NCC Bank

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Nepal Credit & Commerce Bank Ltd.

RISK MANAGEMENT GUIDELINES
2072

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Table of Contents

Page No

Introduction

1. Overview

1.1.1 Risk is the element of uncertainty or possibility of loss that prevail in any business transaction in any place, in any mode and at any time. For the purpose of this guideline, financial risk in banking organization is possibility that the outcomes of an action or event could bring up adverse impacts. Such outcomes could either result in direct loss of earning/capital or may result in imposition of constraints on bank's ability to meet its business objectives. In the financial arena, bank risks can be broadly categorized as Credit *Risk, Operational Risk, Market Risk, Liquidity Risk, compliance/legal/regulatory and reputational risk*. Regardless of sophistication of the measures, banks often distinguish between *Expected Loss* and *Unexpected Loss*. Expected Loss are those that the bank knows with reasonable certainty will occur and typically reserved in some manner. Unexpected losses are those associated with unforeseen events such as sudden downturn in economy. Bank relies on their capital as a buffer to absorb such losses. The risk management policy is essential so as to identify, measure, monitor and control credit risk in order to determine that:

- Adequate capital is held against the risks, and
- The bank is adequately compensated for the risks incurred.

1.1.2 Risk may take the following forms which are not mutually exclusive to each other:

- ***Credit:*** The risk of repayment, i.e., the possibility that an obligor will fail to perform as agreed, is either lessened or increased by a bank's credit risk management practices. A bank's first defense against excessive credit risk is the initial credit-granting process, sound underwriting standards, an efficient, balanced approval process, and a competent lending staff. Because a bank cannot easily overcome borrowers with questionable capacity or character, these factors exert a strong influence on credit quality.
- ***Interest rate:*** Banks frequently shift interest rate risk to their borrowers by structuring loans with variable interest rates. Borrowers with marginal repayment capacity may experience financial difficulty if the interest rates on these loans increase. As part of the risk management process, banks shall identify borrowers whose loans have heightened sensitivity to interest rate changes and develop strategies to mitigate the risk. One method is to require vulnerable borrowers to purchase interest rate protection or otherwise hedge the risk. Pricing and portfolio maturity decisions shall be made with an eye to funding costs and maturities. When significant individual credits or portfolio segments are especially sensitive to interest rate risk, they shall be periodically stress-tested.
- ***Liquidity:*** Loans are a primary use of funds in the bank. And while controlling loan growth has always been a large part of liquidity management. Banks can use the loan portfolio as a source of funds by reducing the total volume of loans through sales, securitization, and portfolio run-off. A bank's overall liquidity strategy shall include the identification of those loans or loan portfolio segments that may be easily converted to cash. A loan's liquidity

hinges on such characteristics as its quality, pricing, scheduled maturities, and conformity to market standards for underwriting. Loans are also a source of liquidity when used as collateral for borrowings. Liquidity is also affected by the amount of the bank's commitments to lend and the actual amount that borrowers draw against those commitments. A bank shall have systems to track commitments and borrower usage. Knowledge of the types of commitments, deals in the pipeline, normal usage levels, and historically high usage levels are important in assessing whether available liquidity will be adequate for normal, seasonal, or emergency needs.

- ***Price:*** Most of the developments that improve the loan portfolio's liquidity have implications for price risk. Banks develop more active portfolio management practices and the market for loans expands and deepens, loan portfolios will become increasingly sensitive to price risk. Loans originated for sale as part of a securitization or for direct placement in the secondary market carry price risk while they are in the pipeline awaiting packaging and sale. During that period, the assets shall be placed in a "held-for-sale" account, where they must be re priced at the lower of cost or market. The same accounting treatment can apply to syndicated credits and distressed loans. When a bank underwrites a larger portion of a syndicated loan than its "hold" position, the excess portion must be placed in a held-for- sale account. Once a sale strategy is adopted for distressed or otherwise undesirable credits, those credits shall also be placed in a held-for-sale account
- ***Foreign exchange:*** Foreign exchange risk is present when a loan or portfolio of loans is denominated in a foreign currency or is funded by borrowings in another currency. In some cases, banks will enter into multi-currency credit commitments that permit borrowers to select the currency they prefer to use in each rollover period. Foreign exchange risk can be intensified by political, social, or economic developments. The consequences can be unfavorable if one of the currencies involved becomes subject to stringent exchange controls or is subject to wide exchange-rate fluctuations.
- ***Transaction:*** In the lending area, transaction risk is present primarily in the loan disbursement and credit administration processes. The level of transaction risk depends on the adequacy of information systems and controls, the quality of operating procedures, and the capability and integrity of employees. Significant losses in loan and lease portfolios have resulted from inadequate information systems, procedures, and controls.
- ***Compliance:*** Lending activities encompass a broad range of compliance responsibilities and risks. By law, a bank must observe limits on its loans to a single borrower, to insiders, and to affiliates; limits on interest rates; and the array of consumer protection and various directives issued by NRB. A bank's lending activities may expose it to liability for the cleanup of environmental hazards. A bank may also become the subject of borrower-initiated "lender liability" lawsuits for damages attributed to its lending or collection practices.
- ***Strategic:*** A primary objective of loan portfolio management is to control the strategic risk associated with a bank's lending activities. Inappropriate strategic or tactical decisions about underwriting standards, loan portfolio growth, new loan products, or geographic and demographic markets can compromise a bank's future. These ventures require significant

planning and careful oversight to ensure the risks are appropriately identified and managed.

- ***Reputation***: When a bank experiences credit problems, its reputation with investors, the community, and even individual customers usually suffers. Inefficient loan delivery systems, failure to adequately meet the credit needs of the community, and lender-liability lawsuits are also examples of how a bank's reputation can be tarnished because of problems within its lending division. The value of the bank's stock falls, customers and community support is lost, and business opportunities evaporate. To protect their reputations, banks often feel that they must do more than is legally required.
- ***Country Risk:*** Country risk encompasses all of the uncertainties arising from a nation's economic, social, and political conditions that may affect the payment of foreigners' debt and equity investments. Country risk includes the possibility of political and social upheaval, nationalization and expropriation of assets, governmental repudiation of external indebtedness, exchange controls, and currency devaluation or depreciation. Unless a nation repudiates its external debt, these developments might not make a loan uncollectible. However, even a delay in collection could weaken the lending bank.
- ***Transfer Risk:*** *It* is a narrower form of country risk, is the possibility that an obligor will not be able to pay because the currency of payment is unavailable. This unavailability may be a matter of government policy. For example, although an individual borrower may be very successful and have sufficient local currency cash flow to pay its foreign (e.g., U.S. dollar) debt, the borrower's country may not have sufficient U.S. dollars available to permit repayment of the foreign indebtedness. The transfer risk associated with banks' exposures in foreign countries is evaluated based on Export Credit Arrangement determined by ICC.

1.1.3 *Risk management encompasses identification, measurement, matching mitigations, monitoring and control of the credit risk exposures to ensure that:*

1. The individuals who take or manage risks clearly understand it;
2. The bank's risk exposure is within the limits established by Board of Directors with respect to counterparty, sector, group, facility and country's prevailing situation;
3. Risk taking decisions are in line with the business strategy and objectives set by BOD;
4. The expected payoffs compensate the risks taken;
5. Risk taking decisions are explicit and clear;
6. Sufficient capital as a buffer is available to take risk

1.1.4 The acceptance and management of risk is inherent to the business of banking and bank's role as financial intermediaries. Risk management as commonly perceived does not mean minimizing risk rather the goal of risk management is to optimize risk-reward trade-off. Notwithstanding the fact that banks are in business of taking risk. It shall be recognized that the bank need not to engage in business in a manner that impose unnecessarily risk upon it; nor it shall absorb risk that cannot be transferred to other participants. Rather it shall accept those risks that are uniquely part of the array of banks' services.

1.1.5 The goal of risk management guideline in Nepal Credit and Commerce Bank Limited ('NCC

Bank' or 'the Bank') is to maximize the bank's risk-adjusted rate of return by maintaining risk exposure within acceptable parameters. This guideline prescribes the framework for managing the risk inherent in the entire portfolio as well as the risk in individual credits or transactions with due consideration of the relationship between credit risk and other risks.

1.1.6 In the bank, risk management activities broadly take place simultaneously at following different hierarchy levels.

a) **Policy/Strategic level:** It encompasses risk management functions performed by senior management and BOD. For instances, definition of risk, ascertaining banks risk appetite, formulating strategy and policy for managing risk and establish system and controls to ensure that overall risk remain within acceptable level and reward compensate for the risk taken.

b) **Macro level:** It encompasses risk management within a business area or across business line. Generally, the risk management activities by middle level management or unit devoted to risk reviews fall into this category.

c) **Micro level:** It involves "On-the-line" risk management where risks are actually created. This is risk on organization's behalf such as front office and loan origination functions. This risk management in those areas is confined to following operational procedural guidelines set by the management.

1.1.7 Credit risk management needs to be a robust process that enables proactively manage facility portfolios in order to minimize losses and earn an acceptable level of return for shareholders. Central to this is a ***comprehensive IT system***, which shall have the ability to capture all key customer data, risk management and transaction information including trade & Forex. Given the fast changing, dynamic global economy and the increasing pressure of globalization, liberalization, and consolidation it is essential that the bank shall have robust credit risk management policies and procedures that are sensitive and responsive to these changes.

1.1.8 The purpose of this document is to provide directional guidelines to the bank that will improve the risk management culture, establish minimum standards for segregation of duties and responsibilities.

1.1.9 Any provisions contained in this policy shall be ineffective to the extent contradicted with the directives or circulars issued by Nepal Rastra Bank, prevailing laws and regulations of Nepal and the Memorandum and Articles of Association of the bank.

1.1.10 This policy comes into force at once from the date of its approval by the Board of Directors of NCC Bank.

1.2 Governance Structure for Risk Management of the Bank

1.2.1 The Governance structure for risk management of the NCC Bank encompasses the concept of *'Three Lines of Defense'*, and is based on the four fundamentals of Board and senior management oversight; risk management policies and procedures; risk measurement, monitoring and controls; and internal controls and independent audit.

1.2.2 The First Line of Defense involves the supervision and monitoring of risk management practices by the business managers, corporate management and executive committees while discharging their responsibilities and accountability for day-to-day management of business operations. Independent risk monitoring, validation, policy review and compliance by the Risk Management Sub Committee (RMSC–Committee in Management Level) which comprises the members of Credit Risk Function, Operation Risk Function and Market Risk Function; the compliance function and periodic monitoring and oversight by the Board Level Risk Management Committee (RMC) and the Board of Directors constitute the Second Line of Defense. The Third Line of Defense is provided by the independent check and quality assurance by the Internal Audit and External Audit functions.

1.2.3 Risk Management Sub Committee (RMSC) headed by Chief Risk Officer (co-coordinator) has been designated a Key Management Personnel and administratively reports to the Chief Executive but with functional reporting and access to the RMC (sub-committee of the board). The RMC functions under the responsibilities set out in the Board, which incorporates corporate governance requirements issued by the NRB. The executive committees such as the Asset Liability Management Committee (ALCO), Credit Committee (CC), Investment Committee (IC), Recovery Committee and Special Loans Review Committee are guided and operated within risk frameworks and limits set out by the Board and the Board Committees.

1.2.4 RMC reviews the adequacy and effectiveness of the executive committees. RMSC representatives serve in these committees. Design or redesign of asset and liability products of the bank (which *involves a structured process set out in the new product development policy),* in which the overall risk exposure of the product forms a part of the assessment prior to the product launch. The personnel assigned to look after the function of Risk Management Department shall be responsible for measuring and monitoring risk at operational level.

1.2.5 There shall be internal audit department who shall look over risk associated with internal policies, strategic document, procedural manual and other operational cultures. The department will directly report to Board of Directors or committee constituted by the BOD to review risk management. External (statutory) audit as well as NRB inspection (onsite or offsite) will also review the risk management process of the bank and directly report of the BOD or committee by the board for risk management process.

1.3 Risk Evaluation and Measurement

Until and unless risks are not assessed and measured, it will not possible to control risks. Further, true assessment of risks gives management a clear view of bank's standing and help in deciding future planning. To adequately the bank's risk, the bank shall develop measurement method which will provide aggregated risk exposure in either way.

1.4 Independent Review

One of the most important aspects in risk management philosophy is to make sure that those who take or accept risk on behalf of the bank are not the ones who measure, monitor and evaluate the risk. To be effective, the review function shall have authorities, expertise and corporate stature so that the identification and reporting of their finding could be accomplished without any hindrance.

1.5 Contingency Planning

The bank shall have a mechanism to identify stress situation ahead of time and plans to deal with such unusual situations in timely and effective manner. Stress situation to which this principal applies include all risks of all types. For instances, contingency plan for disaster recovery plan, public relation damage control, responding to regulatory criticism etc. Contingency plan shall be review regularly to ensure they encompass reasonably probable events that could impact the bank. To measure stress situation, currently, the bank is measuring the credit, operation and market related shocks by using stress testing module designed by NRB.

1.6 Risk Management Guideline (RMG)

This guideline is in line with internationally accepted risk management principles and the best practices. This guideline presents the broader principles and concepts for the risk management in banking business. It provides minimum standard as well as general guidelines to encourage bank for directing their efforts towards stringent measures for risk management. Only objective of the RMG is to contribute towards maintaining and improving financial safety and soundness through better risk management practices in the bank.

