitate the delivery and payment in respect of commodities. The risks and cost of storage and delivery are borne by the seller or buyer, under the terms as set out in contract specifications, and the warehouse service providers (WSP). WSPs are entrusted with the responsibility of managing the risk associated with the storage of commodities in the warehouses.

However NCDEX performs a number of tasks to support and facilitate the delivery function including but not limited to, approving warehouses which meet the specified requirements for delivery and storage conditions, minimum governance standards and net worth requirements for warehouse service providers (WSP), legal agreement with WSP to bind them to adhere to the policies, procedure and requirements of the Exchange, standard operating procedures for preservation of commodities in warehouses, electronic accounting of commodities through COMTRACK, regular audits, assaying by

NABL accredited labs at the time of deposit of the commodities and sampling of the commodities at the time of withdrawal as besides other operational controls.

SEBI has also issued warehousing norms which are required to be complied by the Commodity Exchanges, WSPs and their warehouses, assayers.

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.

This principle is not applicable to NCDEX.

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.

NCDEX's regulations and bye-laws, which are notified to the market, provides for the settlement of funds and commodities.

The final settlement at NCDEX eliminates principal risk by:

1. Earmarking commodities due for delivery to ensure that the commodities are locked-in for settlement, and
2. Ensuring monies are settled before commodities are settled.

The pay-ins of funds and commodities precede the pay-outs of funds and commodities.

Financial Obligations are netted at each member level for daily Mark to Market Payment & Delivery/Commodity obligation is settled on a gross basis.

Principle 13: Participant-default rules and procedures

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

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.

As per bye laws, a member may be declared a defaulter by direction / circular / notification of the relevant authority if:

a) He is trading member of any exchange and the said exchange declares him as a defaulter; or

b) He is a clearing member of any clearing house / clearing corporation and the said clearing corporation declares him to be a defaulter; or

c) He is unable to fulfil his clearing, settlement or obligations; or

d) He admits or discloses his inability to fulfil or discharge his duties, obligations and liabilities; or

e) 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, Rules and Regulations; or

f) He fails to pay any sum due to the Clearing House as the relevant authority may from time to time prescribe; or

g) If he fails to pay or deliver all moneys, commodities, 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

h) If he fails to abide by the arbitration award as laid down under the Rules, Bye Laws, Rules and Regulations; or

i) If he has been adjudicated as an insolvent or 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, he shall ipso facto be declared a defaulter though he may not have at the same time defaulted on any of his obligations on the Clearing House; or

j) If he files a petition before a court of law for adjudication of himself as an insolvent or for winding-up, as the case may be, although he may not have at the same time defaulted on any of his obligations on the Clearing House; or

k) Under any other circumstances as may be decided by the relevant authority from time to time

The Exchange has established procedure for handling default in the event that a participant fails to meet its obligations.

The actions that the Exchange can take when a default is declared

In case of default, the procedures provide guidelines for actions to be initiated in case of default which include liquidation, auction, voluntary tear up and partial tear up of positions. In case of seller's default in delivery obligation, the seller has to pay the replacement cost and penalty as per the defined guidelines. The buyer is given financial compensation which comprises of the replacement cost and part of the penalty as per defined guidelines. In case of buyer's default on delivery obligation, the commodities are auctioned on behalf of buyer and the seller compensated to the extent of settlement value. The collateral of the defaulting clearing member is invoked to realize the funds as per the processes put in place by the Exchange. The defaulting clearing member is liable for any residual liability.

Use of financial resources in case of default

Utilization of financial resources in case of default has been specified in the default waterfall mechanism issued by SEBI. The financial resources include defaulting member monies, financial resources of NCDEX and settlement guarantee fund. The default waterfall is as below:

i. Defaulting member's monies (including contribution to SGF)
ii. Insurance, if any
iii. CCP resources equal to 5% of SGF
iv. SGF resources in the following order:
    a. Penalties and investment income on SGF
    b. 25% of CCP contribution to SGF
    c. Remaining (non-defaulting members' and CCP) contribution to SGF on pro-rata basis.
v. Remaining CCP resources (excluding INR 100 Crore*)
vi. Capped additional contribution by non-defaulting members (equal to their required contribution to SGF)

vii. Any remaining loss to be covered by way of pro-rata haircut to payouts.

