



LIQUIDITY RISK MANAGEMENT MODULE



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MODULE	LM: Liquidity Risk Management
CHAPTER	LM-A: Introduction

LM-A.1 Purpose

Executive Summary

LM-A.1.1 This Module sets out the CBB's requirements with regards to management of liquidity risk by banks.

LM-A.1.2 Liquidity is the ability of a bank to fund increases in assets and meet obligations as they fall due, without incurring unacceptable losses. Virtually every financial transaction or commitment has implications for a bank's liquidity. Effective liquidity risk management helps ensure a bank's ability to meet cash flow obligations. Liquidity risk management is of paramount importance because a liquidity shortfall at a single institution can have system-wide repercussions.

LM-A.1.3 This Module outlines a set of principles covering the following topics:

- (a) Governance of liquidity risk management;
- (b) Liquidity risk identification, measurement, monitoring and control;
- (c) Foreign currency liquidity management;
- (d) Funding diversification and market access;
- (e) Maintenance of liquidity cushion;
- (f) Intragroup liquidity management;
- (g) Intraday liquidity risk management;
- (h) Collateral management;
- (i) Stress testing and scenario analysis; and
- (j) Contingency Funding Plan.

Legal Basis

LM-A.1.4 This Module contains the Central Bank of Bahrain's ('CBB's') Directive (as amended from time-to-time) on the liquidity risk management requirements for conventional banks, and is issued under the powers available to the CBB under Article 38 of the CBB and Financial Institutions Law 2006 ('CBB Law'). The Directive in this Module is applicable to all conventional banks.

LM-A.1.5 For an explanation of the CBB's rule-making powers and different regulatory instruments, see UG module (Section UG-1.1).

LM-A.1.6 The requirements included in chapters LM-1 to LM-11 must be fully met by 30th June 2019, and the requirements in Chapter LM-12 must fully be met by 31st December 2019.

LM-A.1.7 Branches of foreign bank licensees must apply the requirements under Chapters LM-1 to LM-10 of this Module to the extent appropriate. If branches of foreign bank licensees do not have established policies, procedures, processes and systems at a branch level, they must satisfy the CBB that there are equivalent arrangements at their head office or regional office.



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CHAPTER	LM-A:	Introduction

LM-A.2 Module History

LM-A.2.1 This Module was issued in August 2018 as part of Volume One of the CBB Rulebook. Any material changes that have subsequently been made to this Module are annotated with the calendar quarter date in which the change was made. Chapter UG-3 provides further details on Rulebook maintenance and version control.

LM-A.2.2 The changes made to this Module are detailed in the table below:

Summary of Changes

Module Ref.	Change Date	Description of Changes
LM-11.1.9	07/2019	Added reference to BR regarding LCR reporting.
LM-A.1.7	10/2019	Added a new Paragraph on branches of foreign banks.
LM-12.4 – Table 1	01/2020	Amended table on components of ASF Category.
LM-12.5.1 – LM-12.5.3	01/2020	Amended Section on General Disclosure Requirements.



MODULE	LM:	Liquidity Risk Management
CHAPTER	LM-1:	Governance of Liquidity Risk Management

LM-1.1 Liquidity Risk Management Framework

LM-1.1.1

Banks must establish a robust liquidity risk management framework, which includes an asset and liability management committee (ALCO). The framework must describe the role of ALCO and its relationship with the risk management function, and articulate the delineation of powers, responsibilities and reporting lines for different departments and levels of management, so that the liquidity risk management strategy, policies and procedures are implemented effectively.

LM-1.1.2

A bank's liquidity risk management structure must be commensurate with the nature, scale and complexity of the bank's business activities.



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CHAPTER	LM-1: Governance of Liquidity Risk Management

LM-1.2 Responsibilities of Board of Directors

LM-1.2.1 The Board must be ultimately responsible for determining the types and magnitude of liquidity risk that the bank can tolerate according to the liquidity risk management strategy, and for ensuring that there is an appropriate organisation structure for managing liquidity risk.

Liquidity Risk Tolerance

LM-1.2.2 The Board of Directors must articulate the bank's liquidity risk appetite and tolerance that is appropriate for its business strategy and ensure that it is communicated to all levels of management.

LM-1.2.3 The risk tolerance level must be adequately documented and articulated, preferably with a combination of qualitative and quantitative factors¹.

LM-1.2.4 The risk tolerance must be set in a way that:

- (a) Defines clearly the level of liquidity risk that the bank is willing to assume, under normal and stressed conditions²;
- (b) Can be easily communicated, understood and monitored by relevant personnel of the bank involved in the liquidity risk management process; and
- (c) Reflects the bank's assessment of the sources of liquidity risk it faces, as well as the trade-off between risks and profits.

LM-1.2.5 Banks must also constantly monitor its risk profile for adherence to the risk appetite and tolerance, ensuring that any significant changes in market circumstances or the validity of assumptions used are accounted for.

¹ For example, the specification of a minimum survival period under a range of sufficiently severe, but plausible, stress scenarios. Other quantitative measures may, for example, relate to controls over areas such as liquid asset holdings, maturity or currency mismatches, concentration of funding and contingent liquidity obligations, and other limits on liquidity indicators used for controlling different aspects of liquidity risk.

² For example, a bank may quantify its liquidity risk tolerance in terms of the level of unmitigated funding liquidity risk the bank decides to take under normal and stressed business conditions.



MODULE	LM: Liquidity Risk Management
CHAPTER	LM-1: Governance of Liquidity Risk Management

LM-1.2 Responsibilities of Board of Directors (continued)

Liquidity Risk Management Structure Oversight

LM-1.2.6

The Board of Directors must ensure that any authority that is delegated to the bank's ALCO to carry out some of its responsibilities for liquidity risk management is adequately executed. However, such delegation of authority does not absolve the Board and its members from their risk management responsibilities and the need to oversee the work of any such committee(s) exercising delegated authority.

LM-1.2.7

For the ALCO, or any similar committee, to perform a liquidity risk governance function on behalf of the Board effectively, its membership should be extended to comprise personnel from the treasury function, the risk management function, the financial control function and other principal business areas that affect the bank's liquidity risk profile. It should also be supported by competent risk managers with a dedicated responsibility for liquidity risk management.

LM-1.2.8

In the case of a local banking group with overseas operations (whether in the form of a branch or subsidiary), the Board must determine the appropriate liquidity risk management framework for overseeing all such overseas operations, taking into account the differences in their liquidity risk characteristics and the transferability of funds between them in the light of any potential legal, regulatory or operational restrictions.

LM-1.2.9

In the case of foreign bank branches in Bahrain, the head office of the bank may, where appropriate, delegate certain tasks for liquidity risk management to the local branch management, provided that adequate oversight is exercised by the bank's Board (or a delegated risk governance function at the head office or regional level) in approving the branch policies and monitoring the branch's compliance with such policies.

LM-1.2.10

The Board of Directors is also responsible for:

- (a) Ensuring the competence of senior management and appropriate personnel in measuring, monitoring and controlling liquidity risk in terms of expertise, systems and resources, and in taking appropriate and prompt remedial actions to address concerns when necessary;



MODULE	LM:	Liquidity Risk Management
CHAPTER	LM-1:	Governance of Liquidity Risk Management

LM-1.2 Responsibilities of Board of Directors (continued)

- (b) Reviewing and approving, on an annual basis at least, the liquidity risk strategy and other significant liquidity risk management policies and procedures (e.g. contingency funding planning and liquidity stress testing framework), and ensuring that senior management translates the Board's decisions into clear guidance and operating processes (e.g. in the form of controls) for effective implementation;
- (c) Reviewing regular reports and stress testing results on the bank's liquidity positions and becoming fully aware of the bank's performance and overall liquidity risk profile; and
- (d) Understanding, supported by senior management of the bank, how other risks (e.g. credit, market, operational and reputation risks) interact with liquidity risk and affect the overall Liquidity Risk Management Strategy, ensuring that the interaction of these risks is considered and taken into account by the relevant Board-level committees and Risk Management function within the bank.



MODULE	LM: Liquidity Risk Management
CHAPTER	LM-1: Governance of Liquidity Risk Management

LM-1.3 Responsibilities of Senior Management

Liquidity Risk Management, Strategies and Procedures

LM-1.3.1

Senior management must be responsible for developing and implementing the bank's liquidity risk management strategy, policies and procedures, properly documented in the form of a policy statement, in accordance with the risk tolerance established by the Board. The policy statement must be approved by the Board.

LM-1.3.2

A bank must develop its liquidity policy statement taking into account of the nature of its business activities and liquidity needs under both normal and stressed conditions. A bank's liquidity policy statement must cover, at a minimum, the following key aspects:

- (a) Liquidity risk appetite and tolerance established by the Board;
- (b) Liquidity risk management strategy, including the goals and objectives underlying the strategy; the composition and maturity of assets and liabilities; the level of diversity and stability of funding targeted by the bank; the approach to managing liquidity in different currencies, across borders, and across business lines, products and legal entities, where applicable, taking into consideration the home and host regulatory requirements in the jurisdictions in which the bank operates; the approach to intraday liquidity management; the assumptions on the liquidity and marketability of assets;
- (c) Liquidity risk management responsibilities, with clearly defined lines of authority, responsibilities and reporting structure;
- (d) Liquidity risk management systems and tools for measuring, monitoring, controlling and reporting liquidity risk, including the setting of various liquidity limits and ratios; the framework for conducting cash-flow projections and liquidity stress testing, including the techniques, scenarios and assumptions used; and the management reporting system for liquidity risk; and
- (e) Contingency funding plan, which must describe the approaches and strategies for dealing with various types of liquidity stress.



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LM-1.3 Responsibilities of Senior Management (continued)

Allocation of Liquidity Costs, Benefits and Risks

LM-1.3.3

Senior management must appropriately incorporate liquidity costs, benefits and risks in the internal pricing, performance measurement and new product approval processes, thereby aligning the risk-taking incentives of individual business lines with the liquidity risk tolerance established by the Board.

LM-1.3.4

Senior management must ensure that the liquidity pricing framework involves the charging of a liquidity premium to activities that consume liquidity (e.g. granting new advances) and the assignment of a liquidity value to those that generate liquidity (e.g. obtaining new deposits), based on a predetermined mechanism for attributing liquidity costs, benefits and risks to these activities. The following considerations, at a minimum, must be factored into the framework:

- (a) The framework must reflect the level of liquidity risk inherent in a business activity;
- (b) The framework must cover all significant business activities, including those involving the creation of contingent exposures which may not immediately have a direct balance sheet impact;
- (c) The framework must incorporate the measurement and allocation process factors related to the anticipated holding periods of assets and liabilities, their market liquidity risk characteristics and any other relevant factors, including the benefits from having access to relatively stable sources of funding, such as some types of retail deposits;
- (d) The framework must take account of both contractual maturity, as well as behavioural patterns in estimating the length of tenor of any relevant asset or liability item for the determination of the liquidity value or premium to be allocated;
- (e) The framework must provide an explicit and transparent process, at the line management level for quantifying and attributing liquidity costs, benefits and risks; and
- (f) The framework must include consideration on how liquidity would be affected under stressed conditions.



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CHAPTER	LM-1: Governance of Liquidity Risk Management

LM-1.3 Responsibilities of Senior Management (continued)

LM-1.3.5

Senior management must review periodically the liquidity pricing framework, taking into account changes in business and financial market conditions.

LM-1.3.6

Senior management is also responsible for:

- (a) Communicating the liquidity risk management strategy, key policies and procedures, liquidity pricing framework and liquidity risk management structure to all relevant business units and personnel throughout the organisation, that conduct activities with an impact on liquidity;
- (b) Ensuring that there are close communication links between treasury, liquidity risk managers and other business and risk managers having access to critical information that affects liquidity;
- (c) Ensuring that liquidity risk managers have sufficient authority and independence from risk-taking units to discharge their function effectively;
- (d) Ensuring that adequate internal controls are executed by independent personnel with the necessary skills and competence to safeguard the integrity of the bank's liquidity risk management process;
- (e) Closely monitoring the current trends and potential market developments that may require timely changes or updates to the liquidity risk management strategy, systems and internal controls to address any significant challenges;
- (f) Defining the specific process for handling exceptions to policies and limits, including the procedures for escalation, reporting and consideration of follow-up actions;
- (g) Ensuring the effectiveness of stress tests and contingency funding plans, as well as the appropriateness of the liquidity cushion maintained; and
- (h) Informing the Board of any new and emerging liquidity concerns, through regular and ad hoc submission of risk management reports and risk analysis, in a timely manner.



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CHAPTER	LM-1:	Governance of Liquidity Risk Management

LM-1.3 Responsibilities of Senior Management (continued)

Independent Reviews

LM-1.3.7

Banks must ensure that their liquidity risk management framework is subject to independent review by a third party, other than the bank's external auditors, upon first implementation of the requirements in this Module and, subsequently, when there are material changes in the Rulebook requirements or to the business conducted by the bank and/or its risk profile.

LM-1.3.8

Such reviews must cover, but not limited to, the following areas:

- (a) The adequacy of internal systems and procedures for identifying, measuring, monitoring and mitigating liquidity risk;
- (b) The appropriateness of various internal limits on liquidity metrics for controlling liquidity risk;
- (c) The suitability of the underlying scenarios and assumptions for conducting cash flow analysis;
- (d) The integrity and usefulness of management information reports on liquidity risk; and
- (e) The adherence to established liquidity risk strategy, policies and procedures.

LM-1.3.9

Any weaknesses or problems identified in the review process must be addressed and resolved by senior management and reported to the Board in a timely and effective manner.



MODULE	LM:	Liquidity Risk Management
CHAPTER	LM-2:	Liquidity Risk Identification, Measurement, Monitoring and Control

LM-2.1 Liquidity Metrics and Measurement Tools

LM-2.1.1

A bank should have a sound process for identifying, measuring, monitoring and controlling liquidity risk. This process should include a robust framework for comprehensively projecting cash flows arising from assets, liabilities and off-balance sheet items over an appropriate set of time horizons.

LM-2.1.2

Banks must use a range of liquidity metrics for identifying, measuring and analysing liquidity risk. These metrics must enable the management to understand its day-to-day liquidity positions and structural liquidity mismatches, as well as its resilience under stressed conditions. In particular, these metrics must perform the functions of:

- (a) Ensuring compliance with statutory liquidity requirements;
- (b) Projecting the bank's future cash flows and identifying potential funding gaps and mismatches under both normal and stressed conditions over different time horizons;
- (c) Evaluating potential liquidity risks inherent in the bank's balance sheet structure and business activities, including the liquidity risks that may arise from any embedded options and other contingent exposures or events;
- (d) Assessing the bank's capability to generate funding, as well as its vulnerability to, or concentration on, any major source of funding;
- (e) Identifying the bank's vulnerabilities to foreign currency movements; and
- (f) Identifying market related information.

LM-2.1.3

The above must take into account all assets, liabilities, off – balance sheet ('OBS') positions and activities of the bank, across business lines, legal entities and overseas operations in a timely and effective manner.



MODULE	LM: Liquidity Risk Management
CHAPTER	LM-2: Liquidity Risk Identification, Measurement, Monitoring and Control

LM-2.1 Liquidity Metrics and Measurement Tools (continued)

LM-2.1.4

Banks must use metrics and tools that are appropriate for their business mix, complexity and risk profile. In addition to liquidity coverage ratio ('LCR') and net stable funding ratio ('NSFR'), the following liquidity indicators must be monitored:

- (a) Maturity mismatch analysis, based on contractual maturities, as well as behavioural assumptions of cash inflows and outflows. Such metrics provide insight into the extent to which a bank engages in maturity transformation and identify potential funding needs that may need to be bridged;
- (b) Information on the level of concentration of funding from major counterparties (including retail and wholesale fund providers);
- (c) Major funding instruments (e.g. by issuing various types of securities);
- (d) Information on the size, composition and characteristics of unencumbered assets included in a bank's liquidity cushion for assessing the bank's potential capacity to obtain liquidity, through sale or secured borrowing, at short notice from private markets or CBB in times of stress; and
- (e) LCR in individual currencies.

LM-2.1.5 In addition to the above, banks should adopt other metrics, as considered prudent or necessary to supplement their liquidity risk management, such as:

- (a) Medium-term funding ratio³, stable or core deposit ratio, or any similar ratio that reflects the stability of a bank's funding;
- (b) Loan-to-deposit ratio, or any similar ratio that reflects the extent to which a major category of asset is funded by a major category of funding⁴; and
- (c) Metrics tracking intragroup lending and borrowing.

³ A medium-term funding ratio is a ratio of liabilities to assets, both with a contractual maturity of, say, more than 1 year. This ratio focuses on the medium-term liquidity profile of a bank and is intended to highlight the extent to which medium-term assets are being financed by the roll-over of short-term liabilities.

⁴ A bank, depending on its business profile, may decide to adopt different breakdowns of the loan-to-deposit ratio such as, by way of example, loan-to-retail customers/retail customer deposits; loan to corporate customers/corporate customer deposits; loan/retail (or corporate) customer deposits. To complement the analysis provided by these indicators, the bank may consider assessing other funding risk indicators such as customer deposits/total liabilities or deposits from credit institutions/total liabilities to provide a notion of the bank's funding profile and take a closer look at the share of wholesale funding. Depending on its foreign activities and the related relevance, the bank may decide to assess the share of deposits in non-domestic markets.