2. Managing Credit Risk

2.1 Overview

Credit risk is most simply defined as potential that a bank's borrower or counterparty will fail to meet its obligations in accordance with agreed terms, due to the borrower being unwilling or unable to pay interest and/or repay the principal amount. Credit risk is the major risk that banks are exposed to during the normal course of lending and credit underwriting. Credit risk arises from non-performance by a borrower.

The effective management of credit risk is a critical component of a comprehensive approach to risk management and essential to the long-term success of any banking organization. *Credit risk may feel since establishing contact with the customer to end the relation with cash settlement of the loan.*

Sources of Credit risk can be internal as well as external factors. Internal factors leading to the credit risk arises within the bank as a result of following:

- Deficiencies in credit policies/administration
- Absence of prudential credit concentration limit for counterparties and economic sector
- Inadequately defined lending limits/Credit Approval Discretion (CAD)
- Deficiencies in appraisal of borrowers' financial position/health
- Excessive dependence in collateral
- Inadequate risk assessment
- Absence of loan review mechanism and post sanction surveillance

External factors are those which cannot be controlled by the counterparties. Rather, the counterparty has to formulate policies and strategies to cope with such factors. Therefore, the counterparties have to develop the adaptability on its own to smoothly run the business by mitigating such risks. Following are the major external factors exposing counterparties' businesses:

- National and International economic scenario
- Trade restriction
- Political Instability
- Natural Calamities
- Government instable policies
- Power outage

Therefore, in order to effectively manage credit risk arising from external sources, the bank shall constantly monitor the development taking place in the economic environment vis-à-vis their probable impact on the lending and trading portfolio of the bank.

2.2 Board Oversight

It is overall responsibility of the NCC Banks' Board to approve Credit Policy Guidelines, Credit Strategy, procedural manual-credit, loan monitoring and administration, recovery manual and other policies, by rules relating to credit risk and its management which shall be based on overall business strategy. All policies document shall be updated and shall be review at least annually.

The responsibility of board with regard to credit shall be:

2.2.1 The board shall regularly, either within the credit risk strategy or within a statement of credit policy, approve the bank's overall credit granting criteria (including general terms and conditions). It shall also approve the manner in which the bank will organize its credit-granting functions, including independent review of the credit granting and management function and the overall portfolio;

2.2.2 The board shall approve the overall lending authority structure and explicitly delegate credit approval authority to senior management, the credit committee and other lending authorities, based on their experience, ability and personal character;

2.2.3 It is the duty of the board or Board level Risk Management Committee (RMC) to be aware and ensure the proper oversight of the management of credit risk of the bank;

2.2.4 The Board must set the minimum credit standards and approve all significant policies relating to the management of credit risk throughout the bank. The Board shall ensure that the credit risk policy is consistent with the bank's capital strength, management expertise and risk appetite;

2.2.5 The Board must also ensure that the bank's mission, business strategies and lending strategies are in line with the credit policies and standards set;

2.3 Delegation of Authority

It is the responsibility of the board to approve overall lending authority structure and explicitly delegate credit approval authority to senior management, credit committee and other lending authorities. Lending authority assigned to officers shall commensurate with their experience, ability and personal character

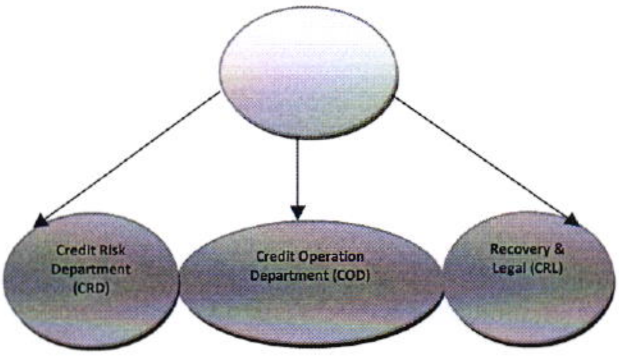
2.4 Senior Management Oversight of the Bank

The responsibility of senior management is to transform strategic decision set by the board in the shape of policies, strategies, procedures. The formulation of policies relating to risk management itself may not be adequate until and unless these are clearly communicated down the line. Senior management has to ensure that these policies are embedded in the culture of an organization. Senior Management is responsible for implementing the bank's credit risk management strategies and policies and ensuring that procedures are put in place to manage and control credit risk and the quality of credit portfolio in accordance with these policies.
Bank senior management shall regularly review the procedures and put forward for board approval.

2.5 Credit Risk Management Structure

2.5.1 A Credit Risk Management Structure shall be formed for the effective management of the bank's credit risk. The structure of CRMS shall be as follows:

Credit Risk Management Structure



2.6 Credit Policy Guideline, Credit Strategy, Credit Procedural manual and Limits

a) **Credit Policy Guideline (CPG):** The CPG serves to establish a bench marks for extending credit sanction of the bank. It contains policy which guides the bank to prepare credit strategy document. It is to policy level document which guide entire lending. It clearly outlines the bank's view of business development priorities and conditions that shall be adhered to loans to be approved. The policy will be updated at a regular interval to reflect any changes in the economic outlook and evolution of bank's loan portfolio. Any deviation in this policy must be communicated to the senior management/board and corrective measure shall be taken. The CPG has been in enforcement in the bank.

b) **Credit Strategy:** The credit strategy serves to establish an operational link between business orientation and risk-bearing capacity. It contains operational indicators which guide business decisions. The primary purpose of bank's credit strategy is to determine the risk appetite. Risk appetite, at the organizational level, is the amount of risk exposure, or potential adverse impact from an event, that the bank is willing to accept. Once it is determined, the bank shall develop an annual plan to optimize return while keeping credit risk within predetermined limits. The strategy could be of one year (short term), medium tern (three year) or loan term (above five year).
The credit strategy document shall be prepared before ending of current strategic period. Such strategy document shall be reviewed by the Risk management committee and forward with recommendations for its approval by the board of directors. The credit risk

department shall carry out necessary functions for the implementation of the credit risk strategy. Specifically, the risk strategy shall lay down:

a. core business areas in line with the target portfolio structure such as client segments and products, economic sectors, geographical location, currency and maturity;
b. risk limits;
c. risk targets concerning expected and unexpected losses in line with the risk bearing capacity; and
d. Degree of diversification of the portfolio, limits for cluster risks etc.
e. Reporting requirements in accordance with this framework.
f. Computation of economic capital for the individual risk categories of the actual portfolio calculated by the bank and its comparison with the overall risk-bearing capacity.
g. Comparison of the expected losses of the target portfolio with the risk provisions planned to be covered by current income in the financial year.
h. pricing strategies to be adopted by the bank;
i. Other matters as deemed necessary by the board of directors or the credit risk management committee from time to time.
j.

c) **Credit Procedural Manual (CPM):** Credit procedural manual is bank's document which guides whole credit operational jobs of the bank. It is basic document on the basis which whole credit operation jobs are carried out. It is the document which guide in managing credit risk in operational level. The document shall clearly spell out responsibilities of various credit approval chains. It will guide from very initial customer visit the bank to end of relationship with the bank. The document shall include:

a) Criteria/procedure to solicit customers.
b) Documents to be review before granting credit.
c) Credit appraisal method for different customers. It could be based on facility nature, customer type etc.
d) Ascertaining credit limit of customers.
e) Fixing pricing of credit.
f) Disbursement of credit.
g) Settlement of credit.

d) **Risk Tolerance and Limits**

d.1 Risk tolerance limits shall be set by the bank in its (annual budget), credit strategy document. The bank will establish exposure limits covering on-balance sheet and off-balance sheet credit exposures for single counter parties or group of connected counter parties, single economic sector and loan type. The objective of setting credit limit is to prevent banks from relying excessively on a large borrower or group of borrowers or economic sector. Establishing limit shall also guided by directive, circulars issued by NRB. The size of the limits shall be based on the credit strength of the counter party, purpose of credit, economic conditions and the bank's risk appetite.

Limits shall also be set for respective products, activities, specific industry, economic sectors and/or geographic regions to avoid concentration risk. When the limits are exceeded, risks must be reduced by taking such steps as reducing exposures or using financial instruments such as derivatives or securitization. The credit strategy document shall install a consistent limit management system to define, monitor, and control the limits.

d.2 The maximum risk limits shall be determined by the capital allocated to cover credit risk in the planning process. Risk tolerance limits in the credit risk strategy document shall be set on the following basis:

a. at first, the banks overall limit shall be distributed into the individual sub-portfolio limits. Such sub-portfolios shall include business units, customer groups or regions, economic sectors;

b. the sub-portfolio limits shall further be defined into the following sub-limits:

*i. **Product, businss area, and industry limits:***

Limits shall be set on the basis of concentration of exposures in certain products, purpose, or industries. The bank shall develop such areas in line with the NRB reporting formats 9.3 "Statement of sector (purpose) wise concentration of loans and advances", 9.4 "Collateral wise concentration of loans and advances", 9.3 (Ka) "Product wise concentration of loans and advances", classes of exposures prescribed by the NRB capital adequacy framework, and other reporting formats that may be prescribed by Nepal Rastra Bank and the bank feel any sub-sectors from time to time.

*ii. **Risk class limits:***

Risk tolerance limits shall also be set for the risk classes determined based on the internal credit risk rating (ICRR) procedures of the bank, so as to monitor and limit the concentration of exposures in certain risk classes to be able to detect a deterioration of the portfolio in time, and thus to able to avoid losses as far as possible by withdrawing from certain exposures.

*iii. **Limits on unsecured portions:***

The credit strategy document shall set the limits on the loans that are granted without the provision of collateral or partial collateral.

*iv. **Individual customer limits:***

The credit strategy document shall set the limits for funded as well as non-funded exposures to be granted to individual borrower or group. The single obligor limits (SOL) and limit cap on economic sector of the Nepal Ratra Bank shall also be considered while determining such limits.

d.3 The credit strategy document shall define the rigidity of each limit set. The limits set, in terms of rigidity shall be divided into:

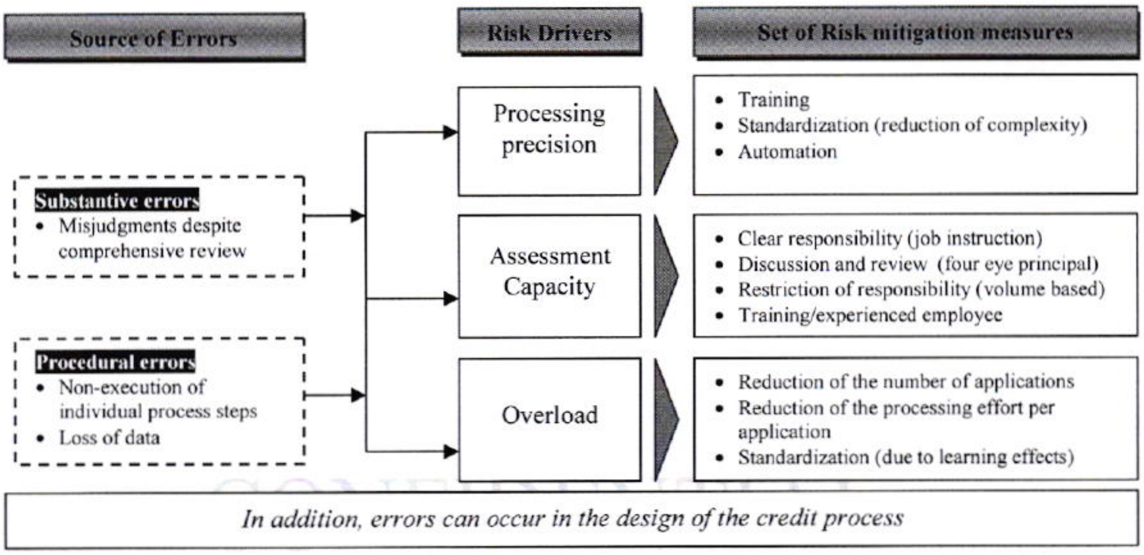
a. Category 1: for those limits which shall never be exceeded, as otherwise the viability of the bank as a whole would be endangered;

b. Category 2: limits to serve as early warning indicators, which would if uncontrolled, lead to category 1.

d.4 Limit monitoring shall continuously be conducted by the credit operation department. The credit strategy document shall prescribe the reporting methodology for the limit monitoring as well as the levels to which they shall be submitted.

2.7 Credit Origination

The credit risk arises from the credit originating process. Therefore, the possible measure of risk mitigation during credit approval process shall be as follows:



2.7.1 It is necessary to differentiate and essential criteria which have to be taken into account in defining this differentiation in terms of risk and efficiency.

2.7.2 A clear and flexible interface shall be developed to execute and manage various functions of credit and risk analysis chain during the approval process.

2.7.3 The bank shall operate within a sound and well defined criteria for new credit and expansion of existing credit as well. Credit shall be extended within the target market and lending strategy of the bank. Before allowing credit, bank must make assessment of risk profile of the customer/transaction,

2.7.4 In case of new relationship, consideration shall be given to the integrity and reputation of the borrower or counter party as well as its legal capacity to assume the liability. Prior to entering into any new credit relationship the banks must become familiar with the borrower or counter party and be confident that they are dealing with individual or organization of sound reputation and credit worthiness. However, a bank must not grant credit simply on the basis of the fact that the borrower is perceived to be highly reputable i.e. name lending shall be discouraged.