* INR 100 Crore to be excluded only when remaining Exchange resources are more than INR 100 Crore.

The minimum required net worth for the Exchange is INR 100 Crores as per SECC Regulation.

Replenishment of resources

The Exchange is required to make fresh contribution to SGF in case of any shortfall.

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

NCDEX's Rules, Bye Laws and Regulations define the flow of events in case of default.

Key Consideration 3:

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

The provisions related to default are provided in the Bye Laws, Rules and Regulations of the Exchange and are available on the Exchange's website.

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.

NCDEX has constituted Advisory Committee and SGF Committee in order to engage with its participants.

NCDEX is in the process of constituting a Default Management Group (DMG) which shall comprise of representatives of clearing members who shall give advisory support to manage a participant default.

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.

NCDEX calculates client positions separately and as a result, the positions are fully segregated at client level. Based on client positions, NCDEX also calculates margin requirements separately for each client.

Client positions are maintained on an individual basis by the member. In respect of collateral, the Exchange only receives margins from its clearing member's and not from clients. All members need to keep the Client collateral seggregated from their own.

The Member shall at all times keep the moneys of the Constituent in a separate bank account from his own. No payment for transaction in which the member has taken a position shall be made from the clients' account. The member is required to keep such books of accounts to distinguish moneys received / paid on account of each of their clients and moneys received / paid on their own account. Further, guidelines have been issued for money that be paid into client account or drawn from a client account. The member is also required to report to the Exchange, the margin collected by them from the clients on a daily basis.

NCDEX may close-out open positions of a constituent or transfer his open positions to another member under such circumstances and in respect of such trading segment of the Exchange as may be specified by the relevant authority from time to time.

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.

NCDEX calculates client positions separately and as a result, the positions are fully segregated at client level. Based on client positions, NCDEX also calculates margin requirements separately for each client. The member is also required to report to NCDEX, the margin collected by them from the clients on a daily basis.

NCDEX obtains collaterals against the all types of margins required from the clearing members for its own as well as its customer's position. The Exchange does not collect any collateral from member's customers.

Client positions are maintained on an individual basis by the member. All members need to keep the client collateral segregated from their own.

The member is responsible for maintaining all records relating to client accounts. The Exchange conducts audit on periodic basis to reviews the same. Deviations, if any, are taken up with the member and penalties imposed.

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.

The bye laws of the Exchange provide that the Exchange may close-out open positions of a constituent or transfer his open positions to another member under such circumstances and in respect of such trading segment of the Exchange as may be specified by the relevant authority from time to time.

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.

NCDEX's segregation and portability arrangements are disclosed in its bye laws and regulations which are publicly available on NCDEX's website.

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.

NCDEX has instituted risk governance and reporting structures to manage the range of risks, including general business risks, which its encounters.

The general business risks are the risks and potential losses arising from the Exchange's administration and operation that are not related to participant default nor separately covered under credit or liquidity risk. These general business risks could result in losses from poor execution of business strategy, negative cash flows or unexpected and excessively large operating expenses.

The Board and its sub-committees reviews the performance of the Exchange and associated risk on a regular basis.

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.

NCDEX holds sufficient liquid net assets funded by equity or internal accruals which ensures that the operations and services can be continued as a going concern even if it incurs business losses. The investments are made as per the Investment policy approved by the Board and monitored by Investment Supervision Committee.

A portion of the net assets from equity and internal accruals is invested in Fixed Deposits and liquid schemes of mutual funds, which are available for funding at short notice.

NCDEX's equity capital including reserves is Rs. 454 Crore and the expenses (excluding depreciation) in FY 2017 were Rs. 117 crore. The reserves are 3.9 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.

The Exchange has put in place a business continuity plan (BCP) and disaster recovery systems to ensure fast recovery and resumption of operations.

The Exchange has put in place a default handling policy. Further SEBI has issued guidelines for regaining a matched book in case of default.

The Exchange has created a Settlement Guarantee Fund (SGF) which can be used as per the default waterfall in case of settlement default. NCDEX is sufficiently capitalized to ensure an orderly wind down. The expenses (excluding depreciation) in FY 2017 were Rs. 117 crore. Its equity capital including reserves is Rs. 454 Crore. The reserves are 3.9 times the annual operating expenses. The winding up procedure is clearly defined in clause 213 of its Articles of association. This procedure is in accordance with the Companies Act, 1956, the principle Act for companies.