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LM-2.1 Liquidity Metrics and Measurement Tools (continued)

LM-2.1.6	Banks must regularly analyse information or trends revealed from liquidity metrics (e.g. a persistent decline in stable deposits) to identify any material liquidity concerns.
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CHAPTER	LM-2:	Liquidity Risk Identification, Measurement, Monitoring and Control

LM-2.2 Risk Control Limits

LM-2.2.1

Banks must, where appropriate, set limits for the liquidity metrics they employ in monitoring and controlling their liquidity risk exposures. The limits set must be relevant to a bank's business activities and consistent with its liquidity risk tolerance.

LM-2.2.2

The limits must be used for managing day-to-day liquidity within and across business lines and entities. A typical example is the setting of maturity mismatch limits over different time horizons in order to ensure that a bank can continue to operate in a period of market stress.

LM-2.2.3

Banks must ensure compliance with the established limits, and define the procedures for escalation and reporting of exceptions or breaches which can be early indicators of excessive risk or inadequate liquidity risk management. The limits set, and the corresponding escalation and reporting procedures, must be regularly reviewed.

LM-2.2.4

Banks must consider setting stricter internal limits on intrabank funding denominated in foreign currencies where the convertibility and transferability of such funding is not certain, particularly in stressed situations.



MODULE	LM: Liquidity Risk Management
CHAPTER	LM-2: Liquidity Risk Identification, Measurement, Monitoring and Control

LM-2.3 Early Warning Indicators

LM-2.3.1

To complement liquidity metrics, banks must adopt a set of indicators that are more readily available, either internally or from the market, to help in identifying at an early stage emerging risks in their liquidity risk positions or potential funding needs, so that management review and where necessary, mitigating measures can be undertaken promptly.

LM-2.3.2 Such early warning indicators can be qualitative or quantitative in nature and may include, but are not limited to, the following:

- (a) Rapid asset growth, especially when funded with potentially volatile liabilities;
- (b) Growing concentrations on certain assets or liabilities or funding sources;
- (c) Increasing currency mismatches;
- (d) Increasing overall funding costs;
- (e) Worsening cash-flow or structural liquidity positions as evidenced by widening negative maturity mismatches, especially in the short-term time bands (e.g. up to 1 month);
- (f) A decrease in weighted average maturity of liabilities;
- (g) Repeated incidents of positions approaching or breaching internal or regulatory limits;
- (h) Negative trends or heightened risk, such as rising delinquencies or losses, associated with a particular business, product or activity;
- (i) Significant deterioration in earnings, asset quality, and overall financial condition;
- (j) Negative publicity;
- (k) A credit rating downgrade;
- (l) Stock price declines;
- (m) Widening spreads on credit default swaps or senior and subordinated debt;
- (n) Counterparties beginning to request additional collateral for credit exposures or to resist entering into new transactions to provide unsecured or longer dated funding;
- (o) Reduction in available credit lines from correspondent banks;
- (p) Increasing trends of retail deposit withdrawals;
- (q) Increasing redemptions of certificates of deposit before maturity; and
- (r) Difficulty in accessing longer-term funding or placing short-term liabilities (e.g. commercial paper).



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LM-2.4 Management Information Systems

LM-2.4.1

A bank must have reliable management information systems ('MIS') that provide the Board, senior management and other appropriate personnel with timely and forward-looking information on its liquidity positions. The MIS must be appropriate for the purpose of supporting the bank's day-to-day liquidity risk management and continuous monitoring of compliance with established policies, procedures and limits. The MIS reports must be capable of supporting the Board and senior management in identifying emerging concerns on liquidity, as well as in managing liquidity stress events.

LM-2.4.2

A bank's MIS must encompass information in respect of the bank's liquidity cushion, major sources of funding and all significant sources of liquidity risk, including contingent risks and the related triggers and those arising from new activities. Moreover, a bank's MIS must have the ability to calculate risk measures to monitor liquidity positions:

- (a) In all currencies, both individually and on an aggregate basis;
- (b) Under normal business conditions and during stress events, with the ability to deliver more granular and time-sensitive information for the latter;
- (c) For different time horizons (e.g. on an intraday basis, on a day-to-day basis for shorter time horizons (of, say, 5 to 7 days ahead), and over a series of more distant time periods thereafter); and
- (d) At appropriate intervals (in times of stress, the MIS reports must be capable of being produced at more frequent intervals such as daily, or even intraday if necessary).

LM-2.4.3

To facilitate liquidity risk monitoring, there must be reporting criteria specifying the scope, manner and frequency of reporting liquidity information for various recipients (e.g. daily/weekly & monthly for those responsible for managing liquidity risk, and at each meeting convened by the Board or its relevant delegated committee(s) during normal times, with increased reporting frequency in times of stress) and the parties responsible for preparing the reports.

LM-2.4.4

In particular, the reporting must compare current liquidity exposures to established limits (both for internal liquidity risk management and statutory compliance purposes) to identify any limit breaches. Breaches in liquidity risk limits must be reported to the appropriate level of management. Thresholds and reporting guidelines must be specified for escalation of the reporting of breaches to higher levels of management and the Board.



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LM-2.5 Cash-flow Approach to Managing Liquidity Risk

LM-2.5.1

Banks must adopt a cash-flow approach to managing liquidity risk, under which they must have in place a robust framework for projecting comprehensively future cash flows arising from assets, liabilities and OBS items over an appropriate set of time horizons. The framework must be used for:

- (a) monitoring on a daily basis their net funding gaps under normal business conditions; and
- (b) Conducting regular cash-flow analysis based on a range of stress scenarios.

LM-2.5.2

Unless otherwise specified, the cash-flow management requirements in this chapter apply generally to banks under both normal and stressed situations.

Scope, Coverage and Frequency of Cash-flow Projection

LM-2.5.3

Cash-flow projections involve the estimation of a bank's cash inflows against its outflows and the liquidity value of its assets to identify the potential for future net funding shortfalls. The projections must be forward-looking and based on reasonable assumptions and techniques, covering liquidity risks stemming from:

- (a) On-balance sheet assets and liabilities;
- (b) OBS positions and derivative transactions (including sources of contingent liquidity demand and related triggering events associated with such positions);
- (c) Special Purpose Vehicles; a bank must have a detailed understanding of its contingent liquidity risk exposure and event triggers arising from any contractual and non-contractual relationships with special purpose vehicles; and
- (d) Core business lines and activities (for example, correspondent, custodian and settlement activities).

LM-2.5.4

Cash-flow projections must address a variety of factors over different time horizons, including:

- (a) Vulnerabilities to changes in liquidity needs and funding capacity on an intraday basis;
- (b) Day-to-day liquidity needs in, say, 5 to 7 days ahead;
- (c) Funding capacity over short and medium-term horizons (e.g. 14 day, 1, 2, 3, 6 and 9 months) of up to 1 year;
- (d) Longer-term liquidity needs over 1, 2, 3, 4 and beyond 5 years; and
- (e) Vulnerabilities to events, activities and strategies that can put a significant strain on a bank's capacity for generating liquidity.



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LM-2.5 Cash-flow Approach to Managing Liquidity Risk (continued)

LM-2.5.5

Cash-flow projections must cover positions in Bahraini Dinar (BHD/USD), where appropriate and in all significant currencies in aggregate. Separate cash-flow projections must also be performed for individual foreign currencies in which a bank has significant positions. Please refer to LM-3: Foreign currency liquidity management for the identification of significant positions in other currencies.

Net Funding Gaps

LM-2.5.6 In order to meet their obligations as they fall due and thereby stay in business, banks need to ensure:

- (a) Positive cash-flow position is maintained; or
- (b) Sufficient cash can be generated from their assets; or
- (c) Adequate funding sources to cover their funding gaps promptly.

LM-2.5.7 Net funding gaps can be assessed through the construction of a maturity profile, supplemented where relevant with additional analysis of the funding capacity of specific on- or off-balance sheet items.

LM-2.5.8 A bank's maturity profile should encompass adequate time bands so that the bank can monitor its liquidity needs for various time horizons. It is generally expected to have daily time bands in the very short term (say for a period of 5 to 7 days ahead), which may be followed by wider and less granular time bands for other periods;

LM-2.5.9

Banks must set internal limits to control the size of their cumulative net mismatch positions (i.e. where cumulative cash inflows are exceeded by cumulative cash outflows), at least for the shorter-term time bands (e.g. next day, 5 to 7 days ahead, 14 days, 1, 2, 3, 6 and 9 months). Such limits must be in line with the established liquidity risk tolerance, and must take into account the potential impact of adverse market conditions on the bank's funding capacity. Maturity mismatch limits must also be imposed for individual foreign currencies in which a bank has significant positions.



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CHAPTER	LM-2: Liquidity Risk Identification, Measurement, Monitoring and Control

LM-2.5 Cash -flow Approach to Managing Liquidity Risk (continued)

LM-2.5.10 The maturity mismatch limits must be properly documented in the Liquidity Risk Management Policy statement. Banks must regularly review the suitability of such limits.

Cash Flow Projection Assumptions and Techniques

LM-2.5.11 While certain cash flows can be projected based on contractual maturities, some may need to be estimated based on certain assumptions. In these circumstances, banks should make realistic assumptions (with a reasonable degree of prudence) to reflect the characteristics of their businesses and products, as well as economic and market conditions. For example, banks may take into account the following factors in setting the assumptions for cash flow projection:

- (a) Expected future growth or contractions in the balance sheet;
- (b) The proportion of maturing assets and liabilities that banks reasonably expect to roll-over or renew;
- (c) The quality and proportion of liquid assets or other marketable securities that can be used as collateral to obtain secured funding;
- (d) The behaviour of assets and liabilities with no clearly specified maturity dates, such as repayment of overdrafts and demand deposits as well as sticky deposits;
- (e) The potential cash flows arising from off-balance sheet activities, e.g., drawdown under loan commitments and contingent liabilities (including all potential draws from contractual or non-contractual commitments);
- (f) The behaviour of cash flows under different service delivery channels (e.g. branches vs e-banking channels);
- (g) The convertibility of foreign currencies;
- (h) The lead time required for the monetization of marketable debt securities; and
- (i) Access to wholesale markets, standby facilities and intragroup funding.

LM-2.5.12 Techniques employed by banks for designing cash flow assumptions must be commensurate with the nature and complexity of their business activities.

LM-2.5.13 In deriving behavioural cash flow assumptions, banks may analyse historical observations on cash flow patterns. While there is no standard methodology for making such assumptions, it is important that the assumptions used are consistent and reasonable and they should be supported by sufficient historical or empirical evidence.

LM-2.5.14 Banks must document in their liquidity risk management policy statement, the underlying assumptions used for estimating cash flow projections and the rationale behind them. The assumptions and their justifications must be approved, and subject to regular review, by the ALCO to take account of available statistical evidence and changing business environment.



MODULE	LM: Liquidity Risk Management
CHAPTER	LM-3: Foreign Currency Liquidity Management

LM-3.1 Foreign Currency Liquidity Management

LM-3.1.1

A currency must be considered ‘significant’ if the aggregate liabilities of the bank (both on and off-balance sheet) denominated in that currency, amount to 5 percent or more of its total liabilities (both on and off-balance sheet).

LM-3.1.2

Banks must formulate, and review regularly, strategies and policies for the management of liquidity risks with respect to BHD/USD, if relevant, and each significant foreign currency respectively, taking into account the potential market conditions and potential constraints in times of stress. If a bank has assets or liabilities denominated in a significant foreign currency, and that currency is not freely convertible, more prudent management of liquidity risk must be adopted, such as more conservative limits on funding gaps in respect of that currency vis-à-vis other currencies, as liquidity may not be easily transferred into or out of that currency, particularly in times of stress.

LM-3.1.3

Banks must assess their foreign currency liquidity funding gaps under both normal and stressed conditions, and control currency mismatches within acceptable levels.

LM-3.1.4

As with the management of its overall maturity mismatch position, a bank must set, and regularly review, internal limits to control the size of cumulative net maturity mismatches arising from assets and liabilities denominated in significant foreign currencies.

LM-3.1.5

Such limits must cover the bank’s maturity mismatch position in BHD, if relevant, and each significant foreign currency over various specific time-bands (e.g. next day, 5 to 7 days ahead, 14 days, 1, 2, 3, 6, 9 months and 1, 2, 3, 5 and beyond 5 years).



MODULE	LM: Liquidity Risk Management
CHAPTER	LM-4: Funding Diversification and Market Access

LM-4.1 Overview

LM-4.1.1

To ensure a reliable supply of funds, both in normal times and during stressed conditions, banks must, to the most practicable extent, maintain a range of diversified and stable funding sources (including liquid assets held) to meet liquidity needs for various time horizons, supported by their ready access to the relevant markets. Banks must also take appropriate measures to foster relationships with fund providers and strengthen their presence in funding markets.



MODULE	LM: Liquidity Risk Management
CHAPTER	LM-4: Funding Diversification and Market Access

LM-4.2 Funding Diversification

LM-4.2.1

Banks must establish an effective funding strategy to achieve sufficient diversification, both of their funding sources and in the composition of their liquid assets. A bank's funding strategy must consider correlations between sources of funds and market conditions.

LM-4.2.2

Banks must put in place concentration limits on liquid assets and funding sources, as appropriate, with reference to such characteristics as the type of asset, product, market or instrument; nature of issuer, counterparty or fund provider; maturity; currency; geographical location and economic sector.

LM-4.2.3

Banks must maintain an appropriate mix of liquid assets (including the type and quality of assets, and level of such holdings) as a source of liquidity for day-to-day operational needs (e.g. for settlement and clearing purposes), as well as for meeting emergency funding needs.

Other Funding Sources

LM-4.2.4

Banks must assess their exposure to significant funding providers (or depositors) on an ongoing basis. For this purpose, banks must have in place, as part of their MIS, regular reports on the funding received from significant funding providers to facilitate monitoring. Such reports must consolidate all funding that a bank obtains from each significant funding provider (including a group of related funding providers which, when aggregated, amount to a significant funding provider). The historical amount of funds provided by these funding providers, e.g. in terms of the maximum, minimum and average balances over the previous 12 months, must also be monitored. Trigger ratios must be established to identify any funding concentration for management review. In the case of a retail bank, a funding concentration may exist if a significant percentage of its total deposit base is from a limited number of the top-ranking depositors or a single depositor (or group of related depositors). Banks must consider appropriate actions to diversify the deposit base.

LM-4.2.5

Banks must avoid any potential concentration in their reliance on particular funding markets and sources. Banks must take into account the following major factors in assessing the degree of funding concentration:



MODULE	LM: Liquidity Risk Management
CHAPTER	LM-4: Funding Diversification and Market Access

LM-4.2 Funding Diversification (continued)

- (a) The maturity profile and credit-sensitivity of the liabilities;
- (b) The mix of secured funding and unsecured funding;
- (c) The extent of reliance on a single fund provider or a group of related fund providers; particular markets, instruments or products (e.g. interbank borrowing, retail versus wholesale deposits, and repo agreements and swaps); and intragroup funding;
- (d) Geographical location, industry or economic sector of fund providers; and
- (e) The currency of funding sources.

LM-4.2.6

Banks with a large deposit base must, in particular, conduct more granular analysis on the stability of different types of deposits taking into account the relevant contractual and behavioural characteristics of such deposits (e.g. in terms of deposit insurance coverage, currency denomination, nature of depositors, such as retail, wholesale or private banking customers, etc.). They must monitor the trends and levels of their stable deposits regularly.

LM-4.2.7

Banks must identify alternative sources of funding (e.g. intragroup funding, new debt issues, asset sales, etc.) that may be used to generate liquidity in case of need, and review the effectiveness of using such sources in different situations. However, they must be aware that not all fund-raising options are available in all circumstances and some may be available only with a substantial time delay.



MODULE	LM: Liquidity Risk Management
CHAPTER	LM-4: Funding Diversification and Market Access

LM-4.3 Market Access

Market Presence

LM-4.3.1

Banks must maintain an active presence in markets relevant to their funding strategy. This requires an ongoing commitment and investment in adequate and appropriate infrastructures, processes and information systems. To ensure their access to funding markets in a timely manner, banks must periodically utilise the established systems, documentation and arrangements for accessing those markets to confirm whether willing counterparties are readily available.

LM-4.3.2

The ability to obtain funds in the interbank market is an important source of liquidity for banks. Banks should be in a position to estimate their ‘normal’ borrowing capacity, based on past experience, and aim to limit their wholesale funding needs for both local and foreign currencies.

Relationship with Market Providers

LM-4.3.3

Banks must identify and build strong relationships with funding providers. In particular, banks must maintain a solid and close relationship with its 25 largest depositors on an ongoing basis, to ensure that the bank has the ability to obtain funds in case of need (e.g. during events of stress), to prevent and/or limit a bank run-off and to safeguard its major sources of funding. Nevertheless, banks must take a prudent view of how such relationships may be strained in times of stress. In the formulation of stress scenarios and contingency funding plans, banks must take into account possible situations where funding sources, including its 10 largest depositors, may dry up and markets may close, and where market perceptions of a bank’s financial position may change.



MODULE	LM: Liquidity Risk Management
CHAPTER	LM-5: Maintenance of Liquidity Cushion

LM-5.1 Overview

LM-5.1.1

Banks must maintain an adequate cushion of unencumbered liquid assets that can be readily sold or used as collateral in private markets by a bank to obtain funds to meet the liquidity needs at all times, even in periods of severe idiosyncratic and market stress.