2.7.5 While structuring the credit facilities, bank shall appraise the amount and timing of cash flows as well as the financial position of the borrower and intended purpose of the fund. It is utmost important the due consideration shall be given to the risk reward trade-off in granting credit and credit shall be priced to cover all embedded costs. Relevant terms and conditions shall be laid down to protect interest of the bank.

2.7.6 Bank has to make sure that the credit is used for the purpose it was intended borrowed. Where the obligor (group) has utilized funds for the purpose not shown in original purpose, bank shall take step to determine implications in credit worthiness of the borrower. In case of corporate loan where borrower own group of companies, such due diligence become more important. Bank shall conduct credit assessment on consolidated basis.

2.7.7 In loan syndication, generally most of the credit assessment and analysis is done by lead bank. While such information is important, bank shall not over rely on

2.7.8 Bank shall not over rely on collateral/covenants. Although the importance of collateral held against credit is beyond any doubt, yet these shall be considered as a buffer providing protection in case of default, primary focus shall be given borrower's cash flow, debt servicing capacity and credit worthiness.

2.7.9 Banks will adopt policies covering the acceptability of various forms of collateral, procedures for the ongoing valuation of such collateral, and a process to ensure that collateral is, and continues to be, enforceable and realizable. With regard to guarantees, banks shall evaluate the level of coverage being provided in relation to the credit-quality, new worth and legal capacity of the guarantor.

2.8 Pricing

2.8.1 Pricing of the loan product shall be determined by the ALCO of the bank from time to time. However, pricing of individual loan will be determined by the branches in consultation with credit risk department.

2.8.2 Pricing shall be within the range of published rate. However, pricing could be determined less than the published rate being approval taken from the approving authority.

2.8.3 Pricing shall not be beyond the published rate.

2.9 Credit Assessment

2.9.1 The Credit Policy Guideline of the bank shall be strictly adhered for assessment of credit proposals. Any significant deviations from these policies shall be communicated to the senior management/board and corrective actions shall be taken promptly. A through credit risk assessment shall be conducted prior to the granting of loans, and at least annually thereafter for all facilities, except for loans managed on portfolio basis. The results of this assessment shall be presented in a Credit Appraisal Memorandum that originates from the relationship manager/account officer ("RM"). The RM shall be the owner of the customer relationship, and must be held responsible to ensure the accuracy of the entire credit application submitted for approval. RMs must be familiar with the bank's Credit Policy Guidelines, Credit Strategy and shall conduct due diligence on new borrowers, principals, and guarantors to ensure such parties are in fact who they represent themselves to be. For this, the Know Your Customer (KYC) Guidelines issued by Nepal Rastra Bank and Money Laundering guidelines of the bank shall be adhered to at all times. Credit Applications shall summarize the results of the RMs risk assessment and include, as a minimum, the following details:

a) Who is the customer?
b) Amount and type of loan(s) proposed.
c) Purpose of loans.
d) Loan Structure (Tenor, Covenants, Repayment Schedule, Interest)
e) Security Arrangements

2.9.2 In addition, the following risk areas shall be addressed while assessing credit risks:

a) *Borrower Analysis:* The majority shareholders, management team and group or affiliate companies shall be assessed. Any issues regarding lack of management depth, complicated ownership structures or inter-group transactions shall be addressed, and actions to be taken for risk mitigation to be identified.
b) *Industry Analysis:* The key risk factors of the borrower's industry shall be assessed. Any issues regarding the borrower's position in the industry, overall industry concerns or competitive forces shall be addressed and the strengths and weaknesses of the borrower relative to its competition shall be identified.
c) *Supplier/Buyer Analysis:* Any customer or supplier concentration shall be addressed, as these could have a significant impact on the future viability of the borrower.
d) *Historical Financial Analysis:* An analysis of a minimum of 3 years historical financial statements of the borrower shall be presented. Where reliance is placed on a corporate guarantor, guarantor financial statements shall also be analysed. The analysis shall address the quality and sustainability of earnings, cash flow and the strength of the borrower's balance sheet. Specifically, cash flow, leverage and profitability must be analyzed.
e) *Projected Financial Performance:* Where term facilities (tenor > 1 year) are being proposed, a projection of the borrower's future financial performance shall be provided, indicating an analysis of the sufficiency of cash flow to service debt repayments. Loans shall not be granted if projected cash flow is insufficient to repay debts.
f) *Credit Background:* Credit application shall clearly state the status of the borrower in the CIC (Credit Information Center) report. The application shall also contain liability status with other Banks and FI's and also shall obtain their opinion of past credit behavior.
g) *Account Conduct:* For existing borrowers, the historic performance in meeting repayment obligations (trade payments, interest and principal payments, etc) shall be assessed.
h) *Adherence to Bank's Credit Policy Guidelines:* Credit Applications shall clearly state whether or not the proposed application is in compliance with the bank's Credit Policy Guidelines. The Credit Appraisal Memorandum not adhering to the bank's credit policy guidelines must be approved by the Board of Directors.
i) *Mitigating Factors:* Mitigating factors for risks identified in the credit assessment shall be identified. Possible risks include, but are not limited to: margin volatility, high debt load (leverage/gearing), overstocking or debtor issues; rapid growth, acquisition

or expansion; new business line/product expansion; management changes or succession issues; customer or supplier concentrations; and lack of transparency or industry issues.

j) *Loan Structure:* The amounts and tenors of financing proposed shall be justified based on the projected repayment ability and loan purpose. Excessive tenor or amount relative to business needs increases the risk of fund diversion and may adversely impact the borrower's repayment ability.

k) *Purpose of Credit:* The bank has to make sure that the credit is used for the purpose it was borrowed. Where the obligor has utilized funds for purposes not shown in the original proposal, the bank shall take steps to determine the implications on creditworthiness. In case of corporate facilities where borrower own group of companies such diligence becomes more important, the bank shall classify such connected companies and conduct credit assessment on consolidated/group basis.

l) *Project Implementation:* In case of a large expansion, which constitutes investment of huge amount of total capital of a company, project implementation risk shall be thoroughly assessed. Project implementation risk may involve construction risk (Gestation period, regulatory and technical clearances, technology to be adopted, availability of infrastructure facilities), funding risk, and post project business, financial, and management risks.

m) *Security:* A current valuation of collateral shall be obtained and the quality and priority of security being proposed shall be assessed. Loans shall not be granted based solely on security. Adequacy and the extent of the insurance coverage shall be assessed.

n) *Type of Control on Cash Flow*: The credit application shall contain and assess if there is any control on the borrowers cash flow for securing the repayment. This may include payment assignment from export proceed, payment assignment from customers of the borrower etc.

o) *Name Lending:* Credit proposals shall not be unduly influenced by an over reliance on the sponsoring principal's reputation, reported independent means, or their perceived willingness to inject funds into various business enterprises in case of need. These situations shall be discouraged and treated with great caution. Rather, credit proposals and the granting of loans shall be based on sound fundamentals, supported by a thorough financial and risk analysis.

2.10 Credit Operation/Administration

Credit operation is a critical element in maintaining the safety and soundness of a bank. The credit operation function is basically a back office activity that supports and controls extension and maintenance of credit. A typical credit operation department shall perform the functions of credit documentation, disbursement and monitoring; loan repayment; and maintenance of credit files, collateral and security documents. Once a credit is granted, it is the responsibility of Credit operation to ensure that the credit is properly maintained. It is the responsibility of credit administration to ensure completeness of documentation (loan agreements, guarantees, transfer of title of collaterals etc) in accordance with approved terms and conditions. This includes keeping the credit file up to date, obtaining current financial information, sending out renewal notices and preparing various documents such as loan agreements. For credit operation/administration the bank will set up separate department in corporate level. The functions of Credit operation/administration will be segregated from Relationship Management/Marketing in order to avoid the possibility of controls being compromised or issues not being highlighted at the appropriate level. Details of function of the department will be devised by the management from time to time. However, the department will be responsibilities for:

a) To ensure that all security documentation complies with the terms of approval and is enforceable;
b) To monitor insurance coverage to ensure appropriate coverage is in place over assets pledged/mortgaged as collateral, and is properly assigned to the bank;
c) To control facility disbursements only after all terms and conditions of approval have been met, and all security documentation is in place;
d) To maintain control over all security documentations. However, decision regarding custodian of securities shall be approved by the bank;
e) To monitor borrower's compliance with covenants and agreed terms and conditions, and general monitoring of account conduct/performance;
f) the accuracy and timeliness of information provided to management information systems;
g) Compliance with prescribed management policies, strategy and procedures, by lows as well as applicable laws and regulations.

A typical credit operation/administration unit shall perform following functions:

2.10.a. Documentation

a) Documentation is an essential part of the credit process and is required for each phase of the credit cycle, including credit application, credit analysis, credit approval, credit monitoring, collateral valuation and impairment recognition, foreclosure of impaired loan and realization of security. The format of credit files must be standardized and files neatly maintained with an appropriate system of cross-indexing to facilitate review and follow-up. The bank will pay particular attention to the quality of files and the systems in place for their maintenance.
b) Documentation establishes the relationship between the financial institution and the borrower and forms the basis for any legal action in a court of law. The Bank must ensure that contractual agreements with their borrowers are vetted by their legal advisers. Credit applications must be documented regardless of their approval or rejection. All documentation shall be available for examination by the management, internal auditor, external auditor, NRB and any other authority as deemed necessary.
c) The bank establishes policies on information to be documented at each stage of the credit cycle (refer Credit Procedural Manual). The depth and detail of information from a customer will depend on the nature of the facility and prior performance with the

bank. A separate credit file shall be maintained for each customer. If a subsidiary file is created, it shall be properly cross-indexed to the main credit file.

d) For security reasons, the bank shall consider keeping only the copies of critical documents (i.e., those of legal value, facility letters, and signed loan agreements) in credit files while retaining the originals in more secure custody. Credit files shall also be stored in fire-proof cabinets and shall not be removed from the bank's premises.

e) The bank shall maintain a checklist that can show that all their policies and procedures ranging from receiving the credit application, disbursement of funds and stored security document in the vault have been complied with. The checklist shall also include the identity of individual(s) and/or committee(s) involved in the decision-making process.

f) It is the responsibility of credit operation/administration to ensure completeness of documentation (facility agreements, loan agreements, guarantees, transfer of title of collaterals etc) in accordance with approved terms and conditions. Outstanding documents shall be tracked and followed up to ensure execution and receipt.

g) Security documents are prepared in accordance with approval terms and are legally enforceable. Standard facility documentation that has been reviewed by legal counsel shall be used in all cases. Exceptions shall be referred to legal counsel for advice based on authorization from an appropriate executive in CRM.

h) The documentation unit shall issue a Security Compliance Certificate (SCC) and facility compliance certificate (FCC) and Document compliance certificate (DCC) before disbursement of credit.

2.10.b *Disbursement functions:*

a) Disbursements under facilities shall only be made after receiving SCC, FCC and DCC. All formalities guided by NRB directors, circulars & related section prevailing acts shall be complied with. All Credit Approval terms must be met before disbursement.

b) *The certificates has been issued to:*
   i. Ensure that all the security documentations has been executed before disbursement of loans;
   ii. Ensure that the facilities are fully complied bank's credit policy, strategy, procedural manuals, NRB directives, circulars and related laws;
   iii. Ensure that all the terms and requirements of approval have been adhered;
   iv. Ensure all the documents are received and filed properly;
   v. Creating limit in the system;
   vi. Disbursing the loans.

b) Minimum of two officials shall be assigned in limit creation and disbursement of loans. Maker and Checker concept compulsory followed.

2.10.c *Custodian functions:*

Banks shall ensure that all security documents are kept in a fireproof safe. Registers for documents shall be maintained to keep track of their movement. Physical checks on security documents shall be conducted on a regular basis. Custodian function includes:

i. Obtaining security documentations as per approval and check list;
ii. Safely storing loan/security documents;
iii. Periodic review of documentation;
iv. Ensure collateral is insured and properly valued.

2.10.d) ***Monitoring functions:***

a) After the facility is approved and draw down allowed, the facility shall be continuously watched over. These include keeping track of borrowers' compliance with credit terms, identifying early signs of irregularity, conducting periodic valuation of collateral and monitoring timely repayments.

b) It also track and review relevant insurance coverage for certain facilities/collateral. It ascertain the current financial condition of the borrower or counter party as well as sufficient information to track the decisions made and the history of the credit.

c) To minimize credit losses, monitoring procedural manual and systems shall be in place that provides an early indication of the deteriorating financial health of a borrower. At a minimum, systems shall be in place to report the following exceptions to relevant executives in CRM and RM:

I. Past due principal or interest payments, past due, trade bills, account excesses, and breach of facility covenants;
II. Non-receipts of financial statements on a regular basis and any covenant breaches or exceptions made;
III. Action not taken on time for findings of any internal, external or regulator inspection/audit;
IV. monitoring of the breach of covenants of the sanction letters by the borrowers;
V. monitoring of the balance exceptions such as limit expired, limit exceeded, deals matured, no limit, documents deficiency etc;
VI. monitoring of drawing power of accounts;
VII. monitoring of insurance (coverage, expiry, insured amount etc);
VIII. Other as deemed necessary by the management.

d) All borrower relationships/facilities are reviewed and monitored through the submission of a Credit Report by credit administration (refer to procedural manual for report to review).

e) Computer systems must be able to produce the above information for central/head office as well as local review. Where automated systems are not available, a manual process shall have the capability to produce accurate exception reports. Exceptions shall be followed up and corrective action taken in a timely manner before the account deteriorates further (refer to the Early Warning Alert in procedural manual).