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.

A reasonable portion of the equity is kept as liquid net asset and generally invested in Fixed Deposits and Liquid/Short term mutual fund schemes. These instruments carry low market risk. The investments are made as per the Investment policy approved by the Board and monitored by Investment Supervision Committee.

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.

Stock Exchanges are required to maintain a minimum net worth requirement of Rs 100 crores as per SECC Regulations and NCDEX maintains the required net worth criteria (Rs. 320 crores as of March 31, 2017 calculated as per SEBI guidelines). However, in the event of the capital going below the minimum requirements, it can infuse additional capital from its shareholders. NCDEX's Articles of Association empowers the Board of Directors to raise additional equity capital. NCDEX Board will formulate and approve the plan to raise additional equity capital on a need basis.

Principle 16: Custody and investment risks

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

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

Liquid fund is maintained at commercial banks regulated by RBI. NCDEX prescribes stringent criteria for empanelment of clearing and settlement banks and enters into legal agreement with the banks.

The bank guarantees deposited by the members as collateral are held in its own custody by NCDEX. The bank fixed deposits deposited by members as collateral are held either by NCDEX or by its empanelled custodians.

The shares, mutual funds and commodities in electronic form are held under the control of the custodians as appointed by NCDEX. All empanelled custodians are regulated by SEBI. NCDEX appoints custodian based on eligibility criteria consisting of minimum net worth, profitability, capacity to process volumes, adequate risk management systems etc. NCDEX also enters into legal agreement with the custodians. As per the agreement that with the custodian, it shall as may be required by NCDEX give detailed reports as per Clearing Member, Clearing segment, security, company, issuer of security. On an ongoing basis, custodians are required to provide statements to its member/ client accounts to facilitate reconciliation of asset holding to ensure that all transactions and balances in each account are properly recorded and segregated.

Commodities in physical form are stored in the warehouses of empanelled warehouse service providers (WSP). NCDEX has laid down strict norms and guidelines for the empanelment of the WSPs based on the norms issued by SEBI. These norms and guidelines mitigates operational, regulatory and reputation risks arising out of the services of the warehouse service provider. The WSPs are also required to register their warehouse with Warehousing Development and Regulatory Au thority (WDRA) under the WDRA Act.

Key Consideration 2:

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

Assets of NCDEX as well as of its clearing members' are held either with NCDEX itself, or with supervised and regulated entities. Investments of NCDEX's as well its member's funds are made as per the Investment Policy of the Exchange wherein the main objective is safety of funds and liquidity. NCDEX has agreement with the empanelled banks, custodians and warehouse service providers ensuring prompt access to the assets of the Exchange as well as its members.

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.

Investment policy of NCDEX places counter party and instrument levels limits with respect to its investments. The policy limits exposure to banks, entities and mutual funds based on size, type of funds, net worth, credit rating, maturity of the instrument etc.

NCDEX has stipulated a limit on the overall exposures to equity, mutual fund and commodity as collateral to address the issue of concentration risk.

NCDEX at present has only two empanelled custodians which are regulated by SEBI. The securities/ collateral that these custodians are allowed to accept are notified by NCDEX from time to time. In the present context only equity, mutual funds and commodity as collateral are major components of assets under control of the custodian. NCDEX also enters into legal agreement with the custodians. NCDEX does not have a limit at each custodian level directly however the exposures are monitored indirectly by placing limits on collateral as explained above.

NCDEX has laid down strict norms and guidelines for the empanelment of the WSPs based on the norms issued by SEBI and exposures are monitored regularly.

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.

NCDEX has an Investment policy in place that has been approved by the Investment Committee which is a sub-committee of the Board. The investment policy is integrated with the overall risk management framework of the Exchange. Investment policy of NCDEX places counter party and instrument levels limits with respect to its investments. The policy limits exposure to banks, entities and mutual funds based on size, type of funds, networth, credit rating, maturity of the instrument etc. All investments are reviewed by the Investment Supervision Committee and deviations if any are put up and ratified by the Investment Committee/ Audit Committee.