LM-5.1.2

The size of the liquidity cushion should reflect a bank's established risk tolerance, and should be sufficient to meet the bank's liquidity needs in the initial phase of liquidity stress, which is most critical to the bank's survival, taking into account the monetization or borrowing values of the assets included in the cushion under the relevant stressed conditions.

LM-5.1.3

The liquidity cushion should be sized to enable a bank to continue to meet its daily payment and settlement obligations on a timely basis for the period of stress. In doing so, the bank should take into account other available tools and resources to manage intraday liquidity risks.

LM-5.1.4

In addition, the liquidity cushion must at least be sufficient to enable a bank to reach its regulatory LCR.



MODULE	LM:	Liquidity Risk Management
CHAPTER	LM-5:	Maintenance of Liquidity Cushion

LM-5.2 Composition of Liquidity Cushion

LM-5.2.1

The liquidity cushion must be largely made up of high quality liquid assets (the most liquid, unencumbered and readily marketable assets such as cash, other high quality government debt securities, etc.) or similar instruments, that can be easily or immediately monetised with little or no loss or discount at all times, irrespective of the bank's own condition.

LM-5.2.2

To cater for any extension or deterioration of any stress situation, a bank may widen the composition of its liquidity cushion by holding other liquid and marketable assets which can be used to cater for the longer end of the stress period (e.g. 1 month or beyond) without resulting in excessive losses or discounts.

LM-5.2.3

A bank must document its policies and criteria for defining the liquid assets to be included in its liquidity cushion and distinguishing their relative levels of quality in terms of their ability to generate liquidity swiftly, with little loss or discount. MIS reports must be in place to facilitate continuous management of a bank's liquidity cushion.



MODULE	LM: Liquidity Risk Management
CHAPTER	LM-6: Intragroup Liquidity Management

LM-6.1 Overview

LM-6.1.1

Where a bank is part of a banking group (local or foreign), the bank must be able to monitor and control liquidity risks arising from intragroup transactions (including cross-border transactions where applicable) with other legal entities in the group, taking into account any legal, regulatory, operational or other constraints on the transferability of liquidity and collateral to and from those entities.

LM-6.1.2

In managing intragroup liquidity risks, banks should understand how their liquidity positions may be affected by liquidity problems faced by other group entities.



MODULE	LM: Liquidity Risk Management
CHAPTER	LM-6: Intragroup Liquidity Management

LM-6.2 Treatment of Intragroup Transactions

LM-6.2.1 Banks must specify in their liquidity risk management strategy the treatment of intragroup liquidity, and assumptions on intragroup dependencies for the purposes of making cash flow projections.

LM-6.2.2 In assessing funding needs (especially under stressed situations), banks should account for any funding or liquidity commitment provided to group entities (e.g. in the form of explicit guarantees or funding lines to be drawn in times of need) and prepare for any withdrawal of funding provided by group entities. Banks should also analyse how the liquidity positions of group entities may affect their own liquidity, either through direct financial impact or through contagion when those entities encounter liquidity strain. Where there is reliance on funding support from group entities, banks should take steps to identify the existence of and take into account any legal, regulatory or other limitations that may restrict their access to liquidity from those entities in case of need.

LM-6.2.3 A bank that has entered into ‘back-to-back’ transactions⁵ with its group entities must exclude such transactions from cash flow or liquidity calculations, as such transactions usually involve no actual movement of funds and, as such, cannot effectively improve the bank’s liquidity.

⁵ These transactions refer to interoffice or intragroup transactions which typically involve two legs, one borrowing long (say, with maturity of more than 1 month) and the other lending short (say, with maturity of 1 month or less). Both legs are for the same or similar amount and at the same or similar rate of interest, and are, in most cases, rolled forward continuously.



MODULE	LM: Liquidity Risk Management
CHAPTER	LM-6: Intragroup Liquidity Management

LM-6.3 Intragroup Liquidity Limits

LM-6.3.1

Banks must establish internal limits on intragroup liquidity risk to mitigate the risk of contagion from other group entities when those entities are under liquidity stress. Moreover, banks must consider setting stricter internal limits on intragroup funding denominated in foreign currencies where the convertibility and transferability of such funding is not certain, particularly in stressed situations.



MODULE	LM: Liquidity Risk Management
CHAPTER	LM-6: Intragroup Liquidity Management

LM-6.4 Constraints on Intragroup Liquidity Transfers

- LM-6.4.1 Banks should understand potential constraints that may affect intragroup liquidity movements, and specify their assumptions regarding the transferability of funds and collateral in liquidity risk management policies. These assumptions should fully consider regulatory, legal, accounting, credit, tax and internal constraints on the effective movement of liquidity and collateral.
- LM-6.4.2 Banks should also consider the operational arrangements needed to transfer funds and collateral across entities and the time required to complete such transfers under these arrangements.



MODULE	LM: Liquidity Risk Management
CHAPTER	LM-7: Intraday Liquidity Risk Management

LM-7.1 Overview

LM-7.1.1

Intraday liquidity risk management is an important component of a bank's broader liquidity risk management strategy. Banks must actively manage their intraday liquidity positions and risks to meet payment and settlement obligations on a timely basis under both normal and stressed conditions, and, as such, contribute to the smooth functioning of payment and settlement systems.

LM-7.1.2

Aside from direct participation in payment and settlement systems, banks may incur intraday liquidity risk through their provision of correspondent and custodian banking services. Where a bank relies on other correspondent or custodian banks to conduct payment and settlement activities, operational or financial disruptions at those banks will also affect the bank's own liquidity position and should have alternate arrangements in place to ensure it is able to meet its obligations.

LM-7.1.3

A primary objective in intraday liquidity risk management is for banks to identify, prioritise and meet time-specific and other critical obligations when they become due, and to settle other, less critical obligations as soon as possible. In satisfying this objective, banks must be aware of, and be able to address, various challenges associated with intraday liquidity risk management.

LM-7.1.4

A key challenge in intraday liquidity risk management lies in the uncertainty in both the amount and timing of a bank's gross cash inflows and outflows during the day, in part because such cash flows may reflect the activities of its customers or counterparties which are beyond the bank's control, especially where the bank provides correspondent or custodian services. Moreover, the timing of the cash flows may be dictated by the rules governing payment and settlement systems (e.g. payment obligations may be due by specific times during the day). Because a bank's daily gross cash outflows can often far exceed the bank's gross cash inflows at different points of time during a day, or its net overnight balances even under normal circumstances, differences in the timing of its inflows and outflows could result in significant intraday liquidity shortfalls. These shortfalls may necessitate the bank borrowing funds on an intraday basis, prioritizing its outflows to meet critical payments, or borrowing additional overnight funds (if certain expected cash inflows are not received before the end of the working day).



MODULE	LM: Liquidity Risk Management
CHAPTER	LM-7: Intraday Liquidity Risk Management

LM-7.2 Risk Management Controls

LM-7.2.1

Banks must have effective policies, procedures, systems and controls for managing their intraday liquidity risks in all of the financial markets and currencies in which they have significant payment and settlement activities. Such systems and controls must, among other things, ensure a bank's capacity, to:

- (a) Measure expected daily gross cash inflows and outflows, anticipate the intraday timing of these cash flows where possible, and, as such, forecast the range of potential net funding shortfalls at different time points during the day;
- (b) Monitor intraday liquidity positions against expected activities and available resources (including liquidity balances, remaining intraday credit capacity, and available collateral) and prioritise payments, if necessary; and
- (c) Manage intraday liquidity positions so that there is always sufficient intraday funding to meet the bank's intraday liquidity needs.
- (d) Manage and mobilise collateral as necessary to obtain intraday funds. A bank must have sufficient collateral available to acquire the level of intraday liquidity needed to meet its intraday objectives.
- (e) Manage the timing of its liquidity outflows in line with its intraday objectives. A bank must have the ability to manage the payment outflows of key customers and, if customers are provided with intraday credit that credit procedures must be capable of supporting timely decisions.
- (f) Manage unexpected disruptions to its intraday liquidity flows. A bank's stress testing and contingency funding plans must reflect intraday considerations. A bank also must understand the level and timing of liquidity needs that may arise as a result of the failure-to settle procedures of payment and settlement systems in which it is a direct participant. Robust operational risk management and business continuity arrangements are also critical to the effectiveness of a bank's intraday liquidity management.

LM-7.2.2

Intraday liquidity risk management demands cooperation between the front and back offices, as it typically requires close monitoring of expected payments and direct contacts with customers, where necessary, to quickly verify the reasons for delayed payments. A clear assignment of tasks and responsibilities to personnel involved is, therefore, important, particularly as time-critical decisions need to be made, for instance, to meet the settlement cut-off times.



MODULE	LM: Liquidity Risk Management
CHAPTER	LM-7: Intraday Liquidity Risk Management

LM-7.2 Risk Management Controls (continued)

LM-7.2.3

The tools and resources applied by a bank in managing intraday liquidity risks must be tailored to the bank's business model and role in the financial system. This relates to, for example, whether the bank participates in a payment or settlement system directly or through correspondent or custodian banks, and whether it provides correspondent or custodian services and intraday credit facilities to other banks, firms or systems. If a bank relies heavily on secured funding markets, the bank must have adequate systems and procedures in place to monitor positions in securities settlement systems.



MODULE	LM:	Liquidity Risk Management
CHAPTER	LM-8:	Collateral management

LM-8.1 Overview

LM-8.1.1

The ready availability of assets that banks can use as collateral to obtain funding by means of secured borrowing (e.g. repo) mitigates liquidity risk. Therefore, banks must allocate sufficient resources to ensure efficient and effective management of collateral in their liquidity risk management process.

LM-8.1.2

Collateral management must aim at optimising the allocation of collateral available for different operational needs, across products, business units, locations and currencies. It must be based on a prioritisation of needs and an awareness of the opportunity cost of its use, in both normal and stressed times.



MODULE	LM: Liquidity Risk Management
CHAPTER	LM-8: Collateral Management

LM-8.2 Management of Collateral Positions

LM-8.2.1

Banks must have the ability to calculate all of their collateral positions, including assets currently deployed for use as collateral relative to amount of collateral required, and unencumbered assets available to be used as collateral.

LM-8.2.2

Bank's level of available collateral must be monitored by legal entity, jurisdiction and currency exposure. Banks must be able to track precisely the legal entity and the physical location (i.e. the custodian or securities settlement system) at which each of the assets is held, and monitor how such assets may be mobilised in a timely manner in case of need.

LM-8.2.3

Banks must have sufficient collateral to meet expected, and accommodate unexpected borrowing needs, as well as potential increases in margin requirements for pledged assets over different timeframes, including intraday, short-term and longer-term structural liquidity requirements, and have adequate systems for monitoring the shifts between intraday, overnight and term collateral usage. In determining the required collateral to be allocated for intraday liquidity needs, banks must consider the potential for significant uncertainty around the timing of payment flows during the day, as well as the potential for operational and liquidity disruptions that could necessitate the pledging or delivery of additional intraday collateral.

LM-8.2.4

Banks must assess the eligibility of each major asset class for pledging as collateral with relevant central banks (for intraday, overnight and term credit or secured borrowing under standing facilities, as the case may be), as well as the acceptability of assets to major counterparties and fund providers in secured funding markets. They must also ensure that there is proper legal documentation for each asset class to be effectively pledged for liquidity.

LM-8.2.5

Banks must diversify their sources of collateral to avoid excessive concentration on any particular funding provider or market, taking into consideration capacity constraints, sensitivity of prices, haircuts and collateral requirements under conditions of institution-specific and market-wide stress, and the availability of funds from private sector counterparties in various market stress scenarios.



MODULE	LM: Liquidity Risk Management
CHAPTER	LM-8: Collateral Management

LM-8.3 Operational Issues

LM-8.3.1

Banks must address various operational issues relating to the use of collateral for obtaining liquidity. These include, but are not limited to:

- a) Awareness of the operational and timing requirements associated with accessing the collateral given its physical location;
- b) Understanding the liquidity risks associated with different types of payment and settlement systems (e.g. 'net' systems versus 'gross' systems) and their implications for collateral management; and
- c) Taking into account the implications of obligations embedded in the contractual terms of certain transactions which, when triggered, may reduce the availability of collateral for liquidity risk management. These refer to, for example, margin requirements and triggering events that require a bank to: 1) provide additional collateral as a result of changes in the market valuation of the transactions or in the bank's credit rating or financial position (in the case of derivative transactions), or; 2) hypothecate or deliver additional assets to the pool of underlying assets when the embedded triggering events occur (in the case of securitisation transactions).

LM-8.3.2

Banks must test on a regular basis, and at least annually, the ability to use its source of collateral in repo operations, to ensure its capability of using the securities to obtain the required liquidity, if needed, and assess the market appetite for a particular security, including the related haircut applied to put the operation in place. Banks must also ensure that there are no operational issues that could have an impact on the timing and the feasibility of the operation (e.g. limits to the transferability of the security, in case this is held in a local and foreign branch portfolio).

LM-8.3.3

For collateralised borrowing, banks must maintain all documentation related to the agreement with the counterparties.



MODULE	LM: Liquidity Risk Management
CHAPTER	LM-9: Stress Testing and Scenario Analysis

LM-9.1 Overview

LM-9.1.1

In addition to conducting cash flow projections to monitor its liquidity positions under normal business conditions, a bank must regularly perform stress tests based on sufficiently severe but plausible scenarios to identify potential sources of liquidity strain under stressed conditions.

LM-9.1.2

Banks must conduct stress tests based on sufficiently severe, but plausible scenarios and assumptions that are commensurate with the bank's business nature, size and complexity. The stress testing scenarios and assumptions adopted by a bank must reflect the current market conditions and address the bank's actual experiences in stressed situations. Such scenarios and assumptions must be reviewed regularly by the senior management, with any major changes endorsed by the bank's Board or its relevant delegated committee(s). The active involvement of senior management is vital to the stress testing process. During their regular reviews, senior management must consistently require consideration of sufficiently severe stress scenarios.

LM-9.1.3

Stress tests must enable a bank to analyse the impact of stress scenarios on its consolidated group-wide liquidity position, as well as on the liquidity position of individual entities and business lines in order to understand where risks could arise. For the purposes of consolidated liquidity positions, the licensees may use a proportionate or component approach

LM-9.1.4

Stress tests must be performed for all significant currencies in aggregate and, separately, for positions in BHD or USD in wholesale banks functioning on the basis of a US Dollar based operating model, if relevant, and individual foreign currencies in which banks have significant positions.

LM-9.1.5

The design and frequency of stress testing must be commensurate with the size and complexity of a bank and its liquidity risk exposures.

LM-9.1.6

When conducting stress tests on their liquidity position, banks must also consider the insights and results of stress tests performed for other risks, including possible interaction with these other risks.



MODULE	LM: Liquidity Risk Management
CHAPTER	LM-9: Stress Testing and Scenario Analysis

LM-9.2 Scenarios and Assumptions

LM-9.2.1

It is important for banks to construct sufficiently severe, but plausible stress scenarios and examine the resultant cash flow needs. While banks should aim to cover different stress events and levels of adversity, they must, at a minimum, include the following types of scenarios in their stress testing exercise:

- (a) An institution-specific stress scenario;
- (b) A general market stress scenario; and
- (c) A combination of both, including possible interaction with other risks.

LM-9.2.2

A bank will need to assign the timing of cash flows for each type of asset and liability, as well as off-balance sheet and contingent items, by assessing the probability of the behaviour of those cash flows under the scenario being examined. The timing of cash inflows and outflows on the maturity ladder can vary among scenarios and the assumptions may differ quite sharply. In estimating liquidity needs, both contractual and non-contractual cash flows should be considered.

LM-9.2.3

In designing stress scenarios, a bank must take into account, specific risks associated with its business activities, products or funding sources. These include, for example, heavy reliance on specific funding markets or significant exposures to complex financial instruments. The stress scenarios must be able to evaluate the potential adverse impact of these factors on the bank's liquidity position.

LM-9.2.4

A bank should take a reasonably conservative approach when setting stress assumptions. There are a number of possible areas that the assumptions should cover. For illustrative purposes, these areas include, but are not limited to, the following:

- (a) The run-off for retail funding;
- (b) Asset market illiquidity and erosion in the value of liquid assets;
- (c) The loss or impairment of secured and unsecured wholesale funding sources;
- (d) The correlation between funding markets and effectiveness of diversification across available sources of funding;
- (e) The availability of contingent lines extended to the banks;
- (f) The availability of funding in different tenors;
- (g) Contingent claims, including potential draws on committed lines extended to third parties or the bank's connected parties (such as its overseas branches, associated entities in its consolidated group, controller or head office);
- (h) Liquidity drains associated with contractual obligations or non-contractual obligations involving off-balance sheet vehicles and activities, as well as complex products or transactions;



MODULE	LM: Liquidity Risk Management
CHAPTER	LM-9: Stress Testing and Scenario Analysis

LM-9.2 Scenarios and Assumptions (continued)

- (i) Additional margin calls and collateral requirements (e.g. in derivative or other contracts with embedded trigger clauses);
- (j) Estimates of future balance sheet growth;
- (k) Currency convertibility and access to foreign exchange markets;
- (l) The transferability of liquidity across entities, sectors and jurisdictions, taking into account legal, regulatory, operational and time zone restrictions and constraints;
- (m) Access to the payment and settlement systems which are imperative to a bank.
- (n) The impact of credit rating triggers;
- (o) The access to central bank facilities;
- (p) The operational ability of the bank to monetise assets; and
- (q) The bank's remedial actions and the availability of the necessary documentation and operational expertise and experience to execute them, taking into account the potential reputational impact when executing these actions.