2.10.e) ***Compliance functions:***

All requirements of Nepal Rastra Bank returns shall be submitted in the correct format in a timely manner.

2.11 Internal Credit Risk Rating Guidelines (ICRR)

2.11.a) The Internal Credit Risk Rating (ICRR) is a collective definition based on the pre-specified scale and reflects the underlying credit-risk for a given exposure. A Credit Risk Grading deploys a number/ alphabet/ symbol as a primary summary indicator of risks associated with a credit exposure. Credit Risk Grading will be regarded as the basic module for developing a Credit Risk Management system.

2.11.b) Well-managed credit risk grading systems promote the bank safety and soundness by facilitating informing decision-makers. Grading systems measure credit risk and differentiate individual credits and groups of credits by the risk they pose. This allows the bank management and examiners to monitor changes and trends in risk levels. This process also assists management to manage risk to optimize returns.

2.11.c) **Use of Internal Credit Risk Rating Guidelines:**

a) *Limits and approval requirements*: Different approval requirements and thresholds shall be set for different internal grades, allowing less scrutiny and greater latitude in decision-making for loans with lesser risk.

b) *Reporting to management on credit risk profile of the portfolio:* As part of reports analyzing the overall credit risk profile in the Bank's portfolio, information on the profile of actual outstanding, exposure, or both by internal risk grade shall be reported to senior level management, risk management committee, executive committee and the Board. Such information shall thus be one consideration - among others, such as concentrations in particular industries or borrower types - in evaluating the Bank's appetite for originating various types of new loans.

c) *Allowance for loan losses:* The makeup of the loan portfolio and the loss characteristics of each grade shall be considered, along with other factors, in internal analysis of the adequacy of the Bank's allowance for loan losses. The internal risk rating systems and supporting documentation shall enable reconciliation of the Bank's internal risk ratings with the categories used by the Nepal Rastra Bank for those loans graded below "pass" (i.e., substandard, doubtful, and loss).

d) *Pricing and profitability:* Risk-rating-specific loss factors shall be incorporated to discipline the Bank's overall pricing practice across the portfolio in determining the minimum profitability requirements.

e) *Internal allocation of capital and provisioning:* The internal risk grades shall be used as an important input in identifying appropriate internal capital allocations and provision for evaluating profitability. Such internal capital allocations and provisioning may also be considered as one input, if appropriate, into supervisory evaluations of capital adequacy.

2.11.d) ICRG will categorize risk grades ranging from 'A','B1','B2','C' and 'D' whereas risk points will be ranging from 0 to 4. Risk points and risk definitions will be as follows:

Risk Grade	Total Weighted Risk Points	Risk Definition	Strategy
A	>3.75 – 4.00	Low Risk	Maintain/Grow
B1	>3.25 – 3.75	Medium Risk	Maintain/Grow
B2	> 2.50 – 3.25	Satisfactory Risk	Maintain
C	> 1.50 – 2.50	Watch list	Watch/Close Monitor
D	Up to 1.50	Loss	Exit/Recovery

2.11.e) Definition of Risk Grades:

"A" categories are considered "Very Good" clients with very low risk of default. The borrowers offering following collateral/ security shall always be classified as grade "A" without any other analysis:

- gold and silver;
- lien over fixed deposit receipts of NCC Bank;
- Bonds, treasury bills or guarantees issued by Government of Nepal, Nepal Rastra Bank; or the government/central bank of the foreign country.
- Export letter of credits.

  However, the exemptions shall not be granted in case the above collateral/security is obtained as an additional security only.

"B" categories of clients are good clients and are considered to have low default risk. B category clients shall further be subdivided into **B1** and **B2**. B1 categories shall be maintain or grow relationship whereas B2 categories will be maintain and no further exposure will be authorized.

"C" categories of clients are those which are to be put on watch list and require constant monitoring. This category of clients has a high probability of default. Close monitoring of cash flow and review of securities documents shall be done at least quarterly.

"D" categories of clients are problematic borrowers/defaulters or are in Banks recovery process. These clients need to be exited from our Bank as soon as possible. No new relationship shall be established with the borrowers which fall under C and D grading.

2.11.f) The Credit Appraisal Memorandum prepared for each borrower shall accompany the sheets of computation of their risk grades in the format of *"Risk Scorecard"* given in ICRR.

2.11.g) The risk ratings shall be reviewed, if not assigned, by independent credit risk management or loan review personnel both at the inception of a transaction and periodically over the life of the loan.

2.11.h) Details ICRR framework, risk factors, risk weights and risk score will be developed/reviewed by the risk management committee.

2.12 Credit Risk Assessment (Risk Measurement, Valuation and Classification of loan)

2.12.1 Credit risk is calculated on the basis of possible losses from the credit portfolio. Potential losses in the credit business can be divided into:

a. expected losses; and
b. unexpected losses

2.12.2 Expected losses are derived from the borrower's expected probability of default (PD) which is calculated using ICRR of the bank and the predicted exposure at default (EAD) less the recovery rate, i.e. all expected cash flows, especially from the realization of collateral. The expected losses shall be accounted for income planning and included as standard risk costs in the credit conditions. Unexpected losses result from deviations in losses from the expected loss. Unexpected losses are taken into account only indirectly via equity cost in the course of income planning and setting of credit conditions. They have to be secured by the risk coverage capital.

2.12.3 The bank shall calculate risk score of each loan and advances during sanction/review/renewal. For renewal and review, past one year performance shall be taken in to consideration.

2.12.4 The Banks shall classify loan and advances based on NRB directive and circulars issued from time to time or risk category quantified by the Internal Credit Risk Rating Guideline whichever is higher on quarterly basis.

2.13 Credit Risk Monitoring and Control (Mitigation)

2.13.1 Risk monitoring aims at checking compliance with the risk strategy and ensuring the effectiveness of counter measures. Risk shall be monitored continuously for its early detection to take necessary actions. Risk monitoring includes generation of warning signals before the risk limits are fully reached in order to make it possible to make use of all (levels of) risk mitigation measures. Risk monitoring shall be followed by triggering risk controlling measures.

2.13.2 Banks need to enunciate a system that enables them to monitor quality of the credit portfolio on day-to-day basis and take remedial measures as and when any deterioration occurs.

2.13.3 Risk monitoring shall be conducted by the credit risk management committee through the credit operation department (COD) or any other department as decided by the management.

2.13.4 Credit Risk monitoring procedures will be included in Credit Procedural Manual. The procedural manual shall include:

- The roles and responsibilities of individuals responsible for credit risk monitoring;
- The assessment procedures and analysis techniques (for individual loans & overall portfolio);

- The frequency of monitoring;
- The periodic examination of collaterals and loan covenants;
- The frequency of site visits;
- The identification of any deterioration in any loan.

2.13.5 The objectives of risk monitoring are to ensure that;

1. Credits are being serviced in compliance with facility terms, including meeting contractual requirements such as observing covenants and maintaining collateral;
2. Early signs of delinquencies are detected to facilitate prompt remedial actions and thus minimize losses;
3. Management reports are made in the form of default , breach of covenants or irregularity and of the effectiveness of remedial action already taken;
4. Facilities granted to individual customers, groups of related customers and the total portfolio level, including various types of concentration risk, are within the limits parameters set by the credit risk strategy and policy documents;
5. Regulatory limits are complied with;
6. Provisions are realistically determined; and
7. The Board, risk management committee or senior management is able to monitor the overall quality of the total credit portfolio, identify trends and reassess the appropriateness of the credit risk strategy and policy;

2.13.6 In addition to monitoring of the bank's credit portfolio, at individual/group customer level, some key indicators which will depict credit quality of the bank are:

a) Financial Position and Business Condition:

The most important aspect about an obligor is its financial health, as it would determine its repayment capacity. The bank will need to watch financial standing of the obligor regularly. Business/industry risk, borrowers' position within the industry and external factors such as economic condition, government policies, and regulations shall be taken into consideration. The Key financial performance indicators on profitability, equity, leverage and liquidity shall be analyzed on a regular basis.

b) Conduct of accounts:

In case of existing obligor, during review/renew of the facilities; the individual staff will be responsible to monitor the obligor's account activity, repayment history and instances of excesses over credit limits. For trade financing, cases of repeat extensions of due dates for trust receipts and bills.

c) Loan Covenants:

Bank/Branch will regularly review the credit in terms of the obligor's ability to adhere to financial covenants stated in the loan agreement, and any breach detected shall be addressed promptly or reported to the higher authority.

d) Collateral Valuation:

Banks need to reassess value of collaterals on periodic basis. Credit Strategy document shall address the frequency of collateral valuation. However, appropriate inspection will be conducted as and when deemed necessary to verify the existence and valuation of the collateral.

2.13.7 Early Warning Alert System (EWA):

2.13.7.1 An Early Warning Account is one that has risks or potential weaknesses of a material nature requiring monitoring, supervision, or close attention by management.

2.13.7.2 When customers find themselves in financial distress they often wonder whether they could have prevented their problems by heeding some important warning signs. Customers rarely go into bankruptcy without some warning. While some of the signals may be subtle and go unnoticed, others are quite overt. Unfortunately, experience has shown that many of the signals are ignored or are detected too late. It is the subtle signals that occur well in advance of the bankruptcy that are important to recognize. Being aware of these signals can enable organizations to take steps or to engage the professional services necessary to prevent a bankruptcy. Taking action early in the process can translate into a win-win solution for the lender, government agencies, trade creditors and the debtor. There are a number of early warning signs to alert businesses of pending financial problems. These warning signs can be categorized into Operational, Managerial and Financial signals.

2.13.7.3 If these weaknesses are left uncorrected, they may result in deterioration of the repayment prospects for the asset or in the bank's credit position at some future date with a likely prospect of being downgrade ICRRG or worse (Impaired status), within the next twelve months.

2.13.7.4 Details of EWA such as type of signals, features, responsibilities, reporting and its control mechanism will be devised in procedural manual. However, some guidelines are presented below:

Operational signals

2.13.7.5 Internal problems such as changes in senior management, high employee turnover and the resignation of members of the Board of Directors are a bellwether of trouble in an organization. The adverse impact of an unsuccessful expansion such as profitability coupled with insufficient cash flow, a lack of clear direction and a deterioration of internal controls is also a forewarning of potential financial distress. This typically leads to a decline in customer service, as quality is comprised to finance further expansion.

2.13.7.6 Other warning signs include one-time events such as a large bad debt or a warranty claim, the cancellation of a large order, a strike or uninsured fire or theft; changes in the market place, a change in supplier payments and pricing issues. A failure to keep abreast of technological changes or a change in consumer tastes can lead to product obsolescence and declining market share. Furthermore, a slowdown in payments to suppliers or court action by suppliers can lead to supply problems and an inability to meet orders. As well, businesses may offer customers large discounts for the early payment of invoices. Finally, under pricing contracts in order to boost sales and cash flow often leads to low or negative gross margins and losses.

Managerial signals

2.13.7.7 An inadequate management system, mediocre management skills and certain personality traits and habits are hallmarks of many bankrupt businesses. A management system that lacks depth and relies on one individual for decision making, creativity and marketing often leads to decision-making gridlock, an unbalanced management team, a lack of management depth and certain chaos. An inexperienced management team with weak financial and organizational skills as well as a poor understanding of finance and business may also foreshadow problems. Finally, the habits and personality traits of owners and senior managers such as not returning phone calls, working after hours, personal problems, and frivolous spending may hint at pending or future problems.

Financial signals

2.13.7.8 A decline in sales, lower profit margins, sustained losses, increased debt, a highly leveraged balance sheet, negative working capital and reduced cash flow are overt signals of financial distress. A customer's relationship with the bank and any changes therein is also a useful financial signal. Reduced availability on a customer's operating line or a change in borrowing patterns may be indicative of financial problems. As well an increase in loan security or a bank's request for security on a previously unsecured loan is clear evidence of deterioration in the financial health of a business. Finally, the breaching of loan covenants or missed loan payments are clear warning signs that the company requires help.

2.13.7.9 Early identification, prompt reporting and proactive management of Early Warning Accounts, are prime credit responsibilities of all Relationship Managers and must be undertaken on a continuous basis. An Early Warning Alert report (as per ***credit procedural manual***) shall be completed by the RM/BM and sent to the approving authority for any account that is showing signs of deterioration within *seven* days from the identification of weaknesses. The *Internal Credit Risk Grade* shall be updated as soon as possible and no delay shall be taken in referring problem accounts to the CRD department for assistance in recovery.

2.13.7.10 Despite a prudent credit approval process, facilities may still become troubled. Therefore, it is essential that early identification and prompt reporting of deteriorating credit signs be done to ensure swift action to protect the bank's interest. The symptoms of early warning are shown credit procedural manual e by no means exhaustive and hence, if there are other concerns such as a breach of facility covenants or adverse market rumors that warrant additional caution, an Early Warning report shall be raised.