The broad objectives of the Investment policy are framed keeping in mind easy liquidity, safety of funds and reasonable return on investments. The investment of cash is typically done in highly liquid mutual funds, FMPs and Fixed deposits of banks. The Exchange is allowed to make investments in fixed deposits with banks, mutual funds, commercial papers, corporate deposits and bonds, Government securities and treasury bills within terms and conditions as prescribed in the policy. The Exchange typically avoids investing in an asset that has high volatility and subject to mark to market.

Principle 17: Operational Risks

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.

NCDEX has an Operational Risk policy approved by the Risk Management Committee of the Board. In addition, the Exchange has following processes to ensure the operational risks are adequately covered:

1. Checks and controls built in software systems
2. Maker and checker concept,
3. Supervisory controls
4. Process manuals, both for software systems and manual tasks, and
5. Human resource policy & practices

Independent process audits which verifies whether processes have been followed or not. The deviations are discussed at the Audit Committee and necessary corrective actions are taken.

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 Risk Management Committee is responsible for operational risk management at the Exchange. Further the Exchange has appointed third party independent agencies specializing in Internal Audit and Process Audit. The auditors are entrusted with the task of ongoing review and audit of various processes. The auditors report to the Audit Committee of the Board.

Besides the above, the Exchange is also subjected to Audit and Inspection by the SEBI which is a comprehensive regulatory audit. Statutory Auditors also reviews the internal controls on a yearly basis and comment on the adequacy of the same.

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.

NCDEX's operational reliability objective aims at zero error tolerance which is monitored on an ongoing basis. Any deviation is captured and reported for taking corrective action and improvement in the systems.

All the operational processes implemented at the Exchange are designed in such a manner so as to achieve the highest level of qualitative standards.

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.

NCDEX on a regular basis, conducts stress test for capacity handling using automated tools to generate different scenarios for testing the maximum load. The scenarios are tested by placing identical systems in development, test and production environments for trading application. NCDEX also conducts mock sessions with the members before final implementation.

The resource requirement and the system capacity are assessed on a periodic basis.
In case it is observed that the systems are redundant or require higher scalability they are replaced or upgraded.

Similarly, if it is observed that resources are inadequate to handle the volume of operations, fresh resources are hired on an urgent basis.

Key consideration 5:

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

Information Security Policy and Physical Security Policy is communicated to all the employees.

The following processes are followed for physical security to minimize potential vulnerabilities and threats:

1. Physical security guard monitoring all our perimeter entry points 24x7.
2. Employees only authorized to enter the premises with access control employee identity card. Visitor needs to record his details and after security verification concerned employee escorts the visitor inside office. No direct entry to visitor inside office premises.
3. Employee and visitor identity cards are different and easily identifiable. Employee has restricted entries only.
4. Visitor registers are reviewed periodically.
5. CCTV cameras are installed to monitor entry/exit points and critical office areas and monitored live 24x7 by security guards. Critical areas have biometric access implemented.
6. All security arrangements are monitored by a professional security consultant

Information Security processes are as below:

1. All alerts for security vulnerability and threats are monitored using automated tools.
2. All security patches go through development, test and production on monthly basis.

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.

NCDEX has in place a Business Continuity Policy. NCDEX is in process of implementing a new Business Continuity Plan as per the directions of the SEBI.

Currently the Exchange has framed various policies to ensure business continuity and minimize the impact of physical, human and technological disruptions on its operations. The following policies are implemented by the Exchange:

1. Emergency Market Closure
2. Trading Session Disruption
3. Disaster Recovery
4. Crisis Resolution Process for Disruption of Trading System

These policies aim at minimizing the impact of disruptions on the operations and to identify critical operations, incidents and procedures for recovery plans.

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.

In order to mitigate various risks such as operational risk, regulatory risk etc, the Exchange conducts inspections of the members to assess their internal controls and compliance standards. On the basis of the findings of the inspection, the Exchange also takes disciplinary actions on the members.

NCDEX uses services of clearing banks for fund settlement. Clearing banks are selected from scheduled commercial banks which are regulated by RBI and selection is based on the policy approved by the Risk Management Committee of the Board.

NCDEX uses services of custodians for holding assets of members like shares, mutual funds and commodities. These custodians are regulated by SEBI and appointed by NCDEX based on eligibility criteria.

Commodities in physical form are stored in the warehouses of empaneled warehouse service providers (WSP). NCDEX has laid down strict norms and guidelines for the empanelment of the WSPs based on the norms issued by SEBI.