LM-9.2.5

All stress scenarios and their underlying assumptions must be properly defined and documented in the bank's Liquidity Risk Management Policy statement.

Institution-specific Stress Scenarios

LM-9.2.6

An institution-specific stress scenario must cover situations that could arise from a bank experiencing either real or perceived problems (e.g. asset quality problems, solvency concerns, credit rating downgrade, rumours relating to the bank's credibility or management fraud, etc.) which affect public confidence in the bank and its firm-wide or group-wide operations. It must represent the bank's view of the behaviour of its cash flows in a sufficiently severe stress scenario. A key assumption is that many of the bank's liabilities cannot be rolled-over or replaced, resulting in the need to utilise its liquidity cushion.

LM-9.2.7

This scenario will likely entail an acute deposit run. Such a scenario would typically include the following characteristics:

- (a) Significant daily run-off rates for deposits particularly at the initial stage of the stress scenario, with increasing requests from customers to redeem their time deposits before maturity;
- (b) Interbank deposits repaid at maturity;
- (c) No new unsecured or secured funding obtainable from the market; and
- (d) Forced sale of marketable securities at discounted prices.



MODULE	LM: Liquidity Risk Management
CHAPTER	LM-9: Stress Testing and Scenario Analysis

LM-9.2 Scenarios and Assumptions (continued)

General Market Stress Scenarios

LM-9.2.8 A general market stress scenario is one where liquidity, at a large number of financial institutions in one or more markets, is affected. Characteristics of this scenario may include:

- (a) A market-wide liquidity squeeze, with severe contraction in the availability of secured and unsecured funding sources, and a simultaneous drying up of market liquidity in some previously high liquidity markets;
- (b) Substantial discounts needed to sell or repo assets and wide differences in funding access among banks, due to the occurrence of a severe tearing of their perceived credit quality (i.e. flight to quality);
- (c) Restrictions on currency convertibility; and
- (d) Severe operational or settlement disruptions affecting one or more payment or settlement systems

Combined Stress Scenarios

LM-9.2.9

Banks must incorporate a stress scenario into their stress test framework that has the key characteristics of both an institution-specific stress scenario and a general market stress scenario combined ('combined stress scenario'), with appropriate modulations of the underlying assumptions, as necessary, to reflect a set of adverse circumstances that could plausibly happen.

LM-9.2.10 The following are some relevant factors that could be considered in formulating a bank's 'combined stress scenario':

- (a) As a greater number of financial institutions in the market will be affected under a combined stress scenario, this may change the way in which some institution-specific stress elements are to be structured. For example, instead of a quick but severe bank run, there may be a less acute, but more persistent and protracted run-off of customer deposits; and
- (b) Even lower realizable values of assets may result as the bank concerned seeks to sell or repo large quantities of assets when the relevant asset markets become less liquid and market participants are generally in need of liquidity.



MODULE	LM: Liquidity Risk Management
CHAPTER	LM-9: Stress Testing and Scenario Analysis

LM-9.2 Scenarios and Assumptions (continued)

Minimum Stress Period

LM-9.2.11

Banks must assume the minimum stress period for an institution-specific stress scenario to last for no less than 5 working days, and that for a general market stress scenario and a combined stress scenario to last for no less than one calendar month. However, a bank must adopt a longer minimum stress period for the purposes of liquidity stress-testing if its liquidity risk profile warrants this. To gauge a bank's survival period under stress, it is also generally expected that, in addition to the minimum stress period, the bank's stress test must also include sufficiently granular time-bands to assess the bank's ability to meet its obligations in the near to medium-term.



MODULE	LM: Liquidity Risk Management
CHAPTER	LM-9: Stress Testing and Scenario Analysis

LM-9.3 Utilisation of Stress Test Results

LM-9.3.1

The stress testing results must be linked to the overall liquidity risk management process of a bank, including the setting of the liquidity risk tolerance and the internal liquidity risk limits). To this end, senior management must:

- (a) Ensure proper documentation of the stress scenarios and related assumptions, and review the scenarios and assumptions periodically;
- (b) Evaluate the stress testing results and consider any possible need for remedial or mitigating actions. Remedial or mitigating actions may include actions to limit the bank's liquidity risk exposures, obtain more long-term funding, restructure the composition of assets, and increase the size of the bank's liquidity cushion or the adoption of any other measures to adjust the bank's liquidity profile to fit its risk tolerance. Where such actions are not considered necessary to address stress test results indicating potential liquidity strains or shortfalls, senior management must document the justifications for their view;
- (c) Report the stress testing results and vulnerabilities identified to the Board (or its relevant delegated committee(s)), with recommendations for any resulting actions. Where appropriate, the CBB must be informed of the results and anticipated actions if they are material to the bank (i.e. in addition to normal stress testing reporting arrangements); and
- (d) Integrate the stress-testing results into the bank's strategic business planning and Contingency Funding Plan ('CFP').



MODULE	LM:	Liquidity Risk Management
CHAPTER	LM-10:	Contingency Funding Plan

LM-10.1 Overview

LM-10.1.1

A bank must have a CFP that clearly sets out its strategies for addressing liquidity and funding shortfalls to the extent beyond the level estimated from the stress tests performed by the bank under institution-specific, market-wide and combined stress scenarios and beyond the level covered by the bank's liquidity cushion. The CFP must contain a set of policies, procedures and action plans that prepare a bank to deal with relevant liquidity stress events in a timely and cost-effective manner, with clearly established lines of responsibility and invocation and escalation procedures. The CFP must be approved by the Board and regularly tested and updated to ensure that it is operationally robust.

LM-10.1.2

The CFP must be commensurate with the bank's complexity, risk profile, scope of operations and role in the financial system. The design of a CFP, including its action plans and procedures, must be closely integrated with the bank's ongoing analysis of liquidity risk. The CFP must address liquidity issues over a range of different time horizons.



MODULE	LM: Liquidity Risk Management
CHAPTER	LM-10: Contingency Funding Plan

LM-10.2 Strategy, Plans and Procedures

Contingency Funding Measures and Sources

LM-10.2.1

The CFP must provide a bank's management with a diversified set of viable, readily deployable potential contingency funding measures for preserving and making up liquidity shortfalls in emergency situations. All available potential sources of funding must be outlined, along with the estimated amount of funds that can be derived from these sources, their expected degree of reliability, under what conditions these sources must be used, and the lead time needed to access additional funds from each of the sources.

LM-10.2.2

Banks must analyse the viability and likely impact on market perception of adopting different contingency funding measures. Some of the factors that must be considered include:

- (a) The impact of stressed market conditions on a bank's ability to raise funding through different sources;
- (b) The interaction between asset markets and funding liquidity, especially in situations where there is an extensive or complete loss of typically available market funding options;
- (c) Any second-round effects, as well as reputation, legal, regulatory and operational constraints, related to the execution of such measures; and
- (d) Any peculiarities (including special terms and conditions) associated with particular funding sources. For example, banks must generally refrain from excessive reliance on back-up credit lines (even if committed) and need to understand various conditions, such as notice periods, that could affect a bank's ability to access such lines quickly.

LM-10.2.3

In developing contingency funding measures, banks should also be aware of the operational procedures needed to transfer liquidity and collateral across group entities, borders and business lines, taking into account legal, regulatory, operational and time zone restrictions and controls governing such transfers. The CFP should incorporate relevant operational procedures and realistic timelines for such transfers. Assets intended to be pledged as collateral in the event that back-up funding sources are utilised, should be held by a legal entity and in a location consistent with management's funding plans.



MODULE	LM: Liquidity Risk Management
CHAPTER	LM-10: Contingency Funding Plan

LM-10.2 Strategy, Plans and Procedures (continued)

Early Warning Signals and Triggering Events

LM-10.2.4

The CFP must clearly mention a set of triggering events that will activate the plan, as well as the mechanisms for identification, monitoring and reporting of such events at an early stage. Banks may consider the various early warning indicators highlighted in Section LM-2.3 in relation to this.

Roles and Responsibilities

LM-10.2.5

The CFP must contain clear policies and procedures enabling a bank's management to make timely and well-informed decisions, communicate the decisions effectively, and execute contingency measures swiftly and proficiently. To achieve this, the roles and responsibilities, and internal procedures for liquidity stress management must be clearly delineated. These must cover:

- (a) The authority to invoke the CFP and the establishment of a formal 'crisis management team' to facilitate internal coordination and communication across different business lines and locations and decision-making by senior management in a stress situation;
- (b) Clear escalation and prioritisation procedures detailing what actions to take, who can take them, and when and how each of the actions can and must be activated;
- (c) Names and contact details of members of the team responsible for implementing the CFP and the locations of team members; and
- (d) The designation of alternates for key roles.

Intraday Liquidity Considerations

LM-10.2.6

The CFP must include potential steps to meet intraday critical payments. In situations where intraday liquidity resources become scarce, a bank must have the ability to identify critical payments and to sequence or schedule payments based on priority.



MODULE	LM:	Liquidity Risk Management
CHAPTER	LM-10:	Contingency funding plan

LM-10.2 Strategy, Plans and Procedures (continued)

Communications and Public Disclosure

LM-10.2.7

As part of the CFP, a bank must develop a communication plan to deliver, on a timely basis, clear and consistent communication to internal and external parties, in a time of stress, to support general confidence in the bank. Internal communication must cover employees and encompass different business lines and locations of the bank. External parties must include the CBB, other relevant local or overseas public authorities, clients and creditors. The plan must, in particular, address communication with shareholders and other external stakeholders, such as market participants, correspondents, custodians and major counterparties and customers to whom assurance about the bank is extremely important, as their actions could significantly affect the bank's reputation and liquidity position.



MODULE	LM: Liquidity Risk Management
CHAPTER	LM-10: Contingency Funding Plan

LM-10.3 Testing, Update and Maintenance

LM-10.3.1

The CFP must be subject to regular testing to ensure its effectiveness and operational feasibility, particularly in respect of the availability of the contingency sources of funding listed in it.

LM-10.3.2

The testing of the CFP must cover:

- (a) Verifying key assumptions, such as the ability to sell or repo certain assets or periodically draw down credit lines;
- (b) Ensuring that roles and responsibilities are appropriate and understood;
- (c) Confirming that contact information is up-to-date, with reporting lines clearly stated and synchronised with the latest organisation chart;
- (d) Proving the transferability of cash and collateral (especially across borders and entities); and
- (e) Reviewing that the necessary legal and operational documentation is in place to execute the plan at short notice.

LM-10.3.3

The ALCO must review all aspects of the CFP following each testing exercise and ensure that follow-up actions are delivered.

LM-10.3.4

The ALCO must review and update the CFP on an annual basis at least, or more often, as warranted by changes in business or market circumstances, to ensure that the CFP remains robust over time. Any changes to the CFP must be properly documented and approved by the Board (or its relevant delegated committee).

LM-10.3.5

The CFP must be consistent with the bank's business continuity plans and should be operational under situations where business continuity arrangements have been invoked. As such, a bank should ensure effective coordination between teams managing issues surrounding liquidity crisis and business continuity.



MODULE	LM:	Liquidity Risk Management
CHAPTER	LM-11:	Liquidity Coverage Ratio

LM-11.1 General Requirements

LM-11.1.1 The requirements of this section is applicable to all Bahraini conventional bank licensees.

LM-11.1.2 Liquidity Coverage Ratio (LCR) has been developed to promote short-term resilience of a bank's liquidity risk profile. The LCR requirements aim to ensure that a bank has an adequate stock of unencumbered high quality liquidity assets (HQLA) that consists of assets that can be converted into cash immediately to meet its liquidity needs for a 30-calendar day stressed liquidity period. The stock of unencumbered HQLA should enable the bank to survive until day 30 of the stress scenario, by which time appropriate corrective actions would have been taken by management to find the necessary solutions to the liquidity crisis.

LM-11.1.3 **Bahraini conventional bank licensees** must calculate LCR on a consolidated and on a "solo" basis by using the following formula:

$$\frac{\text{Stock of HQLA}}{\text{Net cash outflows over the next 30 calendar days}}$$

LM-11.1.4 **Bahraini conventional bank licensees** must meet the minimum LCR of not less than 100 percent on a daily basis.

LM-11.1.5 When applying these requirements on a consolidated basis, the computations of LCR for branches and subsidiaries outside Bahrain must be as per the Rulebook requirements applied to all legal entities being consolidated except for the treatment of retail/small business deposits that should follow the relevant parameters adopted in host jurisdictions in which the bank operates.

LM-11.1.6 In cases of restrictions or reasonable doubt about the capability of **Bahraini conventional bank licensees** with foreign branches and subsidiaries to transfer surplus liquidity from these branches and subsidiaries to the parent entity, the banks must exclude this surplus liquidity from the calculation of the LCR on a consolidated basis.

LM-11.1.7 No excess liquidity should be recognized by a bank with overseas operations in its consolidated LCR. Thus, the eligible HQLA held by a legal entity being consolidated to meet its local LCR requirements (where applicable) can be included in the consolidated LCR to the extent that such HQLA are used to cover the total net cash outflows of that entity. Any surplus at the legal entity level can only be included in the consolidated stock if the assets would also be freely available to the consolidated (parent) entity in times of stress.



MODULE	LM: Liquidity Risk Management
CHAPTER	LM-11: Liquidity Coverage Ratio

LM-11.1 General Requirements (continued)

LM-11.1.8

LCR in significant currencies: A currency is considered significant if the aggregate liabilities (both on and off-balance sheet) in that currency amount to 5 percent or more of the bank's aggregate liabilities (both on and off-balance sheet) in all currencies. Bahraini conventional bank licensees must monitor the LCR for each significant currency for the bank and its branches/subsidiaries, inside and outside Bahrain.

Frequency of Reporting

LM-11.1.9

Bahraini conventional bank licensees are required to submit their "solo" LCR to the CBB within 7 calendar days following the month end, and their consolidated LCR within 14 calendar days following the month end (as required under Section BR-4.3).

LM-11.1.10

In cases where the LCR falls, or is expected to fall, below 100 percent, Bahraini conventional bank licensees must immediately notify the CBB, report the reasons for the breach or potential breach and present a plan showing the measures they intend to take to restore the LCR ratio.

LM-11.1.11

The stress scenarios assumed in these requirements must be viewed as a minimum supervisory requirement for Bahraini conventional bank licensees. Banks must construct their own scenarios proportionate to their size, business model and complexity of operations, to assess the level of liquidity they must hold over and above this minimum level. These internal stress scenarios must incorporate time horizons longer than the one mandated by the requirements mentioned in this section.

LM-11.1.12

Bahraini conventional bank licensees must disclose the information on the LCR concurrently with the publication of their quarterly and year-end financial statements. The LCR must be presented as simple averages of daily LCRs over the current and previous period.



MODULE	LM: Liquidity Risk Management
CHAPTER	LM-11: Liquidity Coverage Ratio

LM-11.2 High Quality Liquid Assets (HQLA)

The LCR Components and Operational Requirements

LM-11.2.1

Bahraini conventional bank licensees must hold a stock of unencumbered HQLA to cover the total net cash outflows over a 30-day period under prescribed stress scenario outlined in the LCR requirements.

LM-11.2.2

Assets qualify as HQLA if they can be easily and immediately converted into cash at little or no loss of value under stress circumstances.

LM-11.2.3

Bahraini conventional bank licensees must ensure that no operational impediments exist that can prevent timely monetisation of HQLA during a stress period. Banks also have to demonstrate that they can immediately use the stock of HQLA as a source of available liquidity that can be converted into cash (either through outright sale or repo) to fill funding gaps between cash inflows and outflows at any time during stress periods.

LM-11.2.4

The stock of HQLA must be well diversified within the asset classes themselves (except for sovereign debt of Bahrain, central bank reserves, central bank debt securities and cash). Bahraini conventional bank licensees must have policies and limits in place in order to avoid concentration with respect to asset types, issue and issuer types, and currency (consistent with the distribution of net cash outflows by currency) within asset classes.

LM-11.2.5

Bahraini conventional bank licensees must ensure that they have internal policies and measures in place, in line with the following operational requirements:

- (a) Banks must periodically monetise a representative proportion of the assets in its stock of HQLA through outright sale or repos, in order to test access to the market, the effectiveness of its process of monetisation, and to minimise the risk of negative signalling during a period of actual stress;
- (b) All assets in the stock must be unencumbered, meaning free of legal, regulatory, contractual or other restrictions on the ability of the bank to liquidate, sell or transfer these assets;
- (c) Assets received in reverse repos and securities financing transactions that are held at the bank, which have not been re-hypothecated, and which are legally available for the bank's use, can be considered as part of the stock of HQLA;



(d) MODULE	LM: Liquidity Risk Management
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LM-11.2 High Quality Liquid Assets (HQLA) (continued)

- (e) Assets which qualify for HQLA that have been deposited with the central bank but have not been used to generate liquidity may also be included in the stock of HQLA; and
- (f) A bank must exclude from the stock those assets that, although meeting with the definition of ‘unencumbered’, the bank would not have the operational capability to monetise them for whatever reasons;
- (g) The bank must have a policy in place that identifies legal entities, geographical locations, currencies and specific custodial or bank accounts where HQLA are held;
- (h) The bank must identify whether there are any regulatory, legal or accounting impediments to the transfer of these assets to the banking group level, and only include within its stock of HQLA the assets that are freely transferable;
- (i) The bank must exclude from the stock of HQLA, those assets where there are impediments to sale, such as large fire-sale discounts;
- (j) Banks must not include, in the stock of HQLA, any assets, or liquidity generated from assets, they have received under right of hypothecation, if the beneficial owner has the contractual right to withdraw those assets during the 30-day stress period;
- (k) Banks must include within the stock of HQLA the assets held during the reporting period, irrespective of the residual maturity of these assets. The two categories of assets that can be included in the stock of HQLA are ‘Level 1’ and ‘Level 2’. Level 1 assets can be included without any limit, whereas Level 2 assets can only comprise up to 40 percent of total HQLA;
- (l) Level 2 assets are divided into two categories; level 2A and level 2B, according to the qualifying conditions identified in these requirements;
- (m) As part of level 2, banks may include level 2B assets up to 15 percent of total HQLA. However, level 2 assets must not exceed a cap of 40 percent of total HQLA assets;
- (n) The cap on level 2 and level 2B assets must be determined after the application of required haircuts and after taking into account the unwinding of short-term securities financing transactions maturing within 30 calendar days that involve the exchange of HQLA; and
- (o) Banks must ensure that they maintain appropriate systems and policies to control and monitor potential risks, such as market and credit risk which the banks may face while maintaining these assets.