2.13.7.11 Moreover, regular contact with customers will enhance the likelihood of developing strategies mutually acceptable to both the customer and the bank.

2.13.7.12 An account may be reclassified as a Regular Account from Early Warning Account status when the symptom, or symptoms, causing the Early Warning classification have been regularized or no longer exist. The concurrence of the CRD approval authority is required for conversion from Early Warning Account status to Regular Account status.

2.13.7.13 Despite our best efforts, it is recognized that the Bank may be exposed to situations where the quality of loans/advances and/or investments deteriorate and in some cases difficult to recover.

2.13.7.14 Credit quality deterioration could be detected through the following:

a) Conduct of Bank accounts and debt service ;
b) From signs outside the Bank records.

To ignore or overlook them or delay in making inquiries and taking immediate corrective action invariably lead to serious consequences such as loss of revenue and provisioning for bad debts.

2.13.8 Risk Controlling

2.13.8.1 It is a part of overall risk management process and follows the quantification and planning of risks, aiming to reduce the risks to a level which, according to the stipulations from the risk strategy, is manageable for the bank. Risk controlling is carried out at the level of individual borrower and at the portfolio level. It also carried out at the branch level as well as corporate level. Depending on the situation, and the practicability of adoption, the bank shall adopt any or all of the following instruments for risk controlling:

a) Setting limits for exposures (refer risk tolerance limit section);
b) risk adjusted pricing;
c) Insurances:
d) credit derivatives;
e) securitization;
f) selectively reducing exposures (sale);

2.13.8.2 Setting the price on the basis of the borrower's credit standing is one of the effective tools for risk controlling. Such risk-adjusted pricing would lead to higher rate fixation for high risk customers. Risk-adjusted pricing shall consider the cost of fund of the bank, systematic overhead allocations, provisioning requirements of NRB directives, the targeted rate of returns, risk premiums on account of possible default of the loan, and the compliance premiums (for not adhering to the terms of sanction letters). For the time being, risk-adjusted pricing method is developed, only compliance premium will be exercised.

2.13.8.3 The bank can insured the loan and advances to the insurance agencies/companies which are allowed to insured some defined type of loans. Credit such categorized as deprived sector by the NRB directives and credit categorized as retail portfolio by the state regulation can be insured at Deposit & Insurance and Credit Guarantee Corporation (DICGC).

2.13.8.4 Credit derivatives are financial contracts that allow the transfer of credit risks through hedging of individual loans or the portfolio risk as a whole. The hedge can cover the entire risk of default, i.e. the risk that the loan cannot be repaid, or the risk of deterioration of the credit quality. Credit derivatives are used not only to hedge the risks associated with the existing credit exposures; they are also employed to increase the degree of diversification of portfolios or to generate additional income from the premium or from speculation.

2.13.8.5 In the case of securitization, selected loans are transferred to a company set up for the purpose of securitization (special purpose vehicle, SPV). The transferred portfolio is divided into tranches with different rating classes and is refinanced by the SPV by issuing securities to investors. The securities are linked directly with the default risk of the tranche they securitize. Often, the securitizing bank has to provide additional collateral or liquidity facilities to make the securities attractive for investors. Furthermore, the bank will usually have to keep the "first loss piece" on their own books; this first loss piece is roughly equivalent to the portfolio's expected loss. Thus, only the risk of unexpected rating deterioration is passed on to the investors. The bank usually remains responsible for servicing, which includes monitoring the receipt of payments and the collection of claims due.

2.13.8.6 When loans are sold, they are placed directly with one or more investors and are thus also removed from the balance sheet. For this purpose, the individual loans to be sold are selected and combined in a portfolio. This portfolio then has to be evaluated, and the investors have to be furnished with detailed information to enable them to assess the risk of the individual loans. The expected default rates of the individual loans are included in the evaluation. The buyer will usually only be prepared to buy the portfolio if the discount on the nominal value of the loans covers at least the losses from the expected defaults, the cost of refinancing, as well as the return on equity required. Finally, the purchase price is negotiated and the contract of sale is concluded. When the loans are sold, the risk of default and the responsibility for servicing are transferred in full to the buyer. However, the sale of loans is usually only the last resort.

2.14 Credit Risk Review and Stress Testing

Credit Risk Review:

2.14.1 Detailed information about the risk at the level of the individual loan and at a portfolio level are required to manage the credit risk effectively. The credit operation management department shall consolidate and process the information related to risk controlling and aggregate it into a risk report covering the following four areas:

a. the development of the total portfolio and the sub portfolios in terms of risk;
b. the need for action, that is mainly risk mitigation measures, results from the assessment of future market trends, the coordination with risk-bearing capacity and risk strategy, as well as findings from analyzing the competition;
c. types and affect of the measures of the bank's risk situation, who is responsible, and what the deadline for the implementation of the measures is;
d. the effectiveness of the processes and measures;

2.14.2 The credit risk report shall contain all levels of detail to ensure that the data communicated within the bank are consistently available for all levels of detail shall those data be required in the decision-making process.

Stress Testing:

2.14.3 Stress test is an instrument for estimating the consequences of unfavorable events, which have a low probability of occurrence that may have in the bank. Such events, however, must not be so remote from practice that they become implausible. The bank shall perform stress tests by following both of the following structures:

a. One-factor stress tests (Historical Analysis, Sensitivity analysis, portfolio driven)
b. Multi-factor crisis tests (Hypothetical Analysis, Scenario analysis, event driven)
c. Macroeconomic events
d. Market Events
e. Worse case/ catastrophe events

Historical: based on observed events from the past. Less subjective but may be irreverent;

Sensitivity Analysis: Involves the impact of large movements on single factor or parameter of the model. It is used to assess model risk, effectiveness of potential hedging strategies;

Portfolio-driven scenario: Scenario is directly linked to portfolio. Identify risk parameters changes that result in a portfolio change. Identify events that cause the parameters to change. May be drawn from expert analysis or quantitative techniques;

Hypothetical: Plausible events that are yet to be realized. More relevant; requires expert judgment and analysis - sometimes difficult to link with underlying factors;

Scenario Analysis: Full representations of possible future situations to which portfolio may be subjected. It involves simultaneous, extreme moves of a set of factors. Reflects individual effects and interactions between different risk factors, assuming a certain cause for the combined adverse movements;

Event driven scenario: Scenario is based solely on a specific event independent of the portfolio characteristics. Identify risk source/event that cause changes in market. Identify effects of these changes on the risk parameters.

Macro-economic scenario: A shock to the entire economy that will affect industries to different degrees. Occurs external to a firm and develop over time.

Market Scenario: A shock to the financial and capita market; May be historical or hypothetical, though historic events help supports the plausibility;

Worst/catastrophe scenario: Events are exogenous to the market or economy, though, impact arises through resulting changes. Often are tied to specific characteristics of portfolio or exposures.

2.15 Managing Problem Loan (Credit Recovery)

2.15.1. The Problem loans can be in the form of:

a. Non Performing loans (NPAs): Substandard, Doubtful, Loss and Restructured loans as per NRB directives;
b. "D" Grade: Graded as "D" as per banks' Internal Credit Risk Rating System (ICRR);
c. Non Banking Assets (NBA);
d. Written-off Accounts;
e. Any other loans categorized as problem loans by the management from time to time.

2.15.2. The bank's Credit Policy Guideline (CPG), Credit Strategy and *Recovery Manual* shall clearly set out how problem credits are to be managed. The Credit Recovery Unit (CRU) will follow all aspects of the problem credit, including rehabilitation of the borrower, restructuring of credit, monitoring the value of applicable collateral, scrutiny of legal documents, and dealing the branch until the recovery matters are finalized.

2.16 Credit Audit:

Credit audit function of the bank will be very crucial in management credit risk. Credit audit will be regarded as third line of defense of risk management. It will be independence reporting of risk directly to board level audit committee. Credit will be in the level of credit origination, risk analysis, operation and post monitoring activities.

2.18 Management Information System (MIS)

2.18.1. Bank's quality of risk management is based on the accuracy, validity, reliability and timeliness of Information available. Bank's credit risk measurement process is highly dependent on the quality of management information systems. The information thus generated enables the board and all levels of management to fulfill their respective oversight roles, including determining the adequate level of capital that the bank to be holding. Banks will have a management information system in place to ensure that exposures approaching risk limits are brought to the attention of senior management.

All exposures will be included in a risk limit measurement system. The information system will be able to aggregate credit exposures by all means such as individual borrowers and counter parties, exceptions to credit risk limits and other risk variables on a meaningful and timely basis. For effective MIS the bank will:

a. develop a Management Information System (MIS) to store, maintain and organize credit related information;
b. shall cover all the information of the customer since inception of relation with the customer to end the relation from the bank; and
c. Shall capable to organize and report information required by the management representing all types of risk of the bank.

3. Managing Market Risk

3.1 Over view

3.1.1 Market risk refers to the risk to a bank resulting from movements in market prices, in particular, changes in interest rates, foreign exchange rates, equity and commodity prices. Market risk is often propagated by other forms of financial risks such as credit and market liquidity risks. It is the risk that the value of on and off-balance sheet positions of a bank will be adversely affected by movements in market rates or prices such as interest rates, foreign exchange rates, equity prices, credit spreads and/or commodity prices resulting in a loss to earnings and capital.

3.1.2 The market risk factors cited above are not exhaustive. Depending on the instruments traded by a bank, exposure to other factors may also arise. The bank's consideration of market risk shall capture all risk factors that it is exposed to, and it must manage these risks soundly.

3.2 Board and Senior Management Oversight

3.2.2 Board Oversight

3.2.2.1 It is NCC Bank's BOD's ultimate responsibility to understand the nature and the level of market risk taken by the bank. It shall approve broad business strategies and policies that govern or influence the market risk of the bank. It shall review the overall objectives of the bank with respect to market risk and shall ensure the provision of clear guidance regarding the level of risk acceptable to the bank. The board shall also approve policies that identify lines of authority and responsibility for managing market risk exposures.

3.2.2.3 The board of directors shall be informed regularly of the market risk exposure of the bank in order to assess the monitoring and controlling of such risk. Using this knowledge and information, directors shall provide clear guidance regarding the level of exposures acceptable to the bank.

3.2.2.4 The board shall review market risk policies in order to align them with significant changes in internal and external environment. In absence of any uneven circumstances, the board shall at least review these policies annually.

3.2.3 Senior Management Oversight

3.2.3.1 It is the responsibility of the Senior Management of the bank to develop policies and procedures for managing market risk on both a long-term and day-to-day basis based on the strategic direction and goals given by the board. It shall maintain clear lines of authority and responsibility for measuring, managing and controlling this risk. It shall also implement strategies in a manner that limits risks associated with each strategy and that ensures compliance with laws and regulations.

3.2.3.2 Market risk reports to senior management shall provide aggregate information as well as sufficient supporting detail to enable management to assess the sensitivity of the bank to changes in market conditions and other important risk factors. Senior management shall also review periodically the bank's market risk management policies and procedures to ensure that they remain appropriate and sound.

3.3 Policies, Procedures and Limits

3.3.1 Risk Management Strategy

3.3.1.1 The bank shall develop a sound and well informed strategy to manage market risk. The strategy shall first determine the level of market risk the bank is prepared to assume. Once its market risk tolerance is determined, the bank shall develop a strategy that balances its business goals with its market risk appetite.

3.3.1.2 In setting its market risk strategy, the bank shall consider the following factors:

a. economic and market conditions and their impact on market risk
b. whether the bank has the expertise to profit in specific markets and is able to identify, monitor and control the market risk in those markets
c. the bank's portfolio mix and how it will be affected if more market risk was assumed

3.3.1.3 The bank's market risk strategy shall be periodically reviewed and effectively communicated to the relevant staff. There shall be a process to detect deviations from the approved market risk strategy and target markets. The Board of Directors and senior management shall periodically review the bank's market risk strategy taking into consideration its financial performance and market developments.

3.3.2 Risk Management Policies

3.3.2.1 The bank shall formulate market risk policies which shall be approved by the Board. These policies shall reflect the strategy of the bank, including its approach to controlling and managing market risk. The Board shall approve any changes and exceptions to these policies.

3.3.2.2 The policies shall clearly:

a. prescribe how market risk is measured and communicated to the Board
b. spell out the process by which the Board decides on the maximum market risk the bank is able to take, as well as the frequency of review of risk limits
c. delineate the lines of authority and the responsibilities of the Board, senior management and other personnel responsible for managing market risk
d. set out the scope of activities of the business units assuming market risk
e. identify and set guidelines on market risk limit structure, delegation of approving authority for market risk limit setting and limit excesses, capital requirements, and investigation and resolution of irregular or disputed transactions

3.4 Risk Measurement, Monitoring and Management Information System

3.4.1 Processes and Systems

3.4.1.1 An institution shall establish a sound and comprehensive risk management process. This shall, among other things, comprise:

a. a framework to identify, measure and monitor market risk
b. an appropriately detailed structure of risk limits, guidelines and other parameters used to govern market risk taking
c. an appropriate management information system (MIS) for controlling, monitoring and reporting market risk, including transactions between and with related parties

3.4.1.2 The bank shall incorporate its market risk management process into its overall risk management system. This would enable it to understand and manage its overall risk exposure more effectively.