NCDEX enters into service level agreements with other service and utility providers to take care of any operational risk.

Further NCDEX does not outsource its core operations.

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.

The Exchange admits four categories of members for trade in Commodity Futures segment:

- Trading Members (TM)
- Trading Cum Clearing Members (TCM)
- Strategic Trading Cum Clearing Members (STCM)
- Professional Clearing Members

Fees and deposits and net worth requirement vary according to the type of membership. The information on eligibility criteria, process to obtain membership and documents/ formats to be submitted and following aspects is displayed on the NCDEX's website.

The criteria specified by NCDEX is publically available, broad based, objective, impartial and provides a fair access to all entities to obtain membership of Exchange provided they fulfil all the above mentioned requirements. All these services are available to members without any discrimination.

The Member participation requirements are risk-based and ensure that sufficient resources are available to cover future obligations and achieve a balance between capital necessity and participant access.

NCDEX has also issued guidelines for appointment of Authorised Persons by members and guidelines for registration of clients with members of the Exchange. The Authorised Persons function as agent of members of Exchange and clients (investors) have indirect access to Exchange through the members.

Key consideration 2:

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

NCDEX ensures that applicants which demonstrate sufficient financial strength and meet participation requirement qualify as a member of the Exchange. The participation requirements relating to minimum net worth, base capital and base minimum capital adequacy and various recurring compliance requirements ensure that the risks to the Exchange are adequately managed.

The Exchange's admission criteria and ongoing requirements are risk-based and commensurate with the risks undertaken by clearing members. The Exchange promotes fair and open access by admitting all market participants who satisfy admission requirements as members. The membership admission criteria and ongoing requirements allow for fair and open access.

Key consideration 3:

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

NCDEX monitors that membership criteria are met on an ongoing basis. The membership department of the Exchange which monitors compliance of the members.
The Exchange monitors the ongoing compliance with the criteria through various mechanisms like:

1. Member Inspection audit by the Exchange.
2. Obtaining Annual Compliance report from members.
3. Obtaining Annual Returns including Audited Accounts.
4. Members are required to seek prior approval for any change in Shareholding /Dominant Promoter Group (DPG) pattern and changes in Designated Directors/Partners
5. Member are required to intimate all the changes in members` s status i.e. change in address, Compliance officer, changes in non-designated director.

Deterioration in risk profiles are monitored on periodical (net worth compliances) or on-going basis (position limits, capital adequacy, MTM monitoring, etc.). Suitable action like blocking of the capital requirements or placing them on square off / disablement mode is taken in case of members who do not comply with the requirements.

Procedures for facilitating the suspension and orderly exit of a participant that breaches, or no longer meets, the participation requirements are laid out in the rules and bye laws of the Exchange which are publically available on the website. Suspension of a member is displayed on the Exchange's website and also through public notice in newspapers.

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.

Members are the direct participants with the Exchange. Indirect participants include members' clients and for clearing purposes includes Trading Members (TM) as well who clears through STCMs and PCMs.

The members are required to upload the details of their clients as per the Know Your Client (KYC) prescribed by the Exchange on the Web Portal. Further the members are required to update any changes in the client's information as and when any change is recorded by the member.

The Exchange monitors the risks presented by indirect participants through real time monitoring of member level positions as well as client level position.

The Exchange provides intraday and end of day reports on client level open position to trading members for their respective clients' open position. The Exchange has also been providing additional intraday and end of day reports on client level combined open position across members with a view to facilitate effective monitoring of open interest positions of the clients, where the same client trades through different trading members and / or where positions are clubbed as per clubbing guidelines conveyed through circulars on guidelines for calculation of net open position.

Key consideration 2:

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

Indirect participants are required to settle the obligation related to the funds and delivery through the direct participants which the material dependency between direct and indirect participants that might affect the Exchange.

The Exchange examines material dependencies between direct and indirect participants on an ongoing basis. Significant exposure to a single client of a member is monitored to ensure that the position is adequately covered by margins and collaterals. Though the Exchange monitors customer positions, the members remain the primary risk managers for their clients and the Exchange is reliant on these firms to manage client account overall risk exposures, including liquidity, and funding obligations.