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LM-11.2 High Quality Liquid Assets (HQLA) (continued)

LM-11.2.6

The composition of HQLA is as follows:

Level 1 Assets

Level 1 assets comprise of an unlimited share of the total pool and are not subject to haircuts.

Level 1 assets are limited to:

- (i) Coins and banknotes;
- (ii) Assets with central banks in countries in which the LCR is being calculated, including cash reserves, to the extent that the CBB allows banks to draw-down these assets in times of stress;
- (iii) Debt securities/Sukuk issued by Government of Bahrain or Gulf Cooperation Council (GCC) countries;
- (iv) Debt securities/Sukuk issued or guaranteed by sovereigns, central banks, PSEs, the International Monetary Fund ('IMF'), the Bank for International Settlements ('BIS'), the Islamic Development Bank ('IDB') or its subsidiaries, the European Central Bank ('ECB') and European Commission ('EC'), or Multilateral Development Banks ('MDB') satisfying the following conditions:
 - a) Assigned a 0 percent risk weight as shown in Appendix A;
 - b) Traded in large, deep and active repo or cash markets and characterized by a low level of concentration;
 - c) Have a proven track record of reliable liquidity in the cash or repo market even during stressed market conditions;
 - d) Not an obligation of a financial institution or any of its subsidiaries.
- (v) Where the sovereign has a non-0 percent risk weight, debt securities/Sukuk issued in domestic currency by the sovereign or central bank of the country in which the liquidity risk is being taken, or in the bank's home country; and
- (vi) Where the sovereign has a non-0 percent risk weight, debt securities/Sukuk in foreign currencies issued by the sovereign or central bank up to the amount of the bank's stressed net cash outflows in that specific foreign currency arising from the bank's operations in that jurisdiction.



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LM-11.2 High Quality Liquid Assets (HQLA) (continued)

Level 2 Assets

Level 2 assets are subject to a 40 percent cap of the overall stock of HQLA assets after haircuts have been applied.

A. Level 2A assets

A 15 % haircut is applied to the current market value of each level 2A asset held in the stock of HQLA.

Level 2A assets are limited to the following;

- (i) Debt securities/Sukuk issued or guaranteed by sovereigns, central banks, PSEs or multilateral development banks that satisfy all the following conditions:
 - a. Assigned a 20 percent risk weight, as per Appendix A;
 - b. Traded in large deep and active repo or cash markets and characterised by low level of concentration;
 - c. Have a proven track record of reliable source of liquidity in the markets (sale or repo) even during stressed market conditions (i.e. maximum price decline not exceeding 10 percent or the increase in haircut not exceeding 10 percent over a 30-day period during a relevant significant stress period); and
 - d. Not an obligation of a financial institution, or any of its affiliated entities.
- (ii) Debt securities (including commercial paper)/Sukuk that can be monetised, and covered bonds that satisfy all of the following conditions:
 - a. Not issued by a financial institution or any of its affiliated entities;
 - b. In the case of covered bonds, not issued by the bank itself or any of its affiliated entities;
 - c. Either have a long-term credit rating from a recognized external credit assessment institution ('ECAI') of at least AA- or, in the absence of a long term rating, a short-term rating equivalent in quality to the long-term rating;
 - d. Traded in large, deep and active cash or repo markets and characterized by a low level of concentration; and
 - e. Have a proven track record of reliable liquidity in the markets, even during stressed market conditions (i.e. maximum price decline not exceeding 10 percent, or the increase in haircut not exceeding 10 percent over a 30-day period during a relevant period of significant liquidity stress).



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LM-11.2 High Quality Liquid Assets (HQLA) (continued)

B. Level 2B assets

Level 2B assets are limited to the following;

- (i) Debt securities (including commercial paper)/Sukuk issued by non-financial institutions, subject to a 50 percent haircut, that satisfy all of the following conditions:
 - a. Debt securities/Sukuk issued by non-financial institutions, or one of their subsidiaries, and have a long-term credit rating between A+ and BBB- or equivalent, or in the absence of a long-term rating, a short-term rating equivalent to the long-term rating;
 - b. Traded in large deep and active repo, or cash markets characterized by a low level of concentration; and
 - c. Have a proven track record as a reliable source of liquidity in the markets even during stressed market conditions (i.e. maximum price decline not exceeding 20 percent. or the increase in haircut not exceeding 20 percent over a 30-day period during a relevant period of significant liquidity stress);
- (ii) Common equity shares subject to a 50 percent haircut that satisfy all of the following conditions:
 - a. Not issued by a financial institution or any of its affiliated entities;
 - b. Exchange traded and centrally cleared;
 - c. A constituent of the major stock index in the home jurisdiction or where the liquidity risk is being taken;
 - d. Denominated in BHD, USD or in the currency of the jurisdiction where the liquidity risk is being taken;
 - e. Traded in large, deep and active repo or cash markets characterized by a low level of concentration; and
 - f. Have a proven track record as a reliable source of liquidity in the markets, even during stressed market conditions (i.e. maximum price decline of not exceeding 40 percent, or increase in haircut not exceeding 40 percent over a 30-day period during a relevant period of significant liquidity stress).

Appendix A provides the calculation of the caps and haircuts.



MODULE	LM:	Liquidity Risk Management
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LM-11.2 High Quality Liquid Assets (HQLA) (continued)

LM-11.2.7

If a bank wishes to include other assets under level 2B assets, prior approval must be obtained from the CBB.

LM-11.2.8

Bahraini conventional bank licensees must demonstrate their ability to monitor the concentration of the assets in their stock of HQLA, and they must have adequate policies in place for monitoring asset concentration and granular distribution.



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LM-11.3 Cash Outflows

LM-11.3.1 Net cash outflow is defined as the total expected cash outflows, minus total expected cash inflows in the stress scenario for the subsequent 30 calendar days. Total expected cash outflows are calculated by multiplying the outstanding balances of various categories or types of liabilities and OBS commitments with the run-off rates, as shown in these requirements. Total expected cash inflows are calculated by multiplying the outstanding balances of various categories of contractual receivables by the rates at which they are expected to flow in, up to an aggregate cap of 75 percent of total expected cash outflows. (See Appendix A)

LM-11.3.2 If an asset is included as part of the stock of HQLA (i.e. the numerator), the associated cash inflows cannot also be counted as cash inflows (i.e. the denominator).

Outflows

LM-11.3.3 Retail deposits are defined as deposits placed with a bank by a natural person. Deposits from legal entities, sole proprietorships or partnerships are captured in wholesale deposit categories. Retail deposits include demand deposits, saving accounts and term deposits.

LM-11.3.4 Retail deposits are divided into ‘stable’ and ‘less stable’ categories as described below:

A. Stable Deposits

Stable deposits are subject to a run-off rate of 3%. Stable deposits must meet the following conditions:

- i. Fully insured⁶ under a deposit insurance scheme; and
- ii. Meets either of the following 2 conditions (a) or (b):
 - a) The depositors have other established relationships with the bank that make deposit withdrawal highly unlikely.

⁶ ‘Fully insured’ means that 100 percent of the deposit amount is covered by an effective deposit insurance scheme. Deposit balances up to the deposit insurance limit can be treated as “fully insured”. However, any amount in excess of the deposit insurance limit is to be treated as ‘less stable’. For example, if a depositor has a deposit of BD 150,000 that is covered by a deposit insurance scheme, which has a limit of BD 100,000, where the depositor would receive at least BD 100,000 from the deposit insurance scheme if the bank were unable to pay, then BD 100,000 would be considered “fully insured” and treated as stable deposits, while BD 50,000 would be treated as less stable deposits.

⁶ An established relationship is deemed to exist between the depositor and the bank, if:

- The bank has an active contractual relationship with the depositor of at least 12 months duration; or
- The depositor has a borrowing relationship with the bank for residential loans or other long term loans; or

The depositor has a minimum number of active products, other than loans, with the bank.



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LM-11.3 Cash Outflows (continued)

An established relationship is deemed to exist between the depositor and the bank, if:

- The bank has an active contractual relationship with the depositor of at least 12 months duration;
- The depositor has a borrowing relationship with the bank for residential loans or other long term loans; or
- The depositor has a minimum number of active products, other than loans, with the bank;

Or

- b) The deposits are in transactional accounts (e.g. accounts where salaries are automatically deposited).

B. Less Stable Deposits

- (i) Cash outflows related to retail term deposits with a residual maturity or withdrawal notice period greater than 30 days will be excluded from the total expected cash outflows if the depositor has no legal right to withdraw deposits within the 30-day horizon of the LCR, or if early withdrawal results in a significant penalty greater than the loss of profits payable on the deposit;
- (ii) The CBB may, at its discretion, apply run-off rates on these deposits if there are concerns that depositors might withdraw their deposits in the same manner as demand deposits during either normal or stress times, or if there are concerns that banks may have to repay such deposits early in stressed times for reputational reasons;
- (iii) If a bank is unable to readily identify which retail deposits would qualify as 'stable' according to the definition provided above, it must place the full amount in the 'less stable' category; and
- (iv) Run-off rates shall be applied to less stable deposits as outlined in Appendix A.



MODULE	LM:	Liquidity Risk Management
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LM-11.3 Cash Outflows (continued)

Unsecured Wholesale Funding

LM-11.3.5

Unsecured wholesale funding is defined as those liabilities due to non-naturalised persons (i.e. legal entities, including sole proprietorships) and are not collateralized by legal rights to specifically designated assets owned by the bank in the case of bankruptcy, insolvency, liquidation or resolution. Obligations related to derivative contracts are excluded from this definition.

LM-11.3.6

Bahraini conventional bank licensees must include all funding which is callable within the LCR's horizon of 30 days or that has its earliest possible contractual maturity date situated within this horizon (such as maturing term deposits and unsecured debt securities), as well as funding with an undetermined maturity. This must also include funding with options that are exercisable at the investor's discretion within the 30-day calendar day horizon. For funding with options exercisable at the bank's discretion where there is a possibility of not exercising the option (e.g. for reputational reasons), banks must include these liabilities as outflows.

LM-11.3.7

Wholesale funding that is callable by the funds provider subject to a contractually defined and binding notice period exceeding 30 days must not be included in the calculation of the LCR.



MODULE	LM:	Liquidity Risk Management
CHAPTER	LM-11:	Liquidity Coverage Ratio

LM-11.3 Cash Outflows (continued)

LM-11.3.8

For the purpose of the LCR, deposits and unsecured wholesale funding are to be categorized as below (please see Appendix A).

A. Unsecured Wholesale Funding Provided by Small Business Customers

- (i) This category includes deposits and other funds provided by small business customers (other than financial institutions). For the purpose of these requirements, small business customer deposits are defined as deposits which have the same characteristics of retail accounts, provided that total aggregate funding raised from one small business customer is less than BHD 500,000 (on a consolidated basis where applicable); and
- (ii) Term deposits provided by small business customers are treated the same way as retail deposits.

B. Operational Deposits Generated by Clearing, Custody and Cash Management Activities

- (i) Certain banking activities that lead to financial and non-financial customers needing to place, or leave deposits with a bank in order to facilitate their access and ability to use payment and settlement systems and otherwise make payments. These funds may receive a 25 percent run-off factor, only if the customer has a substantive dependency with the bank and the deposit is required for such activities. Banks must seek the CBB's prior approval on such accounts and the CBB may choose not to allow the banks to use operational deposit run-off rates in certain cases;



MODULE	LM:	Liquidity Risk Management
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LM-11.3 Cash Outflows (continued)

- (ii) Qualifying activities in this context refer to clearing, custody or cash management activities that meet the following criteria;
 - a. The customer is reliant on the bank to perform these services as an independent third-party intermediary over the next 30 days. For example, this condition would not be met if the customer has alternative back-up arrangements;
 - b. These services must be provided under a legally binding agreement; and
 - c. The termination of such arrangements shall be subject either to a notice period of at least 30 days, or significant switching costs to be borne by the customer if the operational deposits are moved before 30 days.
- (iii) Qualifying operational deposits generated by such activities are ones where:
 - a. The deposits are held in specifically designated accounts and priced without giving an economic incentive to the customer for maintaining such deposits; and
 - b. The deposits are by-products of the underlying services and not solicited in bulk in the wholesale market.
- (iv) Any excess balances that could be withdrawn, leaving enough funds to fulfil the clearing, custody and cash management activities, do not qualify for the 25 percent run-off rate. Only that portion of the deposit which is proven to meet the customer's needs can qualify as stable. Excess balances must be treated in the category for non-operational deposits;
- (v) Banks must determine methodology for identifying excess balances in operational accounts;
- (vi) If the deposit arises out of correspondent banking, or from the provision of prime brokerage services, it will be treated as if there were no operational activities for the purpose of determining run-off factors; and
- (vii) That portion of the operational deposits generated by clearing, custody and cash management activities that is fully covered by deposit insurance can receive the same treatment as 'stable' retail deposits and, as such, can be subject to the 5 percent run-off rate factor.



MODULE	LM:	Liquidity Risk Management
CHAPTER	LM-11:	Liquidity Coverage Ratio

LM-11.3 Cash Outflows (continued)

C. Unsecured Wholesale Funding Provided by Non-financial Corporates and Sovereigns, Central Banks, Multilateral Development Banks and PSEs

This category comprises all deposits and other extensions of unsecured funding from non-financial corporate customers (that are not categorized as small business customers) and both domestic and foreign sovereign, central bank, multilateral development bank and PSE, Bahrain's Social Insurance Organization and GCC, Public Investment Funds (PIFs)⁷ that are not held for operational purposes. The run-off factor for these funds is 40 percent and, in cases where the deposit is fully insured, the run-off factor shall be 20 percent.

D. Unsecured Wholesale Funding Provided by Other Legal Entity Customers

- (i) This category comprise all deposits and other funding from other institutions (including banks, securities firms, insurance companies, etc.), fiduciaries, beneficiaries, special purpose vehicles, affiliated entities of the bank and other entities that are not specifically held for operational purposes and included in the prior categories. The run-off factor for these funds is 100 percent;
- (ii) All notes, bonds and other debt securities issued by the bank are included in this category regardless of the holder, unless the bond is sold exclusively in the retail market and held in retail accounts (including small business customer accounts treated as retail, as per LM-11.3.8A) in which the instruments can be treated in the appropriate retail or small business customer deposit category. To be treated as such, it is not sufficient that the debt instruments are specifically designed and marketed to retail or small business customers, but rather there must be limitations placed such that those instruments cannot be bought and held by parties other than retail or small business customers; and
- (iii) Customer cash balances arising from the provision of prime brokerage services must be considered separate from any balances related to client protection regimes imposed by the regulatory authorities, and must not be netted against other customer exposures included in this Module.

⁷ Only deposits from GCC PIFs where the PIF is a controller of the bank must be included under this classification.