3.4.1.3 **Asset – Liability Committee:**

The bank shall have a unit dedicated to the management of market risks. Typically this is the responsibility of the Asset Liability Management Committee (ALCO). ALCO shall be usually responsible for developing and maintaining appropriate risk management policies and procedures, MIS reporting, limits, and oversight programmes. It shall include senior management from each functional area that assumes and manages market risks. Chief/Head from following departments shall form the bank's ALCO, with CEO or any senior person nominated by CEO, as the head of the committee.

i. Chief Operating Officer
ii. Treasury Department
iii. Risk Department
iv. Finance & Planning
v. Corporate Credit

vi. Branch Operation Department
vii. Marketing Department

ALCO shall meet on a frequency that is commensurate with the bank's business activities. The terms of reference, composition, quorum and frequency of meetings shall also be formalized and clearly documented. Major responsibilities of the committee include:

i. Monitoring the structure /composition of bank's assets and liabilities. Identifying balance sheet management issues like balance sheet gaps, interest rate gap/profiles etc. that are leading to underperformance
ii. Developing maturity profile and mix of incremental assets and liabilities
iii. Determining interest rates the bank and deciding on the future business strategy
iv. Reviewing and documenting bank's funding policy
v. Deciding the transfer pricing policy of the bank
vi. Evaluating market risk involved in launching of new products
vii. Reviewing deposit-pricing strategy for the local market
viii. Receiving and reviewing reports on liquidity risk, market risk and capital management
ix. Reviewing liquidity contingency plan for the bank
x.

3.*4.4.2 Interest Rate Risk Measurement and Monitoring*

3.4.2.1 Bank shall have interest rate risk measurement systems that assess the effects of rate changes on both earnings and economic value. These systems shall provide meaningful measures of an institution's current levels of interest rate risk exposure, and shall be capable of identifying any excessive exposures that might arise.

3.4.2.2 Measurement systems shall:

a. assess all material interest rate risk associated with an bank's assets, liabilities, and OBS positions
b. utilize generally accepted financial concepts and risk measurement techniques
c. have well documented assumptions and parameters

3.4.2.3 As a general rule, it is desirable for any measurement system to incorporate interest rate risk exposures arising from the full scope of the bank's activities, including both trading and non trading sources. This does not preclude different measurement systems and risk management approaches being used for different activities; however, management shall have an integrated view of interest rate risk across products and business lines.

3.4.4.3 Foreign Exchange Risk Measurement and Monitoring

3.4.3.1 Managing foreign exchange risk requires a clear understanding of the amount at risk and the impact of changes in exchange rates on this foreign currency exposure. To make these determinations, sufficient information must be readily available to permit appropriate action to be taken within acceptable, often very short, time periods.

3.4.3.2 Bank shall use various techniques to measure exposure to foreign exchange risk. One approach will be through setting limits on the size of the net open position in each currency in which the bank is authorized to have exposure and the aggregate of all currencies. This may be expressed as a percentage of core capital or total assets. Other approaches could be through the use of ratios such as:

a. foreign currency assets to foreign currency liabilities
b. change in net open position
c. growth in international assets/liabilities
d. growth in off-balance sheet business

3.4.4.4 Stress Testing

3.4.4.1 The market risk management process shall, where appropriate, include regular scenario analysis and stress tests. The bank may choose scenarios based on either analyzing historical data or empirical models of changes in market risk factors. The objective shall be to allow the bank to assess the effects of sizeable changes in market risk factors on its holdings and financial condition.

3.4.4.2 Scenario analysis and stress testing shall, as far as possible, be conducted, taking into account the effects of unusual changes in market and non-market risk factors. Such factors include prices, volatilities, market liquidity, historical correlations and assumptions in stressed market conditions, the institution's vulnerability to worst case scenarios or the default of a large counterparty and maximum cash inflow and outflow assumptions.

3.4.4.3 Scenario analysis and stress testing will enable the Board and senior management to better assess the potential impact of various market-related changes on the bank's earnings and capital position. The Board and senior management shall regularly review the results of scenario analyses and stress testing, including the major assumptions that underpin them. The results shall be considered during the establishment and review of policies and limits. Depending on the potential losses projected by the scenario analysis and stress tests and the likelihood of such losses occurring, the Board and senior management may consider additional measures to manage the risks or introduce contingency plans.

3.4.5 Risk Monitoring

3.4.5.1 An accurate, informative, and timely management information system is essential for managing market risk exposure, both to inform management and to support compliance with board policy. Reporting of risk measures shall be regular and shall clearly compare current exposure to policy limits. In addition, past forecasts or risk estimates shall be compared with actual results to identify any shortcomings.

3.4.5.2 Reports detailing the market risk exposure of the institution shall be reviewed by the board on a regular basis. While the types of reports prepared for the board and for various levels of management will vary based on the bank's market risk profile, they shall, at a minimum include the following:

a. summaries of the institution's aggregate market risk exposures (i.e. interest rate and foreign exchange exposures)
b. results of stress tests for market risk including those assessing breakdowns in key assumptions and parameters
c. foreign exchange exposure reports by currency and in aggregate
d. maturity distribution by currency of foreign currency denominated assets and liabilities including off balance sheet contingencies
e. summaries of the findings of reviews of market risk policies, procedures, and the adequacy of the interest rate risk measurement systems, including any findings of internal and external auditors or any other independent reviewer
f. reports demonstrating compliance with internal policies and prudential limits on market risk including exceptions
g. daily foreign exchange operations gain/loss, in comparison with previous day's results

3.5 The Middle Office

The risk management functions relating to treasury operations are mainly performed by middle office. Besides the existence of front office and back office, the concept of middle office has been introduced so as to monitor measure and analyze risks inherent in treasury operations of banks independently. The unit shall prepare reports for the information of senior management as well as bank's ALCO. Basically the middle office shall perform risk review function of day-to-day activities. Being a highly specialized function, it shall be staffed by people who have relevant expertise and knowledge. The methodology of analysis and reporting shall depend on the degree of sophistication and exposure to market risks. These same criteria will govern the reporting requirements demanded for the Middle Office, which may vary from simple gap analysis to computerized VAR modeling.

Middle Office staff may prepare forecasts (simulations) showing the effects of various possible changes in market conditions related to risk exposures. Bank shall ensure that ALCO is aware of and understand the nature of the output, how it is derived, assumptions and variables used in generating the outcome and any shortcomings of the methodology employed.

Segregation of duties shall be evident in the middle office, which must report to ALCO independently of the treasury function.

3.6 Risk Controls

3.6.1 Bank shall have adequate internal controls to ensure the integrity of their market risk management process. These internal controls shall be an integral part of the bank's overall system of internal controls. They shall promote effective and efficient operations related to market risk management. An effective system of internal controls for market risk shall ensure that:

a. there is a strong control environment
b. an adequate process for identifying and evaluating risk is in place
c. there are adequate control tools such as policies, procedures and methodologies
d. there is an effective management information system

3.6.2 Limits for market risks that are consistent with the maximum exposures authorized by the Board and senior management shall be set. An independent risk management function shall be established, with the responsibility for defining risk management policies, setting procedures for market risk identification, measurement and assessment, and monitoring the bank's compliance with established policies and market risk limits. It shall also ensure that market risk exposures are reported in a timely manner to the Board and senior management. Risk management staff shall be separate from and independent of position-taking staff.

3.4.6.3 Lines of Responsibility and Authority

3.6.3.1 Care shall be taken to ensure that there is adequate separation of duties in key elements of the risk management process to avoid potential conflicts of interest. Management shall ensure that sufficient safeguards exist to minimize the potential that individuals initiating risk-taking positions may inappropriately influence key control functions of the risk management process such as the development and enforcement of policies and procedures, the reporting of risks to senior management, and the conduct of back-office functions. The nature and scope of such safeguards shall be in accordance with the structure of the bank

3.6.3.2 There shall be well-defined procedures governing:

a. organizational controls to ensure that there exists a clear and effective segregation of duties between those persons who initiate transactions and those who are responsible for operational functions such as arranging prompt and accurate settlement, and timely exchanging and reconciliation of confirmations, or account for market activities
b. procedural controls to ensure that
   I. transactions are fully recorded in the records and accounts of the bank
   II. transactions are correctly settled
   III. unauthorized dealing is promptly identified and reported to management
c. controls to ensure that market activities are monitored frequently against the bank's market risk, counterparty and other limits and that excesses are reported

d. controls to ensure bank's compliance with applicable laws and regulations

3.6.3.3 Audits are a key element in managing and controlling an institution's market risk management program. Bank shall use them to ensure compliance with, and the integrity of, the market risk policies and procedures. Audits shall, over a reasonable period of time, test the bank's market risk management activities in order to:

a. ensure market risk management policies and procedures are being adhered to
b. ensure effective management controls over market positions
c. verify the adequacy and accuracy of management information reports regarding the bank's market risk management activities
d. ensure that personnel involved in market risk management are provided with accurate and complete information about the bank's market risk policies and risk limits and have the expertise required to make effective decisions consistent with the risk management policies

3.6.3.4 Assessments of the market risk operations shall be presented to the bank's board of directors for review on a timely basis. Identified material weaknesses shall be given appropriate and timely high level attention and management's actions to address those weaknesses shall be objectively verified and reviewed.

4. Managing Liquidity Risk

4.1 Overview

4.1.1 Liquidity risk is the potential for loss to an institution arising from either its inability to meet its obligations as they fall due or to fund increases in assets without incurring unacceptable cost or losses.

4.1.2 Liquidity risk is considered a major risk for institutions. It arises when the cushion provided by the liquid assets are not sufficient enough to meet maturing obligations. In such a situation institutions often meet their liquidity requirements from the market. However conditions of funding through the market depend upon liquidity in the market and borrowing institution's creditworthiness. Accordingly, an institution short of liquidity may have to undertake transactions at heavy cost resulting in a loss of earnings or in worst case scenario, the liquidity risk could result in bankruptcy of the institution if it is unable to undertake transactions even at current market prices.

4.1.3 Institutions with large off-balance sheet exposures or institutions, which rely heavily on large corporate deposits, have relatively high level of liquidity risk. Further, institutions experiencing a rapid growth in assets shall have major concerns for liquidity.

4.1.4 Liquidity risk shall not be seen in isolation, because financial risks are not mutually exclusive and liquidity risk is often triggered by consequences of other financial risks such as **credit risk, interest rate risk, foreign exchange risk, etc**. For instance, an institution increasing its credit risk through asset concentration may be increasing its liquidity risk as well. Similarly a large loan default or changes in interest rate can adversely impact an institution's liquidity position. Further, if management misjudges the impact on liquidity of entering into a new business or product line, the institution's strategic risk would increase.

4.1.5 An incipient liquidity problem may initially reveal in the institution's financial monitoring system as a downward trend with potential long-term consequences for earnings or capital. Given below are some early warning indicators that may not necessarily always lead to liquidity problem for an institution; however, these have potential to ignite such a problem. Consequently, management needs to watch carefully such indicators and exercise further scrutiny/analysis wherever it deems appropriate.

Examples of such internal indicators are:

(a) A negative trend or significantly increased risk in any area or product line;
(b) Concentrations in either assets or liabilities;
(c) Deterioration in quality of credit portfolio;
(d) A decline in earnings performance or projections;
(e) Rapid asset growth funded by volatile large deposit;
(f) A large size of off-balance sheet exposure; and

(g) Deteriorating third party evaluation about the institution.

4.1.6 Liquidity risk management involves not only analyzing institutions on and **off-balance sheet positions** to forecast future cash flows, but also how the funding requirement would be met. The latter involves identifying the funding market the institution has access to, understanding the nature of those markets, evaluating institutions current and future use of the market and monitor signs of confidence erosion.

4.1.7 The formality and sophistication of risk management processes established to manage liquidity risk shall reflect the nature, size and complexity of an institution's activities. Sound liquidity risk management employed in measuring, monitoring and controlling liquidity risk is critical to the viability of any institution.
Institutions shall have a thorough understanding of the factors that could give rise to liquidity risk and put in place mitigating controls.

4.2 Board and Senior Management Oversight

4.2.1 Board Oversight

4.2.1.1 The prerequisites of an effective liquidity risk management include an informed board, capable management, and staff having relevant expertise and efficient systems and procedures. It is primarily the duty of board of directors to understand the liquidity risk profile of the institution and the tools used to manage liquidity risk. The board shall approve the strategy and significant policies related to the management of liquidity. Generally speaking responsibilities of the board include:

(a) Providing guidance on the level of tolerance for liquidity risk;
(b) Appointing senior managers who have ability to manage liquidity risk and delegate to them the required authority to accomplish the job;
(c) Continuously monitoring the institution's performance and overall liquidity risk profile through reviewing various reports; and
(d) Ensuring that senior management takes the steps necessary to identify, measure, monitor and control liquidity risk.

4.2.2 Senior Management Oversight

4.2.2.1 Senior management is responsible for the implementation of sound policies and procedures keeping in view the strategic direction and risk appetite specified by the board. To effectively oversee the daily and long-term management of liquidity risk, senior managers shall:
(a) Develop and implement procedures and practices that translate the board's goals, objectives, and risk tolerances into operating standards that are well understood by institution personnel and consistent with the board's intent;
(b) Adhere to the lines of authority and responsibility that the board has approved for managing liquidity risk;

(c) Oversee the implementation and maintenance of management information and other systems that identify, measure, monitor, and control the institution's liquidity risk; and
(d) Establish effective internal controls over the liquidity risk management process and ensure that the same is communicated to all staff.