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 Exchange monitors the risks presented by indirect participants through real time monitoring of member level positions as well as client level position.

The Exchange provides intraday and end of day reports on client level open position to trading members for their respective clients' open position with a view to facilitate effective monitoring of open interest positions of the clients. The indirect participants are not allowed to take position above the position limits defined for each product.

Though members are responsible for managing the default risk of their clients, the Exchange has in place position limits, margins, collaterals, daily mark-to-market of the positions, square-off/ disablement of trading terminal as some of the measures to mitigate the risks.

Key consideration 4:

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

NCDEX has in place a well-established framework for addressing risks from tiered participation on the foundation of detailed information which allows the Exchange to undertake the analysis. The rules, controls, measures and procedures address each class of participants.

NCDEX has in place position limits, margins, collaterals, daily mark-to-market of the positions, square-off/ disablement of trading terminal as some of the measures to mitigate the risks.

Principle 20: FMI links

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

This principle is not applicable to NCDEX as the Exchange has not established links with any other FMI.

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.

NCDEX is a modern electronic exchange, and the clearing & settlement services are designed to serve the requirements of the markets that is geographically diverse and to certain extent, unique to India markets. The delivery of commodities is served by a unique system of warehousing arrangements that cater to the specific requirements and practices of a particular commodity. Further, the system of electronic accounting of commodities are specifically designed to cater to the market's need for efficiency and effectiveness. Mock sessions are conducted to make market participants acquainted with the new systems and processes. Costs charged to participants are reviewed from time to time, keeping a balance between market requirement and best practices, without compromising on the efficiency of services and effectiveness of risk management. The design is a product of market interaction, market knowledge acquired and built over time, international best practices, risk management requirements, and is a continuing process.

NCDEX has a wide network of business / customer relations officers and also a dedicated Customer Service Group who regularly get feedback from the participants. In addition, customer satisfaction surveys are also conducted. NCDEX also regularly participates in member meets, etc., where feedback is obtained. NCDEX also has Advisory Committee comprising of market participants to advise the governing board on non-regulatory and operational matters including product design, technology, charges and levies etc.

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.

NCDEX places priority on efficiency and prudent risk management. The Exchange aims at ensuring that the trades are processed, margins are charged, and settlements take place in a timely manner and sufficiency of financial resources exists in form of margins and Settlement Guarantee Fund. Further the Exchange has service level agreements for processes which are monitored regularly.

NCDEX is governed by its Board and Board subcommittees in matters of setting major objectives. Board level committees function viz. Business Strategy Committee and Technology Sub Committee, in addition to the Risk Management Committee monitors the achievement of objectives. In addition senior management regularly review the major objectives and reports to the Board. The Exchange uses periodic process and system audits, stress tests, back tests and market feedback to assess goals and objectives.

Key consideration 3:

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

The mechanisms for the regular review of its efficiency and effectiveness are as below:

- NCDEX monitors the efficiency and effectiveness of various processes through periodical reporting systems to the top management. The Board and Board level Committees also regularly reviews performance reports of the Exchange.

- NCDEX has process audit in places by independent auditors and the report is presented to the Audit Committee.

- NCDEX conducts back testing and stress testing for ensuring sufficiency of margin and SGF.

- NCDEX also conducts a survey of market participants.

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.

NCDEX uses generally accepted principles of communication protocols that include entity authentication, communication encryption and message compression. All interfaces are file based with a structured messaging system that is interpreted by the corresponding receiving system. The messaging structures are proprietary in nature. The 'source entities' and the 'target entities' have certain pre-determined protocols/ interfaces that needs to be adhered to. NCDEX uses communications standard that are part of internationally accepted communications standard.

Principle 23: Disclosure of rules, key procedures, and market data

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

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.

The Rules, Regulations and Bye Laws of the Exchange contain the standard procedures governing the various activities of the Exchange. In addition, circulars are issued where ever required. These documents are available on the Exchange Website. Rules, Regulations and Bye Laws are periodically updated due to changes in business/regulatory environment. All updates are finalized considering any feedback received and with approval by the Board of the Exchange and by the SEBI.

NCDEX has placed on its website membership compliance guide in a topic-wise manner, detailed FAQs, Formats of submissions and calendar for continuing compliances. Further circulars are issued clarifying to the market wherever required. The Exchange also has Customer Service Group (CSG) which when it receives certain queries are responded to in an efficient manner. The Exchange conducts member meetings on frequent basis to communicate about the latest circulars issued.