MODULE	LM: Liquidity Risk Management
CHAPTER	LM-11: Liquidity Coverage Ratio

LM-11.3 Cash Outflows (continued)

Secured Funding

LM-11.3.9

Secured funding is defined as those liabilities and general obligations that are collateralised by legal rights to specifically designated assets owned by the bank in the case of bankruptcy, insolvency, liquidation or resolution. The amount of outflow is calculated based on the amount of funds raised through the transaction, and not the value of the underlying collateral. The table below summarises the applicable factors:

Categories for outstanding maturing secured	Amount to add to cash flows %
Backed by Level 1 assets or with central banks	0%
Bank by Level 2A assets	15%
- Secured funding transactions with domestic sovereign, PSE or multilateral development bank that are not backed by Level 1 or 2 assets - Backed by RMBS eligible for inclusion in Level 2B	25%
Backed by other Level 2B assets	50%
All other transactions	100%



MODULE	LM:	Liquidity Risk Management
CHAPTER	LM-11:	Liquidity Coverage Ratio

LM-11.3 Cash Outflows (continued)

Other Cash Outflows

LM-11.3.10

Additional items and their runoff rates as follows:

A. Derivatives cash outflows:

- (i) The sum of all net cash outflows will receive a 100 percent factor. Banks must calculate, in accordance with their existing valuation methodologies, expected contractual derivative cash inflows and outflows. Cash flows must be calculated on a net basis (i.e. inflows can offset outflows) by counterparty, only where a valid master netting agreement exists. The banks must exclude from such calculations, those liquidity requirements that would result from increased collateral needs due to market value movements or falls in value of collateral posted. Options must be assumed to be exercised when they are in the money to the option buyer;
- (ii) Where derivative payments are collateralized by HQLA, cash outflows must be calculated net of any corresponding cash inflows arising from collateral received for derivatives, or that would result from contractual obligations for cash or collateral to be provided to the bank, if the bank is entitled to re-use the collateral in new transactions; and
- (iii) Below run-off rates apply in the following cases:
 - a. Increased liquidity needs related to downgrade triggers embedded in financing transactions, derivatives and other contracts. Banks must review those contracts in detail and identify the clauses that require the posting of additional collateral or early repayment upon the ratings downgrades, by and up to three notches. A 100 percent run-off rate will be applied to the amount of collateral that would be posted for, or contractual cash outflows associated with, the credit rating downgrades;



MODULE	LM:	Liquidity Risk Management
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LM-11.3 Cash Outflows (continued)

- b. Increased liquidity needs related to the changes in the market value of the bank's posted collateral. A run-off rate of 20 percent must apply to cover the possibility of changes in value of the collateral posted by the bank in the derivatives contract, as well as other transactions. This rate must apply to all collateral, excluding level 1 assets after offsetting the collateral posted by the same counterparty, which can be used again without any restrictions. This rate will be calculated based on the notional amount of the asset after any other applicable haircuts;
- c. A run-off rate of 100 percent will apply to non-segregated collateral that could contractually be recalled by the counterparty because the collateral is in excess of the counterparty's current collateral requirements;
- d. A run-off rate of 100 percent will apply to the collateral that is contractually due, but where the counterparty has not yet demanded the posting of such collateral;
- e. A run-off rate of 100 percent will apply to the amount of HQLA collateral that can be substituted for non-HQLA assets without the bank's consent; and
- f. Banks must calculate the liquidity needs to face potentially substantial liquidity risk exposures, to valuation changes of derivative contracts. This must be calculated by identifying the largest absolute net 30-day collateral flow realized during the preceding 24 months. The net flows of collateral must be calculated by offsetting the collateral inflows and outflows. This must be executed using the same Master Netting Agreement ('MNA')

B. Asset Backed Securities, Covered Bonds and Other Structured Financing Instruments

Such transactions are subject to a run-off rate of 100 percent of the funding transaction maturing within the 30-day period, when these instruments are issued by the bank itself (assuming that the refinancing market will not exist).



MODULE	LM: Liquidity Risk Management
CHAPTER	LM-11: Liquidity Coverage Ratio

LM-11.3 Cash Outflows (continued)

C. Asset-backed Commercial Paper, Securities Investment Vehicles and Other Financing Facilities

A run-off rate of 100 percent must apply to the payments due within a 30-day period. In cases where assets are returnable, a run-off rate of 100 percent must apply to the returned assets when there are derivatives, or derivative-like components, contractually mentioned in the agreements for the structure, allowing the 'return' of assets in a financing arrangement (assuming that the refinancing market will not exist).

D. Asset-backed Commercial Paper, Securities Investment Vehicles and Other Financing Facilities

A run-off rate of 100 percent must apply to the payments due within a 30-day period. In cases where assets are returnable, a run-off rate of 100 percent must apply to the returned assets when there are derivatives, or derivative-like components, contractually mentioned in the agreements for the structure, allowing the 'return' of assets in a financing arrangement (assuming that the refinancing market will not exist).

E. Drawdowns on Committed Credit and Liquidity Facilities

These facilities include contractually irrevocable ('committed') or conditionally revocable agreements to extend funds. Unconditionally revocable facilities that are unconditionally cancellable are excluded from this section and included in 'Other Contingent Funding Liabilities' section for the purpose of the following requirements:

- (i) When calculating the facilities mentioned in the preceding paragraph, the currently undrawn portion of these facilities is the calculated net of any HQLA if the HQLA have already been posted as collateral by the counterparty to secure the facilities, or are contractually obliged to be posted when the counterparty will draw down the facility if the bank is entitled to re-use the collateral and there is no undue correlation between the probability of drawing the facility and the market value of the collateral. In such cases, the assets posted as collateral can be netted to the extent that this collateral is not already counted in the stock of HQLA, as per these requirements;



MODULE	LM:	Liquidity Risk Management
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LM-11.3 Cash Outflows (continued)

- (ii) For the purpose of these requirements, a liquidity facility is defined as any committed, undrawn (unused) backup facility that would be utilized to refinance the debt obligations of a customer in situations where such a customer is unable to rollover that debt in financial markets. To calculate the LCR, an amount equivalent to the currently outstanding debt issued by the customer maturing within a 30-day period is taken, while excluding the portion of the backing debt within this period. General working capital facilities for corporate entities will not be classified as liquidity facilities, but as credit facilities. Any other undrawn facilities will be classified as credit facilities; and
- (iii) Any facilities provided to hedge funds and special purpose funding vehicles or other vehicles used to finance the banks own assets, must be captured in their entirety as a liquidity facility, to other legal entities.

F. Contractual Obligations To Extend Funds Within a 30-day Period

Any contractual lending obligations to financial institutions not captured elsewhere in the requirements must be captured here at a 100 percent run-off rate.

If the total of all contractual obligations to extend funds to retail and non-financial corporate clients within the next 30 calendar days (not captured in the prior categories) exceeds 50 percent of the total contractual inflows due in the next 30 calendar days from these clients, the difference must be reported as a 100 percent outflow (i.e. the excess above 50 percent of the total inflow of these clients within a period of 30 days).



MODULE	LM: Liquidity Risk Management
CHAPTER	LM-11: Liquidity Coverage Ratio

LM-11.3 Cash Outflows (continued)

G. Other Contingent Funding Obligations

The table below shows the cash outflow run-off rates for other contingent funding obligations:

Table: Run-off rates for Other Contingent Funding Obligations

Type of Contingent Funding	Run-off Rates (%)
Revocable and unconditional financing and liquidity facilities ‘uncommitted’.	5%
Non-contractual contingent funding obligations related to potential liquidity draws from joint venture or minority investments in entities.	5%
Obligations related to trade financing (including letters of guarantee and letters of credit).	5%
Guarantees and letters of credit unrelated to trade finance obligations.	5%
Non-contractual commitments related to customers’ short positions covered by other customers’ collateral.	50%
Outstanding debt securities/Sukuk (more than 30 days maturity).	5%
Any other non-contractual obligations not captured above.	5%

- (i) Lending commitments, such as direct import or export financing for non-financial corporate firms are excluded from this treatment and banks will apply the run-off rates specified in Appendix A; and
- (ii) A 100 percent run-off rate must apply for any other contractual cash outflows within the next 30 calendar days, not captured above, other than operational expenses (which are not covered by this Module).



MODULE	LM: Liquidity Risk Management
CHAPTER	LM-11: Liquidity Coverage Ratio

LM-11.4 Cash Inflows

LM-11.4.1

When considering its available cash inflows, the bank must only include contractual inflows from outstanding exposures that are fully performing and for which the bank has no reason to expect a default within the 30-day time horizon. Contingent inflows are not included in total net cash inflows.

LM-11.4.2

Bahraini conventional bank licensees need to monitor the concentration of expected inflows across wholesale counterparties in the context of the banks' liquidity risk management, in order to ensure that liquidity position is not overly dependent on the arrival of expected inflows from one or a limited number of wholesale counterparties.

LM-11.4.3

The amount of inflows that can offset outflows is capped at 75 percent of the total expected cash outflows, as calculated in the Module for the purpose of calculating the net cash outflows.

A. Secured Lending, Including Reverse Repos and Securities Borrowing

LM-11.4.4

A bank must assume that maturing financing transactions secured by level 1 assets will be rolled-over and will not give rise to any cash inflows; as a result, an inflow factor of 0 percent will be applied to this kind of transaction. While maturing financing transactions secured by Level 2 HQLA will lead to cash inflows equivalent to the relevant haircut for the specific assets. A bank is assumed not to roll-over maturing secured financing transactions which have been secured by non-HQLA assets, and can assume receiving back 100 percent of the cash related to those agreements (i.e. an inflow factor of 100 percent).

LM-11.4.5

Maturing secured lending transactions backed by different asset categories will receive different factors provided that the collateral obtained through reverse repo, or securities borrowing which matures within the 30-day horizon, is not used to cover short positions.

LM-11.4.6

If the collateral obtained through reverse repo or securities borrowing matures within the 30-day horizon, and is re-used to cover short positions that could be extended beyond 30 days, a bank must assume that the reverse repo or securities borrowing arrangements will be rolled-over and will not give rise to any cash inflow (0 percent).



MODULE	LM:	Liquidity Risk Management
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LM-11.4 Cash Inflows (continued)

LM-11.4.7

In the case of a bank's short positions, if the short position is being covered by an unsecured security borrowing, the bank must assign a 100 percent outflow of either cash or HQLA to secure the borrowing, or cash to close out the short position by buying back the security. This must be assigned a 100% run-off rate under the other contractual cash outflows described in LM-11.3.10 (F). However, if the bank's short position is being covered by a collateralized securities financing transaction, the bank must assume the short position will be maintained throughout the 30-day period and receive a 0 percent outflow.

B. Committed Facilities

LM-11.4.8

No cash inflows are assumed from credit facilities or liquidity facilities that the bank holds at other institutions for its own purposes. As such, these transactions must receive a 0 percent cash inflow rate, meaning that this scenario does not consider inflows from committed credit or liquidity facilities.

C. Other Inflows by Counterparty

LM-11.4.9

For all other types of transactions, either secured or unsecured, the bank must apply inflow rates according to the counterparty category, as explained in the following paragraphs.

LM-11.4.10

When considering loan payments, the bank must only include inflows from fully performing loans. For revolving credit facilities, this assumes that the existing loans are rolled-over and that any remaining balances (undrawn) are treated in the same way as a committed facility according to LM-11.3.10 (E).

LM-11.4.11

Inflows from loans that have no specific maturity (i.e. have non-defined or open maturity) must not be included; therefore, no assumptions must be applied as to when maturity of such loans would occur. An exception to this would be minimum payments of principal, commission or interest associated with an open maturity financing transactions, provided that such payments are contractually due within 30 days. These minimum payment amounts must be captured as inflows at the rates prescribed in the paragraphs below (articles a. and b.).



MODULE	LM: Liquidity Risk Management
CHAPTER	LM-11: Liquidity Coverage Ratio

LM-11.4 Cash Inflows (continued)

LM-11.4.12 Bahraini conventional bank licensees must apply the below rates to the cash inflows maturing within 30 calendar days by counterparty:

- a. Cash inflows from retail customers and small business customers: 50 percent of the contractual amount.
- b. Other wholesale inflows:
 - i. 100 percent for financial institutions and central bank counterparties; and
 - ii. 50 percent for non-financial wholesale counterparties.
- c. Operational deposits: Deposits held at other financial institutions for operational purposes will receive a 0 percent inflow rate.

LM-11.4.13 Inflows from securities maturing within 30 days not included in the stock of HQLA must be treated in the same category as inflows from financial institutions (i.e. 100 percent inflow). Bahraini conventional bank licensees may also recognize in this category inflows from the release of balances held in segregated accounts in accordance with regulatory requirements for the protection of customer trading assets, provided that these segregated balances are maintained in HQLA. Liquid assets from level 1 and level 2 securities maturing within 30 days must be included as HQLA, provided that they meet all operational and definitional requirements, as laid out in LM- 11.2.

D. Other Cash Inflows

LM-11.4.14 Derivatives cash inflows: The sum of all net cash inflows must receive a 100 percent inflows factor. The amounts of derivative cash inflows and outflows must be calculated in accordance with the methodology described in LM-11.3.10 (A) Sub Paragraph.(i).

LM-11.4.15 Where derivative contracts are collateralized by HQLA, cash inflows must be calculated net of any corresponding cash or contractual outflows that would result, all other things being equal, from contractual obligations for cash or collateral to be posed by the bank, given these contractual obligations would reduce the stock of HQLA. This is in accordance with the principle that banks must not double-count liquidity inflows or outflows.



MODULE	LM: Liquidity Risk Management
CHAPTER	LM-11: Liquidity Coverage Ratio

LM-11.4 Cash Inflows (continued)

LM-11.4.16

Other contractual cash inflows: Other contractual cash inflows must be captured here, with an explanation given as to what this bucket comprises of; they must receive a 100 percent inflow rate. Cash inflows related to cash flows which are not pertinent to the bank's primary activities are not taken into account in the calculation of the net cash outflows for the purposes of calculating the LCR.

MODULE	LM: Liquidity Risk Management
CHAPTER	LM-12: Net Stable Funding Ratio

LM-12.1 Introduction

LM-12.1.1 The content of this section is applicable to all locally incorporated conventional banks licensed by the Central Bank of Bahrain.

LM-12.1.2 The objective of the Net Stable Funding Ratio (NSFR) is to promote the resilience of banks' liquidity risk profiles and to incentivise a more resilient banking sector over a longer time horizon. The NSFR will require banks to maintain a stable funding profile in relation to the composition of their assets and off-balance sheet activities. A sustainable funding structure is intended to reduce the likelihood that disruptions to a bank's regular sources of funding will erode its liquidity position in a way that would increase the risk of its failure and potentially lead to broader systemic stress. The NSFR limits overreliance on short-term wholesale funding, encourages better assessment of funding risk across all on-balance sheet and off-balance sheet items, and promotes funding stability.



MODULE	LM:	Liquidity Risk Management
CHAPTER	LM-12:	Net Stable Funding Ratio

LM-12.2 Scope of Application

LM-12.2.1 Bahraini conventional bank licensees shall calculate the NSFR separately for each of the following levels:

- (a) Level (A): The NSFR for the bank on solo basis; and
- (b) Level (B): The NSFR for the bank on a consolidated basis.

LM-12.2.2 When applying these requirements on a consolidated basis, the available stable funding ('ASF') factors applied for branches and subsidiaries outside Bahrain must be as per the requirements in this Module.

MODULE	LM: Liquidity Risk Management
CHAPTER	LM-12: Net Stable Funding Ratio

LM 12.3 Requirements and Calculation Methodology

LM-12.3.1 The NSFR is defined as the amount of available stable funding relative to the amount of required stable funding. This ratio must be equal to at least 100 percent on an ongoing basis. ‘*Available stable funding*’ is defined as the portion of capital and liabilities expected to be reliable over the time horizon considered by the NSFR, which extends to 1 year. ‘*Required stable funding*’ is defined as the portion of assets and OBS exposures expected to be funded on an ongoing basis over a 1-year horizon. The amount of such stable funding required of a specific institution is a function of the liquidity characteristics and residual maturities of the various assets held by that institution, as well as those of its OBS exposures.

LM-12.3.2 The NSFR (as a percentage) must be calculated as follows:

Available stable funding	
Required stable funding	≥ 100

LM-12.3.3 The NSFR definitions mirror those outlined in the section LM-11 ‘Liquidity Coverage Ratio’ unless otherwise specified.

MODULE	LM: Liquidity Risk Management
CHAPTER	LM-12: Net Stable Funding Ratio

LM-12.4 NSFR Components

A) Available Stable Funding

LM-12.4.1 The amount of ASF is measured based on the broad characteristics of the relative stability of an institution's funding sources, including the contractual maturity of its liabilities and the differences in the propensity of different types of funding providers to withdraw their funding. The amount of ASF is calculated by first assigning the carrying value of a bank's capital and liabilities to one of five categories, as presented below in Table (1), before the application of any regulatory deductions, filters or other adjustments. The amount assigned to each category is then multiplied by an ASF factor, and the total ASF is the sum of the weighted amounts.

LM-12.4.2 When determining the maturity of an equity or liability instrument, investors are assumed to redeem a call option at the earliest possible date. In particular, where the market expects certain liabilities to be redeemed before their legal final maturity date, banks must assume such behaviour for the purpose of the NSFR and include these liabilities in the corresponding ASF category. For long-dated liabilities, only the portion of cash flows falling at or beyond the 6-month and 1-year time horizons must be treated as having an effective residual maturity of 6 months or more, and 1 year or more, respectively.

Calculation of Derivative Liability Amounts

LM-12.4.3 Derivative liabilities are calculated first based on the replacement cost for derivative contracts (obtained by marking to market) where the contract has a negative value. When an eligible bilateral netting contract is in place that meets the conditions as specified in the 'bilateral netting agreements' conditions specified in Appendix F, the replacement cost for the set of derivative exposures covered by the contract will be the net replacement cost.

MODULE	LM: Liquidity Risk Management
CHAPTER	LM-12: Net Stable Funding Ratio

LM-12.4 NSFR Components (continued)

LM-12.4.4 In calculating NSFR derivative liabilities, collateral posted in the form of variation margin in connection with derivative contracts, regardless of the asset type, must be deducted from the negative replacement cost amount.^{8,2}

Liabilities and Capital Receiving a 100 percent ASF Factor

LM-12.4.5 Liabilities and capital instruments receiving a 100 percent ASF factor comprise:

- (a) The total amount of regulatory capital, before the application of capital deductions⁹, including general provisions calculated under the regulatory capital and excluding the proportion of Tier 2 instruments with residual maturity of less than 1 year. With regards to branches of foreign banks, this category includes the actual value of funds designated for the branch/branches;
- (b) The total amount of any capital instrument not included in (a) that has an effective residual maturity of 1 year or more, but excluding any instruments with explicit or embedded options that, if exercised, would reduce the expected maturity to less than 1 year; and
- (c) The total amount of secured and unsecured borrowings and liabilities (including term deposits) with effective residual maturities of 1 year or more. Cash flows falling below the 1-year horizon, but arising from liabilities with a final maturity greater than 1 year do not qualify for the 100 percent ASF factor.