4.2.3 Liquidity Management Structure

4.2.3.1 The responsibility for managing the overall liquidity of the institution shall be delegated to a specific, identified group within the institution. This has been formed as an **Asset Liability Committee (ALCO)** comprised of senior management and/or the treasury functions.

4.2.3.2 Since liquidity management is a technical job requiring specialized knowledge and expertise, NCC Bank emphasizes on responsible officers not only have relevant expertise but also have a good understanding of the nature and level of risk assumed by the institution and the means to manage that risk.

4.2.3.3 NCC Bank assumes that there be close links between those individuals responsible for liquidity and those monitoring market conditions, as well as other individuals with access to critical information.

4.3 Policies, Procedures and Limits

4.3.1 Liquidity Risk Strategy

4.3.1.1 NCC Bank shall have an agreed liquidity strategy for the day-to-day management of liquidity. The strategy shall set out the general approach the institution will have to liquidity, including various quantitative and qualitative targets.

4.3.1.2 The liquidity risk strategy defined by board shall enunciate specific policies on particular aspects of liquidity risk management, such as:
(a) Composition of Assets and Liabilities: The strategy shall outline the mix of assets and liabilities to maintain liquidity. Liquidity risk management and asset/liability management shall be integrated to avoid high costs associated with having to rapidly reconfigure the asset liability profile from maximum profitability to increased liquidity.
(b) Diversification and Stability of Liabilities: A funding concentration exists when a single decision or a single factor has the potential to result in a significant and sudden withdrawal of funds. Since such a situation could lead to an increased risk, the board of directors and senior management of NCC Bank shall specify guidance relating to funding sources and ensure that the institution has diversified sources of funding day-to-day liquidity requirements. To comprehensively analyze the stability of liabilities/funding sources the NCC Bank shall identify:

(i) Liabilities that would stay with the institution under any circumstances;
(ii) Liabilities that run-off gradually if problems arise; and
(iii) Liabilities that run-off immediately at the first sign of problems.

(c) Managing Liquidity in different currencies: NCC Bank shall have a strategy on how to manage liquidity in different currencies.

(d) Dealing with liquidity disruptions: NCC Bank shall put in place a strategy on how to deal with the potential for both temporary and long-term liquidity disruptions. The strategy shall take into account the fact that in crisis situations access to interbank market could be difficult as well as costly.

4.3.2 Liquidity Policies

4.3.2.1 Board of directors shall ensure that there are adequate policies to govern liquidity risk management process.

4.3.2.2 To be effective the liquidity policy shall be communicated down the line throughout the institution.

4.3.3 Procedures and Limits

4.3.3.1 NCC Bank shall establish appropriate procedures, processes and limits to implement her liquidity policies. The manual shall be periodically reviewed and updated to take into account new activities, changes in risk management approaches and systems.

4.4 Risk Measurements, Monitoring and Management Information System

4.4.1 Besides the institutional structure discussed earlier, an effective liquidity risk management include systems to identify, measure, monitor and control its liquidity exposures. Management shall accurately identify and quantify the primary sources of an institution's liquidity risk in a timely manner. Management shall always be alert for new sources of liquidity risk at both the transaction and portfolio levels.

4.4.2 Key elements of an effective risk management process of NCC Bank shall include an efficient MIS to measure, monitor and control existing as well as future liquidity risks and reporting them to senior management and the board of directors.

4.4.3 As far as information system is concerned various units related to treasury activities and risk management function shall be integrated. Furthermore, management shall also ensure proper and timely flow of information among front office, back office and middle office in an integrated manner; however, their reporting lines shall be kept separate to ensure independence of these functions.

4.4.4 Periodic reviews shall be conducted to determine if the institution complies with its liquidity risk policies and procedures. Positions that exceed established limits shall receive prompt attention of appropriate management and shall be resolved according to the process described in approved policies.

Nevertheless periodic reviews of the liquidity management process shall also address any significant changes in the nature of instruments acquired, limits, and internal controls that have occurred since the last review.

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4.4.5 Measurement and Monitoring of Liquidity Risk

4.4.5.1 An important aspect of managing liquidity is making assumptions about future funding needs. Therefore NCC Bank shall also make assumptions about future liquidity needs, both in the very short-term and for longer time periods. For that reason, NCC Bank staff responsible for managing overall liquidity shall be aware of any information (such as an announcement of a decline in earnings or a downgrading by a rating agency) that could have an impact on market and public perceptions about the soundness of the institution.
4.4.5.2 An effective liquidity risk measurement and monitoring system not only helps in managing liquidity in times of crisis but also optimize return through efficient utilization of available funds.
Below are some commonly used liquidity measurement and monitoring techniques that shall be adopted by NCC Bank.

4.4.5.3. Contingency Funding Plans (CFP)

4.4.5.3.1. In order to develop comprehensive liquidity risk management framework, NCC Bank shall have in place plans to address stress scenarios. Such a plan commonly known as CFP is a set of policies and procedures that serves as a blue print for the bank to meet its funding needs in a timely manner and at a reasonable cost.

A CFP of NCC Bank shall formalize the objectives of liquidity management by ensuring:
(a) A reasonable amount of liquid assets are maintained;
(b) Measurement and projection of funding requirements during various scenarios; and
(c) Management of access to funding sources.

In aggregate, the CFP shall anticipate all of the institution's funding and liquidity needs by:
(a) Analyzing and making quantitative projections of all significant on and off balance sheet funds flows and their related effects;
(b) Matching potential cash flow sources and uses of funds; and
(c) Establishing indicators that alert management to a predetermined level of potential risks.
4.4.5.3.2 The CFP shall project the institution's funding position during both temporary and long-term liquidity changes, including those caused by liability erosion. The CFP shall explicitly identify, quantify, and rank all sources of funding by preference, such as:
(a) Reducing assets;
(b) Modification or increasing liability structure; and
(c) Using other alternatives for controlling balance sheet changes.

4.4.5.3.3 Maturity Ladder

4.4.5.3.3.1 A maturity ladder is a useful device to compare cash inflows and outflows both on a day-to-day basis and over a series of specified time periods. The number of time frames in such maturity ladder is of significant importance and up to some extent depends upon the nature of our liabilities or sources of funds.

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Further, such an analysis for distant periods will maximize the opportunity for NCC Bank to manage the gap well in advance before it crystallizes. NCC Bank shall use short time frames to measure near term exposures and longer time frames thereafter. NCC Bank may, as per the analysis, calculate daily gap for next one or two weeks, monthly gap for next six months or a year and quarterly thereafter. While making an estimate of cash flows, the following aspects shall be considered;

(a) The funding requirement arising out of off- balance sheet commitments also need to be accounted for;

(b) Many cash flows associated with various products are influenced by interest rates or customer behavior. NCC Bank shall take into account behavioral aspects instead of contractual maturity. In this respect past experiences shall also be taken into account.

(c) Some cash flows may be seasonal or cyclical; and

(d) Management shall also consider increases or decreases in liquidity that typically occur during various phases of an economic cycle.

4.4.5.3.3.2 While NCC Bank shall have liquidity sufficient enough to meet fluctuations in loans and deposits, as a safety measure bank shall maintain a margin of excess liquidity.

4.4.5.3.3 Liquidity Ratios and Limits

4.4.5.3.3.1 NCC Bank may use a variety of ratios to quantify liquidity. These ratios can also be used to create limits for liquidity management. Ratios shall always be used in conjunction with more qualitative information about borrowing capacity, such as the likelihood of increased requests for early withdrawals, decreases in credit lines, decreases in transaction size, or shortening of term funds available to the institution. To the extent that any asset-liability management decisions are based on financial ratios.

Examples of ratios and limits that can be used are:

(a) Liability Concentration Ratios and Limits: Liability concentration ratios and limits help to prevent bank from relying on too few providers or funding sources. Limits are usually expressed as a percentage of deposits or liabilities; and

(b) Other Balance Sheet Ratios: Total loans/total deposits, liquid assets/demand liabilities, borrowed funds/total assets, etc are examples of common ratios used by bank to monitor current and potential funding levels.

4.4.5.3.3.2 In addition to the statutory limits of liquid assets requirement and cash reserve requirement, the board and senior management shall establish limits on the nature and amount of liquidity risk NCC Bank is willing to assume. The limits shall be periodically reviewed and adjusted when conditions or risk tolerances change. When limiting risk exposure, senior management shall consider the nature of the institution's strategies and activities, its past performance, the level of earnings, capital available to absorb potential losses, and the board's tolerance for risk. Balance sheet complexity will determine how much and what types of limits NCC Bank shall establish over daily and long term horizons.

4.4.6 Foreign Currency Liquidity Management

4.4.6.1 NCC Bank shall have a measurement, monitoring and control system for its liquidity positions in the major currencies in which it is active. In addition to assessing its aggregate foreign currency liquidity needs and the acceptable mismatch in combination with its domestic currency commitments, NCC Bank shall also undertake separate analysis of its strategy for each currency individually.

4.4.7 Management Information System (MIS)

4.4.7.1 An effective management information system (MIS) is essential for sound liquidity management decisions. In NCC Bank Information shall be readily available for day-to-day liquidity management and risk control, as well as during times of stress. Data shall be appropriately consolidated, comprehensive yet succinct, focused and available in a timely manner. Ideally, the regular reports NCC Bank generates will enable it to monitor liquidity during a crisis; such reports shall be prepared more frequently under a crisis situation. Managers shall keep crisis monitoring in mind when developing liquidity MIS. There is usually a trade-off between accuracy and timeliness. Liquidity problems can arise very quickly, and effective liquidity management may require daily internal reporting.

4.4.7.2 The management information system shall be used to check for compliance with the bank's established policies, procedures and limits. Reporting of risk measures shall be done on a timely basis and compare current liquidity exposures with any set limits. The information system shall also enable management to evaluate the level of trends in the NCC Bank's aggregate liquidity exposure.

4.4.7.3 NCC Bank management shall develop systems that can capture significant information. The content and format of reports depend on the bank's liquidity management practices, risks, and other characteristics. Routine reports may include a list of large funds providers, a cash flow or funding gap report, a funding maturity schedule, and a limit monitoring and exception report. Management shall regularly consider how best to summarize complex or detailed issues for senior management or the board. Besides, other types of information are equally important for managing day-to-day activities therefore NCC Bank's inherent liquidity risk profile shall include:

(a) Asset quality and its trends;
(b) Earnings projections;
(c) The institution's general reputation in the market and the condition of the market itself;
(d) The type and composition of the overall balance sheet structure; and
(e) The type of new deposits being obtained, as well as its source, maturity, and price.

4.4.8 Internal Controls

4.4.8.1 NCC Bank shall have adequate internal controls to ensure the integrity of its liquidity risk management process. These internal controls shall be an integral part of the NCC Bank's overall system of internal control. It shall promote effective and efficient operations, reliable financial and regulatory reporting, and compliance with relevant laws, regulations and institutional policies. NCC Bank's internal control system for liquidity risk shall include:

(a) A strong control environment;
(b) An adequate process for identifying and evaluating liquidity risk;
(c) The establishment of control activities such as policies and procedures;
(d) Adequate information systems; and,
(e) Continual review of adherence to established policies and procedures.

4.4.8.2 With regard to control policies and procedures, attention shall be placed to appropriate approval processes, limits, reviews and other mechanisms designed to provide a reasonable assurance that NCC Bank's liquidity risk management objectives are fulfilled. Many attributes of a sound risk management process, including risk measurement, monitoring and control functions, shall be the key aspects of an effective system of internal control of NCC Bank. NCC Bank shall ensure that all aspects of the internal control system are effective, including those aspects that are not directly part of the risk management process.

4.4.8.3 In addition, an important element of NCC Bank's internal control system over its liquidity risk management process shall be regular evaluation and review. This will include ensuring that personnel are following established policies and procedures, as well as ensuring that the procedures that were established actually accomplish the intended objectives of NCC Bank. Such reviews and evaluations shall also address any significant change that may impact on the effectiveness of controls. The board, periodically, shall ensure that all such reviews and evaluations are conducted regularly by individuals who are independent of the function being reviewed. When revisions or enhancements to internal controls are warranted, there shall be a mechanism in place to ensure that these are implemented in a timely manner.

5. Managing Operational Risk

5.1 Overview

5.1.1 Globalization of financial services, together with increased financial innovation, are making the activities of financial institutions and their risk profiles *(i.e. the level of risk across an institution's activities and/or risk categories)* more complex. Due to these developments, operational risk is becoming more pronounced.

Examples of these developments include:
(a) The increased use of highly automated technology which has the potential to transform risks from manual processing errors to system failure risks, as greater reliance is placed on automated systems;
(b) Growth of e-banking brings with it potential risks (e.g. internal and external fraud and system security issues) that are not yet fully understood;
(c) Acquisitions, mergers, and consolidations bringing the risk of system incompatibility and loss of staff morale;
(d) Engagement in risk mitigation techniques (e.g. collateral and derivatives) by institutions to optimize their exposure to market risk and credit risk, but which in turn may produce other forms of risk (e.g. legal risk); and
(e) Growing use of outsourcing arrangements and the participation in clearing and settlement systems, which can mitigate some risks but can also present other significant risks to institutions.