Key financial data such as size of Core SGF, financial statements etc. of NCDEX 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.

NCDEX has the system design document, operations manual, policies regarding access rights and controls, guides and user manuals. The market participants are informed about the steps, precautions, procedures to be followed while accessing the system by way of a circular.

NCDEX publicly discloses to its participants their rights, obligations and risks incurred through the following:

- Bye Laws of the Exchange
- Product note and Contract specifications
- Circulars
- Fees and charges
- SGF balance
- Mark-to-Market and Margin related information
- Daily settlement prices, volume and open interest in each contract traded on the Exchange
- Physical settlement details
- Membership related compliance and other requirements
- Position Limits

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.

NCDEX has placed on its website membership compliance guide in a topic-wise manner, detailed FAQs, Formats of submissions and calendar for continuing compliances. Further circulars are issued clarifying to the market wherever required. The Exchange also has Customer Service Group (CSG) which when it receives certain queries are responded to in an efficient manner. The Exchange conducts member meetings, trainings, mock drills on frequent basis to communicate about the latest circulars issued.

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.

All charges/ fees are either disclosed on the Exchange's website or by way of a circular put up on the website.

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.

Certain market data relating to commodities trade and settlement details and risk management including margins, future prices, volume details, premium/discount, are displayed on the Exchange's website.

Commodities /contracts traded, Product Notes, Contract Specifications, list of approved warehouses, list of empanelled clearing banks, etc., are also displayed on the Exchange's website. In addition the Exchange discloses annual report, Board of Directors, shareholding pattern etc on its website.

This is the first time that the response to the CPSS-IOSCO Disclosure framework is being compiled. The Exchange will henceforth update the disclosure framework as and when required and disclose the same.

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.

This principle is not applicable to NCDEX.

V. List of publicly available resources

NCDEX
https://www.ncdex.com/Index.aspx

NCDEX Annual Reports
https://www.ncdex.com/AboutUs/Annual_Reports.aspx

NCDEX Shareholding Pattern
https://www.ncdex.com/AboutUs/SharePattern.aspx

NCDEX Board of Directors
https://www.ncdex.com/AboutUs/BoardOfDirectors.aspx

NCDEX Byelaws
https://www.ncdex.com/AboutUs/ByeLaws.aspx

NCDEX Rules
https://www.ncdex.com/AboutUs/Rules.aspx

NCDEX Regulations
https://www.ncdex.com/AboutUs/Regulations.aspx

Settlement Guarantee Fund
https://www.ncdex.com/Downloads/Settlement_Guarantee_Fund_30062017.pdf

Securities and Exchange Board of India
http://www.sebi.gov.in/

Securities Contracts (Regulation) Act, 1956 (As amended by the Finance Act, 2017)
http://www.sebi.gov.in/legal/acts/feb-1957/the-securities-contracts-regulation-act-1956-as-amended-by-finance-act-2017-_4.html

Securities Contracts (Regulation) (Stock Exchanges and Clearing Corporations) Regulations, 2012

http://www.sebi.gov.in/legal/regulations/apr-2017/securities-contracts-regulation-stock-exchanges-and-clearing-corporations-regulations-2012-last-amended-on-march-6-2017-_34692.html

Securities Contracts (Regulation) (Stock Exchanges and Clearing Corporations) Regulations, 2012 [Last amended on May 29, 2017]
http://www.sebi.gov.in/legal/regulations/jun-2017/securities-contracts-regulation-stock-exchanges-and-clearing-corporations-regulations-2012-last-amended-on-may-29-2017-_35129.html

Procedural norms on Recognitions, Ownership and Governance for Stock Exchanges and Clearing Corporations.
http://www.sebi.gov.in/legal/circulars/dec-2012/procedural-norms-on-recognitions-ownership-and-governance-for-stock-exchanges-and-clearing-corporations_23950.html

The Companies Act, 2013
http://www.mca.gov.in/Ministry/pdf/CompaniesAct2013.pdf

PFMI
http://www.bis.org/cpmi/publ/d101a.pdf

PFMI: Disclosure Framework and Assessment Methodology
http://www.bis.org/cpmi/publ/d106.pdf