Liabilities Receiving a 95 percent ASF Factor

LM-12.4.6 Liabilities receiving a 95 percent ASF factor comprise of ‘stable’ non-maturing deposits (demand) deposits, saving deposits and/or term deposits with residual maturities of less than 1 year provided by retail customers.

⁸ NSFR derivative liabilities = (derivative liabilities) – (total collateral posted as variation margin on derivative liabilities).

² To the extent that the bank’s accounting framework reflects on the balance sheet, in connection with a derivative contract, an asset associated with collateral posted as variation margin that is deducted from the replacement cost amount for purposes of the NSFR, that asset should not be included in the calculation of a bank’s required stable funding (“RSF”) to avoid any double-counting.

⁹ Capital instruments reported here should meet all requirements outlined in CBB Capital Adequacy Ratio – Basel III Guidelines.

MODULE	LM: Liquidity Risk Management
CHAPTER	LM-12: Net Stable Funding Ratio

LM-12.4 NSFR Components (continued)

LM-12.4.7 Stable deposits for this purpose are the amount of the deposits that are fully insured¹⁰ by a deposit insurance scheme, and where:

- (a) The depositors have other established relationships with the bank that make deposit withdrawal highly unlikely; or
- (b) The deposits are in transactional accounts (e.g. accounts where salaries are automatically deposited).

All other deposits and accounts that do not satisfy these criteria shall be treated as less stable deposits.

LM-12.4.8 The presence of deposit insurance alone is not sufficient to consider a deposit ‘stable’ if it does not satisfy all of the conditions previously outlined.

Liabilities Receiving a 90 Percent ASF Factor

LM-12.4.9 Liabilities receiving a 90 percent ASF factor comprise of ‘less stable’ demand deposits, saving deposits and/or term deposits with residual maturities of less than 1 year provided by retail and small business customers.

Liabilities Receiving a 50 Percent ASF Factor

LM-12.4.10 Liabilities receiving a 50 percent ASF factor comprise:

- (a) Funding (secured and unsecured) with a residual maturity of less than 1 year provided by non-financial corporate customers;
- (b) Operational deposits (as defined in Appendix E);
- (c) Funding with residual maturity of less than 1 year from sovereigns, public sector entities (PSEs), and multilateral and national development banks; and
- (d) Other funding (secured and unsecured) not included in the categories above with a residual maturity of between 6 months to less than 1 year, including funding from central banks and financial institutions.

‘Funding’ refers to all sources of funding including deposits, loans and others.

¹⁰ ‘Fully insured’ means that 100 percent of the deposit amount is covered by an effective deposit insurance scheme. Deposit balances up to the deposit insurance limit can be treated as “fully insured”. However, any amount in excess of the deposit insurance limit is to be treated as ‘less stable’. For example, if a depositor has a deposit of BD 150,000 that is covered by a deposit insurance scheme, which has a limit of BD 100,000, where the depositor would receive at least BD 100,000 from the deposit insurance scheme if the bank were unable to pay, then BD 100,000 would be considered “fully insured” and treated as stable deposits, while BD 50,000 would be treated as less stable deposits.

MODULE	LM: Liquidity Risk Management
CHAPTER	LM-12: Net Stable Funding Ratio

LM-12.4 NSFR Components (continued)

5) Liabilities Receiving a 0 Percent ASF Factor

LM-12.4.11 Liabilities receiving a 0 percent ASF factor comprise:

- (a) All other liability categories not included in the above categories, including other funding with residual maturity of less than 6 months from the central bank and financial institutions;
- (b) Other liabilities without a stated maturity. This category may include short positions and open maturity positions. Two exceptions can be recognized for liabilities without a stated maturity:
 - i. First, deferred tax liabilities, which must be treated according to the nearest possible date on which such liabilities could be realized; and
 - ii. Second, minority interest, which must be treated according to the term of the instrument, usually in perpetuity.

These exceptions would then be assigned either a 100 percent ASF factor if the effective maturity is 1 year or greater, or 50 percent, if the effective maturity is between 6 months and less than 1 year.
- (c) NSFR derivative liabilities, as calculated according to LM-12.4.3 and LM-12.4.4, and NSFR derivative assets, as calculated according to LM-12.4.21 and LM-12.4.22, if the NSFR derivative liabilities are greater than NSFR derivative assets;¹¹ and
- (d) ‘Trade date’ payables arising from purchases of financial instruments, foreign currencies and commodities that (i) are expected to settle within the standard settlement cycle or period that is customary for the relevant exchange or type of transaction, or (ii) have failed to, but are still expected to, settle.

LM-12.4.12 Table (1) below summarizes the components of each of the ASF categories and the associated maximum ASF factor to be applied in calculating a bank’s total amount of available stable funding.

¹¹ In this case, $ASF = 0\% \times \text{MAX} ((\text{NSFR derivative liabilities} - \text{NSFR derivative assets}), 0)$.

MODULE	LM: Liquidity Risk Management
CHAPTER	LM-12: Net Stable Funding Ratio

LM-12.4 NSFR Components (continued)

Table 1: Summary of Liability Categories and Associated ASF Factors

ASF Factor	Components of ASF Category
100%	- Total regulatory capital (excluding Tier 2 instruments with a residual maturity of less than 1 year); - Other capital instruments and liabilities with an effective residual maturity of 1 year or more; - Deferred tax liabilities with a residual maturity of 1 year or greater; and - Minority interest with a residual maturity of 1 year or more.
95%	Stable demand deposits, saving deposits and term deposits with a residual maturity of less than 1 year provided by retail customers.
90%	Less stable demand deposits, saving deposits and term deposits with a residual maturity of less than 1 year provided by retail and small business customers.
50%	- Funding with a residual maturity of less than 1 year provided by non-financial corporate customers; - Operational deposits; - Funding with a residual maturity of less than 1 year from sovereigns, PSEs, and multilateral and national development banks, Bahrain's Social Insurance Organization and GCC PIFs (where the PIF is a controller of the bank); - Other secured or unsecured funding with a residual maturity between 6 months and less than 1 year not included in the above categories, including funding provided by central banks and financial institutions; - Deferred tax liabilities with a residual maturity of between 6 months and less than 1 year; and - Minority interest with residual maturity between 6 months and less than 1 year.
ASF Factor	Components of ASF Category
0%	- All other liabilities and equity not included in the above categories, including liabilities without a stated maturity (with a specific treatment for deferred tax liabilities and minority interests); - NSFR derivative liabilities net of NSFR derivative assets if NSFR derivative liabilities are greater than NSFR derivative assets; and 'Trade date' payables arising from purchases of financial instruments, foreign currencies and commodities.

MODULE	LM: Liquidity Risk Management
CHAPTER	LM-12: Net Stable Funding Ratio

LM-12.4 NSFR Components (continued)

Required Stable Funding (RSF)

LM-12.4.13 The amount of RSF funding is measured based on the broad characteristics of the liquidity risk profile of an institution's assets and OBS exposures. The amount of required stable funding is calculated by first assigning the carrying value of an institution's assets to the categories listed in Table 2 below. The amount assigned to each category is then multiplied by its associated RSF factor, and the total RSF is the sum of the weighted amounts added to the amount of OBS activity (or potential liquidity exposure) multiplied by its associated RSF factor.

LM-12.4.14 Definitions mirror those outlined in the LCR, unless otherwise specified¹².

LM-12.4.15 The RSF factors assigned to various types of assets are intended to approximate the amount of a particular asset that would have to be funded, either because it will be rolled-over, or because it could not be monetised through sale or used as collateral in a secured borrowing transaction over the course of 1 year without significant expense. Such amounts are expected to be supported by stable funding.

LM-12.4.16 Assets must be allocated to the appropriate RSF factor based on their residual maturity or liquidity value. When determining the maturity of an instrument, investors must be assumed to exercise any option to extend maturity. In particular, where the market expects certain assets to be extended in their maturity, banks must assume such behaviour for the purpose of the NSFR and include these assets in the corresponding RSF category. For amortizing loans, the portion that comes due within the 1-year horizon can be treated in the less-than-1-year residual maturity category.

LM-12.4.17 For the purposes of determining its required stable funding, a bank must; (i) include financial instruments, foreign currencies and commodities for which a purchase order has been executed, and (ii) exclude financial instruments, foreign currencies and commodities for which a sales order has been executed, even if such transactions have not been reflected in the balance sheet under a settlement-date accounting model, provided that; (i) such transactions are not reflected as derivatives or secured financing transactions in the bank's balance sheet, and (ii) the effects of such transactions will be reflected in the institution's balance sheet when settled.

¹² For the purposes of calculating the NSFR, HQLA are defined as all HQLA without regard to LCR operational requirements and LCR caps on Level 2 and Level 2B assets that may otherwise limit the ability of some HQLA to be included as eligible HQLA in calculation of the LCR.

MODULE	LM: Liquidity Risk Management
CHAPTER	LM-12: Net Stable Funding Ratio

LM-12.4 NSFR Components (continued)

Encumbered Assets

LM-12.4.18 Encumbered assets receive RSF factors as follows:

- (a) Assets on the balance sheet that are encumbered for 1 year or more receive a 100 percent RSF factor;
- (b) Assets encumbered for a period of between 6 months and less than 1 year receive the following RSF factors:
 - i. 50 percent RSF factor if these assets would receive an RSF factor lower than or equal to 50 percent if unencumbered; and
 - ii. If these assets receive an RSF factor higher than 50 percent if unencumbered, the higher RSF factor is applied.
- (c) Where assets have less than 6 months remaining in the encumbrance period, those assets may receive the same RSF factor as an equivalent asset that is unencumbered.

Assets that are encumbered for exceptional ¹³ central bank liquidity operations receive 0 percent RSF factor.

Secured Financing Transactions

LM-12.4.19 For secured funding arrangements, including securities financing transactions, the following applies:

- (a) Banks must include securities that have been borrowed in securities financing transactions (such as reverse repos and collateral swaps), that appear on the banks' balance sheets and where the banks retain beneficial ownership. Otherwise, banks must not include the securities; and
- (b) Where banks have encumbered securities in repos or other securities financing transactions, but have retained beneficial ownership and those assets remain on the bank's balance sheet, the bank must allocate such securities to the appropriate RSF category.

¹³ In general, exceptional central bank liquidity operations are considered to be non-standard, temporary operations conducted by the central bank in a period of market-wide financial stress and/or exceptional macroeconomic challenges.

MODULE	LM: Liquidity Risk Management
CHAPTER	LM-12: Net Stable Funding Ratio

LM-12.4 NSFR Components (continued)

LM-12.4.20 Securities financing transactions with a single counterparty may be measured net when calculating the NSFR, provided that the netting conditions are as set out below:

- (a) Transactions have the same final settlement date;
- (b) The right to net the amount owed to the counterparty with the amount owed by the counterparty is legally enforceable both currently in the normal course of business and in the event of; (i) default; (ii) insolvency; and (iii) bankruptcy; and
- (c) Transactions are settled net, settled simultaneously, or are subject to a settlement mechanism that results in a single net amount on the settlement date.

Calculation of Derivative Asset Amounts

LM-12.4.21 Derivative assets are calculated first based on the replacement cost for derivative contracts (obtained by marking to market) where the contract has a positive value. When an eligible bilateral netting contract is in place that meets the conditions as specified, as per the 'bilateral netting agreements' conditions specified in Appendix F, the replacement cost for the set of derivative exposures covered by the contract will be the net replacement cost.

LM-12.4.22 In calculating NSFR derivative assets, collateral received in connection with derivative contracts may not offset the positive replacement cost amount, regardless of whether or not netting is permitted under the bank's operative accounting or risk-based framework, unless it is received in the form of a cash variation margin and meets the conditions as specified in Appendix G¹⁴. Any remaining balance sheet liability associated with; (a) variation margin received that does not meet the criteria above, or (b) initial margin received, may not offset derivative assets and must be assigned a 0 percent ASF factor.

¹⁴ NSFR derivative assets = (derivative assets) – (cash collateral received as variation margin on derivative assets).

MODULE	LM: Liquidity Risk Management
CHAPTER	LM-12: Net Stable Funding Ratio

LM-12.4 NSFR Components (continued)

1) Assets Assigned a 0 Percent RSF Factor

LM-12.4.23 Assets assigned a 0 percent RSF factor comprise:

- (a) Coins and banknotes immediately available to meet obligations;
- (b) All central bank reserves (including required reserves and excess reserves);
- (c) All claims on central banks with residual maturities of less than 6 months; and
- (d) 'Trade date' receivables arising from the sales of financial instruments, foreign currencies and commodities that; (i) are expected to settle within the standard settlement cycle or period that is customary for the relevant exchange or type of transaction, or (ii) have failed to, but are still expected to, settle.

2) Assets Assigned a 5 Percent RSF Factor

LM-12.4.24 Assets assigned a 5 percent RSF factor comprise unencumbered level 1 HQLA, as defined in Appendix H, excluding assets receiving a 0 percent RSF factor as specified above, and including:

- (a) Marketable securities representing claims on or guaranteed by sovereigns, central banks, PSEs and MDBs that are assigned a 0 percent risk weight under Appendix I, Government of Bahrain, the CBB, the BIS, the IMG, the ECB and the EC; and
- (b) Marketable securities representing claims on, or guaranteed by, certain non-0 percent risk-weighted sovereign or central bank debt securities, as specified in Appendix I.

3) Assets Assigned a 10 Percent RSF Factor

LM-12.4.25 Unencumbered loans and deposits with financial institutions with residual maturities of less than 6 months, where the loan is secured against level 1 HQLA as defined in Appendix H, and where the bank has the ability to freely re-hypothecate the received collateral for the life of the loan.

MODULE	LM: Liquidity Risk Management
CHAPTER	LM-12: Net Stable Funding Ratio

LM-12.4 NSFR Components (continued)

4) Assets Assigned a 15 Percent RSF Factor

LM-12.4.26 Assets assigned a 15 percent RSF factor comprise of:

- (a) Unencumbered level 2A HQLA, as defined in Appendix H, including:
 - (i) Marketable securities representing claims on or guaranteed by sovereigns, central banks, PSEs or MDBs that are assigned a 20 percent risk weight under Appendix I; and
 - (ii) Corporate debt securities/Sukuk (including commercial paper) and covered bonds with a credit rating equal or equivalent to at least AA-.
- (b) Other unencumbered loans and deposits with financial institutions with residual maturities of less than 6 months, not included in LM-12.4.25.

5) Assets Assigned a 50 Percent RSF Factor

LM-12.4.27 Assets assigned a 50 percent RSF factor comprise:

- (a) Unencumbered level 2B HQLA, as defined and subject to the conditions set forth in Appendix H, including:
 - (i) Corporate debt securities/Sukuk (including commercial paper) with a credit rating of between A+ and BBB-;
 - (ii) Exchange-traded common equity shares not issued by financial institutions or their affiliates.
- (b) Any HQLA, as defined in Appendix H, that are encumbered for a period of between 6 months and less than 1 year;
- (c) All loans and deposits with financial institutions and central banks with residual maturity of between 6 months and less than 1 year;
- (d) Deposits held at other deposit-taking financial institutions for operational purposes that are subject to the 50 percent ASF factor in LM-12.4.10; and
- (e) All other non-HQLA not included in the above categories that have a residual maturity of less than 1 year, including loans to non-financial corporate clients, loans to retail customers (i.e. natural persons) and small business customers, and loans to sovereigns and PSEs.

MODULE	LM: Liquidity Risk Management
CHAPTER	LM-12: Net Stable Funding Ratio

LM-12.4 NSFR Components (continued)

6) Assets Assigned a 65 Percent RSF Factor

LM-12.4.28 Assets assigned a 65 percent RSF factor comprise of:

- (a) Unencumbered residential mortgages with a residual maturity of 1 year or more that would qualify for a 35 percent or lower risk weight under the Capital Adequacy Ratio Guidelines; and
- (b) Other unencumbered loans and deposits not included in the above categories, excluding loans and deposits with financial institutions, with a residual maturity of 1 year or more that would qualify for a 35 percent or lower risk weight under the CBB Capital Adequacy Ratio Guidelines.

7) Assets Assigned a 85 Percent RSF Factor

LM-12.4.29 Assets assigned an 85 percent RSF factor comprise:

- (a) Cash, securities or other assets posted as initial margin for derivative contracts¹⁵ and cash or other assets provided to contribute to the default fund of a central counterparty ('CCP'). Where securities or other assets, posted as initial margin for derivative contracts, would otherwise receive a higher RSF factor, they must retain that higher factor.
- (b) Other unencumbered performing loans¹⁶ that do not qualify for the 35 percent or lower risk weight under the CBB Capital Adequacy Ratio Guidelines and have residual maturities of 1 year or more, excluding loans and deposits with financial institutions;
- (c) Unencumbered securities with a remaining maturity of 1 year or more and exchange-traded equities, in cases where the issuer is not in default and where the securities do not qualify as HQLA according to the LCR; and
- (d) Physical traded commodities, including gold.

¹⁵ Initial margin posted on behalf of a customer, where the bank does not guarantee performance of the third party, would be exempt from this requirement.

¹⁶ Performing loans are considered to be those that are not past due for more than 90 days. Conversely, non-performing loans are considered to be loans that are more than 90 days past due.