5.1.2 The diverse set of risks resulting from the above developments can be grouped under the heading of 'operational risk', which is defined as the risk of loss resulting from inadequate or failed internal processes, people and systems or from external events.

5.1.3 Operational risk is a term that has a variety of meanings within the banking Industry. Whatever the exact definition, a clear understanding by financial institutions of what is meant by operational risk is critical to the effective management and control of this risk category. It is also important that the definition considers the full range of material operational risks facing the institution and captures the most significant causes of severe operational losses.

5.1.4 Operational risk may arise from a number of sources as follows:
(a) People: Events that may result into substantial loss include frauds like intentional misreporting of positions, employee theft, insider dealings, robbery, forgery, cheque kiting, and damage from computer hacking. Some of the contributing factors are as follows:
(i) Lack of adequate skills and knowledge;
(ii) Inadequate training and development;
(iii) Improperly aligned compensation schemes and incentives;
(iv)Lack of understanding of performance standards or expectations; and
(v) Inadequate human resource control (including supervision and segregation of incompatible duties)

(b) Internal processes and systems: Business disruption and system failures such as hardware and software failures, telecommunication problems, and utility outages, data entry errors, collateral management failures, unapproved access
given to client accounts, non-client counterparty non-performance, and vendor disputes are examples of operational risk resulting from internal processes and systems. Some of the contributing factors are as follows:

(i) Damage to physical assets;
(ii) Inadequate or obsolete technology;
(iii) Lack of proper documentation;
(iv) Lack of or inadequate policies, procedures and controls;
(v) Poor management information system; and
(vi) Lack of or inadequate contingent plans.

(c) External events: Terrorism, vandalism, earthquakes, fires and floods are examples of events that may cause operational risk in a financial institution.
5.1.5 It is clear that operational risk differs from other risks in that it is typically not directly taken in return for an expected reward, but exists in the natural course of corporate activity, and that this affects the risk management process. At the same time, failure to properly manage operational risk can result in a misstatement of an institution's risk profile and expose the institution to significant losses.

5.2 Board and Senior Management Oversight

5.2.1 Failure to understand and manage operational risk, which is present in virtually all transactions and activities, may greatly increase the likelihood that some risks will go unrecognized and uncontrolled. NCC Bank's Board and senior management are responsible for creating an organizational culture that places high priority on effective operational risk management and adherence to sound operating controls.

5.2.2 Board Oversight

5.2.2.1 Board of directors of NCC Bank shall have ultimate responsibility for the level of operational risk taken by this bank. The board of directors shall approve the implementation of an institution-wide framework to explicitly manage operational risk as a distinct risk to the bank's safety and soundness. The board shall provide senior management with clear guidance and direction regarding the principles underlying the framework and shall approve the corresponding policies developed by senior management from time to time.

5.2.2.2 NCC Bank's operational risk framework shall be based on an appropriate definition of operational risk, which clearly articulates what constitutes operational risk in the bank. The framework shall also cover the bank's tolerance for operational risk, as specified through the policies for managing this risk and the bank's prioritization of operational risk management activities, including the extent of, and manner in which, operational risk is transferred outside the bank. It shall also include policies outlining the bank's approach to identifying, assessing, monitoring and controlling/mitigating the risk. The degree of formality and sophistication of the bank's operational risk management framework shall be commensurate with the bank's risk profile.

5.2.2.3 The board shall be responsible for establishing a management structure capable of implementing the bank's operational risk management framework. 5.2.2.4 The board shall review the framework regularly to ensure that the bank is managing the operational risks arising from external market changes and other environmental factors, as well as those operational risks associated with new products, activities or systems. If necessary, the board shall ensure that the operational risk management framework is revised in light of this analysis, so that material operational risks are captured within the framework.

5.2.3 Senior Management Oversight

5.2.3.1 Management shall translate the operational risk management framework established by the board of directors into specific policies, processes and procedures that will be implemented and verified within the different business units/departments. Senior management shall clearly assign authority, responsibility and reporting relationships to encourage and maintain this accountability and ensure that the necessary resources are available to manage operational risk effectively.

5.2.3.2 Senior management shall ensure that bank activities are conducted by qualified staff with the necessary experience, technical capabilities and access to resources, and that staff responsible for monitoring and enforcing compliance with the bank's risk policy have authority and are independent from the units they oversee.

5.2.3.3 Particular attention shall be given to the quality of documentation controls and to transaction-handling practices. Policies, processes and procedures related to advanced technologies supporting high transactions volumes, in particular, shall be well documented and disseminated to all relevant personnel/department heads.

5.3 Policies, Procedures and Limits

5.3.1 NCC Bank shall put in place an operational risk management policy. The policy s, at minimum, shall include:

(a) The strategy given by the board of the institution;
(b) The systems and procedures to institute effective operational risk management framework; and
(c) The structure of **operational risk management function** and the roles and responsibilities of individuals involved.

5.3.2 The policy shall establish a process to ensure that any new or changed activity, such as new products or systems conversions, will be evaluated for operational risk prior to its implementation. It shall be approved by the board and documented. The policy shall be regularly reviewed and updated, to ensure it continues to reflect the environment within which the institution operates.

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5.3.4 Business Continuity and Contingency Plan

5.3.4.1 For reasons that may be beyond a financial institution's control, a severe event may result in the inability of the institution to fulfill some or all of its business obligations, particularly where the institution's physical, telecommunication, or information technology infrastructures have been damaged or made inaccessible. This can, in turn, result in significant financial losses to the institution, as well as broader disruptions to the financial system through channels such as the payments system. This requires the Bank establish disaster recovery and business continuity plans that take into account different types of plausible scenarios to which the bank may be vulnerable, commensurate with the size and complexity of the institution's operations.

5.3.4.2 Bank shall identify critical business processes, including those where there is dependence on external vendors or other third parties, for which rapid resumption of service would be most essential. For these processes, institutions shall identify alternative mechanisms for resuming service in the event of an outage. Particular attention shall be paid to the ability to restore electronic or physical records that are necessary for business resumption.

5.3.4.3 Bank shall periodically review their disaster recovery and business continuity plans so that they are consistent with their current operations and business strategies.

5.4 Risk Assessment, Monitoring and Reporting System

5.4.1 Risk identification is paramount for the subsequent development of a viable operational risk monitoring and control system. Effective risk identification considers both internal factors (such as the bank's structure, the nature of the bank's activities, the quality of the bank's human resources, organizational changes and employee turnover) and external factors (such as changes in the industry and technological advances) that could adversely affect the achievement of the bank's objectives.

5.4.2 In addition to identifying the most potentially adverse risks, bank shall assess its vulnerability to these risks. Effective risk assessment allows the bank to better understand its risk profile and most effectively target risk management resources.

5.4.3 Amongst the possible tools that shall be used by NCC Bank for identifying and assessing operational risk are:

(a) Self Risk Assessment: Bank shall assesse its operations and activities against a menu of potential operational risk vulnerabilities. This process is internally driven and often incorporates checklists and/or workshops to identify the strengths and weaknesses of the operational risk environment.

(b) Risk Mapping: in this process, various business units, organizational functions or process flows are mapped by risk type. This exercise can reveal areas of weakness and help prioritize subsequent management actions.

(c) Risk Indicators: risk indicators are statistics and/or metrics, often financial, which can provide insight into bank's risk position. These indicators shall be reviewed on a periodic basis (such as monthly or quarterly) to alert bank to changes that may be indicative of risk concerns. Such

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indicators may include the number of failed transactions, staff turnover rates and the frequency and/or severity of errors and omissions. Threshold/limits could be tied to these indicators such that when exceeded, could alert management on areas of potential problems.

(d) Information: The use of data on Bank's historical loss experience could provide meaningful information for assessing the bank's exposure to operational risk and developing a policy to mitigate/control the risk.

5.4.4 Depending on the scale and nature of the activity, bank shall understand the potential impact on their operations and their customers of any potential deficiencies in services provided by vendors and other third-party or intra-group service providers, including both operational breakdowns and the potential business failure or default of the external parties. The board and management shall ensure that the expectations and obligations of each party are clearly defined, understood and enforceable.

5.4.5 Control activities are designed to address the operational risks that a Bank has identified. For all material operational risks that have been identified, the bank shall decide whether to use appropriate procedures to control and/or mitigate the risks, or bear the risks. For those risks that cannot be controlled, the bank shall decide whether to accept these risks, reduce the level of business activity involved, or withdraw from this activity completely.

5.4.6 However, bank shall view risk mitigation tools as complementary to, rather than a replacement for, thorough internal operational risk control. Having mechanisms in place to quickly recognize and rectify legitimate operational risk errors can greatly reduce exposures. Careful consideration therefore shall also be given to the extent to which risk mitigation tools such as insurance truly reduce risk, or transfer the risk to another business sector or area, or even create a new risk e.g. legal or counterparty risk.

5.4.7 Investments in appropriate processing technology and information technology security are also important for risk mitigation. However bank shall be aware that increased automation could transform high-frequency, low-severity losses into low-frequency, high-severity losses. The latter may be associated with loss or extended disruption of services caused by internal factors or by factors beyond the bank's immediate control e.g. external events. Such problems may cause serious difficulties for Banks and could jeopardize an bank's ability to conduct key business activities. NCC Bank shall therefore establish disaster recovery and business continuity plans that address this risk.

5.4.8 In addition to monitoring operational loss events, bank shall identify appropriate indicators that provide early warning of an increased risk of future losses. Such indicators (often referred to as key risk indicators or early warning indicators) shall be forward-looking and could reflect potential sources of operational risk such as rapid growth, the introduction of new products, employee turnover, transaction breaks, system downtime, and so on. When thresholds are directly linked to these indicators an effective monitoring process can help identify key material risks in a transparent manner and enable the institution to act upon these risks appropriately.

5.4.9 The frequency of monitoring shall reflect the risks involved and the frequency and nature of changes in the operating environment. **Monitoring shall** be an integrated part of the bank's activities. The results of these monitoring activities shall be included in regular management and board reports, as shall compliance reviews performed by the internal audit and risk management functions.

5.4.10 Senior management shall receive regular reports from appropriate areas such as business units, the operational risk management office and internal audit. The operational risk reports shall contain internal financial, operational, and compliance data, as well as external market information about events and conditions that are relevant to decision making.

5.4.12 In general, the board of directors shall receive sufficient higher level information to enable them to understand the bank's overall operational risk profile and focus on the material and strategic implications for the business.

5.5 Internal Controls

5.5.1 Internal control system shall be established to ensure adequacy of the risk management framework and compliance with a documented set of internal policies concerning the risk management system. Principle elements of this shall include, for example:

(a) Top-level reviews of the bank's progress towards the stated objectives;

(b) Checking for compliance with management controls;

(c) Policies, processes and procedures concerning the review, treatment and resolution of non-compliance issues; and

(d) A system of documented approvals and authorizations to ensure accountability to the appropriate level of management.

5.5.2 Although a framework of formal, written policies and procedures is critical, it needs to be reinforced through a strong control culture that promotes sound risk management practices. Therefore the Board and senior management shall be responsible for establishing a strong internal control culture in which control activities are an integral part of the regular activities of the bank.

5.5.3 Operational risk can be more pronounced where Bank engages in new activities or develop new products (particularly where these activities or products are not consistent with the Bank's core business strategies), enter unfamiliar markets, and/or engage in businesses that are geographically distant from the head office. Therefore bank shall ensure that special attention is paid to internal control activities including review of policies and procedures to incorporate such conditions.

5.5.4 Bank shall have in place adequate internal audit coverage to verify that operating policies and procedures have been implemented effectively. The board (either directly or indirectly through its audit committee) shall ensure that the scope and frequency of the audit programme is appropriate to the risk exposures. Audit shall periodically validate that the bank's operational risk management framework is being implemented effectively across the bank.

5.5.5 To the extent that the audit function is involved in oversight of the operational risk management framework, the board shall ensure that the independence of the audit function is maintained. This independence may be compromised if the audit function is directly involved in the operational risk management process. The audit function shall provide valuable input to those responsible for operational risk management, but shall not itself have direct operational risk management responsibilities.

5.5.6 An effective internal control system also requires existence of appropriate segregation of duties and that personnel are not assigned responsibilities which may create a conflict of interest. Assigning such conflicting duties to individuals, or a team, may enable them to conceal losses, errors or inappropriate actions. Therefore, areas of potential conflict of interest shall be identified, minimized, and subjected to careful independent monitoring and review.

5.5.7 In addition to segregation of duties, institutions shall ensure that other internal practices shall be in place as appropriate to control operational risk. Examples of these include:

(a) Close monitoring of adherence to assigned risk limits or thresholds;

(b) Maintaining safeguards for access to, and use of, bank's assets and records;

(c) Ensuring that staffs have appropriate expertise and training;

(d) Identifying business lines or products where returns appear to be out of line with reasonable expectations e.g. where a supposedly low risk, low margin investment activity generates high returns that could call into question whether such returns have been achieved as a result of an internal control breach; and

(e) Regular verification and reconciliation of transactions and accounts.