MODULE	LM: Liquidity Risk Management
CHAPTER	LM-12: Net Stable Funding Ratio

LM-12.4 NSFR Components (continued)

8) Assets Assigned a 100 Percent RSF Factor

LM-12.4.30 Assets assigned a 100 percent RSF factor comprise:

- (a) All assets that are encumbered for a period of 1 year or more;
- (b) NSFR derivative assets, as calculated according to LM-12.4.21 and LM-12.4.22, and NSFR derivative liabilities, as calculated according to LM-12.4.3 and LM-12.4.4, if NSFR derivative assets are greater than NSFR derivative liabilities;¹⁷
- (c) All other assets not included in the above categories, including non-performing loans (net of specific provisions), loans and deposits with financial institutions with a residual maturity of 1 year or more, non-exchange-traded equities, fixed assets, items deducted from regulatory capital, insurance assets and defaulted securities; and
- (d) 20 percent of derivative liabilities (i.e. negative replacement cost amounts), as calculated according to LM-12.4.3 (before deducting variation margin posted). The CBB has the discretion to lower the value of this factor, with a floor of 5%.

LM-12.4.31 Table 2 summarizes the specific types of assets to be assigned to each asset category and their associated RSF factor.

¹⁷ $RSF = 100\% \times \text{MAX} ((\text{NSFR derivative assets} - \text{NSFR derivative liabilities}), 0)$.

MODULE	LM: Liquidity Risk Management
CHAPTER	LM-12: Net Stable Funding Ratio

LM-12.4 NSFR Components (continued)

Table 2: Summary of Asset Categories and Associated RSF Factors

RSF Factor	Components of RSF Factor
0%	• Coins and banknotes; • All central bank reserves; • All claims on central banks with residual maturities of less than 6 months; and • ‘Trade date’ receivables arising from the sales of financial instruments, foreign currencies and commodities.
5%	Unencumbered level 1 HQLA, excluding coins, banknotes and central bank reserves.
10%	Unencumbered loans and deposits with financial institutions with residual maturities of less than 6 months, where the loan is secured against level 1 HQLA and where the bank has the ability to freely re-hypothecate the received collateral for the life of the loan.
15%	• Unencumbered level 2A HQLA; • All other unencumbered loans and deposits with financial institutions with residual maturities of less than 6 months not included in the above categories.
50%	• Unencumbered level 2B HQLA; • HQLA encumbered for a period of 6 months or more, and less than 1 year; • Loans and deposits with financial institutions and central banks with residual maturities between 6 months and less than 1 year; • Deposits held at other financial institutions for operational purposes; and • All other assets not included in the above categories with residual maturity of less than 1 year, including loans to non-financial corporate clients, loans to retail and small business customers, and loans to sovereigns and PSEs.

MODULE	LM: Liquidity Risk Management
CHAPTER	LM-12: Net Stable Funding Ratio

LM-12.4 NSFR Components (continued)

RSF Factor	Components of RSF Factor
65%	• Unencumbered residential mortgages with a residual maturity of 1 year or more, and with a risk weight of less than or equal to 35 percent, as per the CBB Capital Adequacy Ratio Guidelines; and • Other unencumbered loans and deposits not included in the above categories, excluding loans and deposits with financial institutions, with a residual maturity of 1 year or more, and with a risk weight of less than or equal to 35 percent, as per the CBB Capital Adequacy Ratio Guidelines.
85%	• Cash, securities or other assets posted as initial margin for derivative contracts and cash or other assets provided to contribute to the default fund of a CCP; • Other unencumbered performing loans with risk weights greater than 35 percent, as per the CBB Capital Adequacy Ratio Guidelines and residual maturities of 1 year or more, excluding loans and deposits with financial institutions; Unencumbered securities that are not in default and do not qualify as HQLA with a remaining maturity of 1 year or more, and exchange-traded equities in cases where the issuer is not in default and where the securities do not qualify as HQLA according to the LCR; and • Physical traded commodities, including gold.
100%	• All assets that are encumbered for a period of 1 year or more; • NSFR derivative assets net of NSFR derivative liabilities, if NSFR derivative assets are greater than NSFR derivative liabilities; • 20 percent of derivative liabilities (net of eligible cash variation margin); The CBB has discretion to lower the value of this factor, with a floor of 5%; and • All other assets not included in the above categories, including non-performing loans (net of specific provisions), loans and deposits with financial institutions with a residual maturity of 1 year or more, non-exchange-traded equities, fixed assets, items deducted from regulatory capital, insurance assets and defaulted securities.

MODULE	LM: Liquidity Risk Management
CHAPTER	LM-12: Net Stable Funding Ratio

LM-12.4 NSFR Components (continued)

Off-balance Sheet Exposures

- LM-12.4.32 Many potential OBS liquidity exposures require little direct or immediate funding, but can lead to significant liquidity drains over a longer time horizon. The NSFR assigns an RSF factor to various OBS activities in order to ensure that institutions hold stable funding for the portion of OBS exposures that may be expected to require funding within a 1-year horizon.
- LM-12.4.33 Consistent with the LCR, the NSFR identifies OBS exposure categories based broadly on whether the commitment is a credit or liquidity facility, or some other contingent funding obligation. Table 3 identifies the specific types of OBS exposures to be assigned to each OBS category and their associated RSF factor.

MODULE	LM: Liquidity Risk Management
CHAPTER	LM-12: Net Stable Funding Ratio

LM-12.4 NSFR Components (continued)

Table 3: Summary of OBS Categories and Associated RSF Factors

RSF Factor	RSF Category
5% of the currently undrawn portion	• Irrevocable and conditionally revocable credit and liquidity facilities; • Other contingent funding obligations, including products and instruments such as: ○ Unconditionally revocable credit and liquidity facilities; ○ Trade finance-related obligations (including guarantees and letters of credit); ○ Guarantees and letters of credit unrelated to trade finance obligations; ○ Non-contractual obligations such as: ■ Potential requests for debt repurchases of the bank's own debt, or that of related conduits, securities investment vehicles and other such financing facilities; ■ Structured products where customers anticipate ready marketability, such as adjustable rate notes and variable rate demand notes ('VRDNs'). ■ Managed funds that are marketed with the objective of maintaining a stable value.

MODULE	LM: Liquidity Risk Management
CHAPTER	LM-12: Net Stable Funding Ratio

LM-12.5 General Disclosure Requirements

LM-12.5.1 Bahraini conventional bank licensees must report their NSFR ratios to the CBB on a quarterly basis within 14 calendar days of the quarter end as per Appendix BR-24.

LM-12.5.2 Bahraini conventional bank licensees must disclose the NSFR on a consolidated basis in their quarterly and year-end financial statements as per Appendix C. Banks must also make previous NSFR reports available on their websites.

LM-12.5.3 Bahraini conventional bank licensees must provide sufficient qualitative disclosures relevant to the NSFR, in their quarterly and year-end financial statements, to facilitate understanding of the results and data disclosed. This may include analysis of the main drivers of the NSFR results, changes during the period for which the data is prepared or compared to the date of the last disclosure (such as changes to the bank's strategy, funding structure or any other circumstances).

MODULE	Liquidity Risk Management:
CHAPTER	Appendix A : Illustrative Summary of the LCR

Appendix A: Illustrative Summary of the LCR

Item	Factor
Stock of HQLA	
A. Level 1 Assets	
• Coins and banknotes; • Qualified balances with the CBB (including placements and reserves); • Debt securities/Sukuk issued by the CBB or the Government of Bahrain; • Debt securities/Sukuk issued governments of GCC member states and their central banks; • Debt securities/Sukuk that can be monetised and issued or guaranteed by sovereigns, central banks, PSEs, IMF, BIS, ECB, EC, or MDBs; • Debt securities/Sukuk issued in local currency by sovereign or the country's central bank, where the liquidity risk arises or the banks home country – given a non-0 percent Risk-weight (RW); and • Debt securities/Sukuk issued in foreign currency by sovereign or central bank that does not exceed the value of the net cash outflow in the foreign currency caused by a stress scenario based on the bank's operations in the country where the liquidity risk arises from – given a non-0 percent RW.	100%
Total level 1 Assets	
B. Level 2 assets (maximum of 40 percent Of HQLA)	
1) Level 2A assets	
• Debt securities/Sukuk that can be issued and liquidated or guaranteed by sovereigns, central banks, PSEs, and qualified MDBs; • Debt securities/Sukuk qualified for liquidation (including commercial paper); and • Qualified covered bonds.	85%
2) Level 2B assets (maximum of 15 percent of HQLA)	
• Debt securities/Sukuk (including commercial paper) issued by qualified non-financial institutions; and • Qualified common equity shares.	50%
Total level 2 Assets (1+2)	
Total value of stock of HQLA	
Cash Outflows	
Retail Deposits	
Demand deposits and term deposits (maturity within 30 days):	
• Stable deposits; and	3%
• Less stable – retail deposits	10%

MODULE	Liquidity Risk Management:
CHAPTER	Appendix A : Illustrative Summary of the LCR

Appendix A: Illustrative Summary of the LCR (continued)

Item	Factor
B. Unsecured Wholesale Funding	
Small Business Customer deposits	10%
Operational deposits generated by clearing, custody, and cash management:	25%
Deposits from non-financial institutions, sovereign, central banks, multilateral development banks, PSEs, and Bahrain's Social Insurance Organization and GCC PIFs where PIF is a controller of the bank.	40%
Deposits from other legal entity corporations.	100%
C. Secured Funding	
• Backed by level 1 assets or with central banks;	0%
• Backed by level 2A assets;	15%
• Secured funding transactions with domestic sovereign, PSE's or multilateral development banks that are not backed by level 1 or 2A assets;	25%
• Backed by other level 2B assets;	50%
• All others.	100%
D. Other Cash Outflow	
Net derivative cash outflow	100%
Asset-backed securities, covered bonds, and other structured financing instruments	100%
Asset-backed commercial paper, securities paper, securities investment vehicles, and other similar financing tool	100%
Committed: credit and liquidity facilities given by bank to:	
• Retail (including credit cards) and small business customers (from amount not used);	5%
• Non-financial corporates, sovereigns and central banks, PSEs and multilateral development banks (from amount not used);	10% credit 30% Liquidity
• Banks subject to prudential supervision (from amount not used);	40%
• Other financial institutions (including securities firms and insurance firms) (from amount not used);	40% credit 100% liquidity
• Other legal entities (from amount not used).	100%
Other Contingent Funding Obligations	
• Guarantees, LCs, revocable credit and liquidity facilities, non-contractual commitments;	5%
• Customer short positions that are covered by other customers' collateral.	50%
Increased liquidity needs related to the potential for valuations changes on posted collateral	20%
Other contractual cash outflows	100%
Total Cash Outflow	

MODULE	Liquidity Risk Management:
CHAPTER	Appendix A : Illustrative Summary of the LCR

Appendix A: Illustrative Summary of the LCR (continued)

Cash Inflows	Inflow rates
A. Secured lending transactions backed by the following asset category:	
Level 1 assets;	0%
Level 2A assets; and	15%
Level 2B assets.	50%
Margin lending backed by all other collateral:	50%
Other collateral.	100%
B. Committed facilities – credit and liquidity facilities given to banks;	0%
C. Other inflows by:	
• Retail and small business customer;	50%
• Non-retail customers:	
1. Financial institutions and central banks; and	100%
2. Non-financial institutions.	50%
• Operational deposits held at other financial institutions.	0%
D. Other net derivative cash inflows; and	100%
E. Other contractual cash inflows.	100%
Total Cash Inflows	
Net cash outflow = total cash outflow – total cash inflow or lowest value (75 percent of total cash outflow).	
Liquidity coverage ratio – HQLA / Net cash outflow.	

MODULE	Liquidity Risk Management:
CHAPTER	Appendix B : LCR Common Disclosure Template

Appendix B: LCR Common Disclosure Template

		Total unweighted value (average)	Total weighted value (average)
High-quality liquid assets			
1	Total HQLA		
Cash outflows			
2	Retail deposits and deposits from small business customers, of which:		
3	Stable deposits		
4	Less stable deposits		
5	Unsecured wholesale funding, of which:		
6	Operational deposits (all counterparties) and deposits in networks of cooperative banks		
7	Non-operational deposits (all counterparties)		
8	Unsecured debt		
9	Secured wholesale funding		
10	Additional requirements, of which:		
11	Outflows related to derivative exposures and other collateral requirements		
12	Outflows related to loss of funding on debt products		
13	Credit and liquidity facilities		
14	Other contractual funding obligations		
15	Other contingent funding obligations		
16	Total Cash Outflows		
Cash inflows			
17	Secured lending (eg reverse repos)		
18	Inflows from fully performing exposures		
19	Other cash inflows		
20	Total Cash Outflows		
			Total adjusted value
21	Total HQLA		
22	Total net cash outflows		
23	Liquidity Coverage Ratio (%)		

MODULE	Liquidity Risk Management:
CHAPTER	Appendix C: NSFR Common Disclosure Template

Appendix C: NSFR Common Disclosure Template¹⁸

For the Period Ending on.../.../.....

“Value in BHD 000”

No.	Item	Unweighted Values (i.e. before applying relevant factors)				Total weighte d value
		No specified maturity	Less than 6 months	More than 6 months and less than one year	Over one year	
Available Stable Funding (ASF):						
1	Capital:					
2	<i>Regulatory Capital</i>					
3	<i>Other Capital Instruments</i>					
4	Retail deposits and deposits from small business customers:					
5	<i>Stable deposits</i>					
6	<i>Less stable deposits</i>					
7	Wholesale funding:					
8	<i>Operational deposits</i>					
9	<i>Other wholesale funding</i>					
10	Other liabilities:					
11	<i>NSFR derivative liabilities</i>					
12	<i>All other liabilities not included in the above categories</i>					
13	Total ASF					
Required Stable Funding (RSF):						
14	Total NSFR high-quality liquid assets (HQLA)					
15	Deposits held at other financial institutions for operational purposes					
16	Performing loans and securities:					

¹⁸Quarterly statement



Appendix C: NSFR Common Disclosure (continued)

For the Period Ending on.../.../.....

“Value in BHD 000”

17	<i>Performing loans to financial institutions secured by Level 1 HQLA</i>					
18	<i>Performing loans to financial institutions secured by non-level 1 HQLA and unsecured performing loans to financial institutions</i>					
19	<i>Performing loans to non- financial corporate clients, loans to retail and small business customers, and loans to sovereigns, central banks and PSEs, of which:</i>					
20	<i>- With a risk weight of less than or equal to 35% as per the CBB Capital Adequacy Ratio guidelines</i>					
21	<i>Performing residential mortgages, of which:</i>					
22	<i>With a risk weight of less than or equal to 35% under the CBB Capital Adequacy Ratio Guidelines</i>					
23	<i>Securities that are not in default and do not qualify as HQLA, including exchange-traded equities</i>					
24	<i>Other assets:</i>					
25	<i>Physical traded commodities, including gold</i>					
26	<i>Assets posted as initial margin for derivative contracts and contributions to default funds of CCPs</i>					
27	<i>NSFR derivative assets</i>					
28	<i>NSFR derivative liabilities before deduction of variation margin posted</i>					
29	<i>All other assets not included in the above categories</i>					
30	OBS items					
31	Total RSF					
32	NSFR (%)					

¹² Quarterly statement.

MODULE	Liquidity Risk Management:
CHAPTER	Appendix D : Definitions

Appendix D: Definitions¹⁹

In the context of these Guidelines, the following terminologies take the meanings corresponding to each of them:

1. **‘Bank’** means any bank fully recognized as such by the relevant regulator of the country in which it is registered, except such a bank which:
 - a. In the opinion of the central bank, is not adequately supervised by the relevant banking supervisory authority;
 - b. The license or other authorization of which to carry on banking business is, for the time being, suspended.
2. **‘Banking groups’** are groups that engage predominantly in banking activities and are registered as banks in the relevant jurisdiction.
3. **‘PSE’** means a public sector entity which is specified as such either by the central bank (‘domestic PSE’) or by an overseas banking supervisory authority (‘foreign PSE’). Domestic PSEs include those entities owned by the government, excluding the subsidiaries of such institutions undertaking commercial activities.
4. **‘Financial Institutions’** are institutions defined as financial institutions by the CBB (local financial institutions) or by foreign banking regulators (foreign financial institutions); examples of financial institutions include investment companies, insurance companies and currency exchange companies.
5. **‘MDB’** means a multilateral development bank, which refers to any bank or lending or development body established by agreement between, or guaranteed by, two or more countries, territories or international organizations, other than for purely commercial purposes.

¹⁹ Definitions mirror those in the Capital Adequacy Ratio – Basel III and the LCR guidelines.

MODULE	Liquidity Risk Management:
CHAPTER	Appendix D : Definitions

Appendix D: Definitions (Continued)

6. **‘Off-balance Sheet (‘OBS’) Activities’** refers to a banks’ business that does not generally involve booking assets or liabilities. Examples include the granting of standby commitments, letters of credit and guarantees.
7. **‘Repo-style Transactions’** means transactions involving the sale and repurchase (‘repo’) of assets, purchase and resale (‘reverse repo’) of assets, as well as securities lending and securities borrowing. The term ‘repo-style transactions’ is generally taken to refer to any of the following transactions of a bank:
 - i Sale and repurchase (‘repo’) of securities - the bank agrees to sell securities to a third party for cash with a commitment to repurchase the securities at an agreed price on an agreed future date.
 - ii Securities lending - the bank lends securities to a third party and receives either cash or other securities from that party in exchange as collateral.
 - iii Purchase and resale (‘reverse repo’) of securities - the bank agrees to acquire securities from a third party for cash, with a commitment to resell the securities at an agreed price on an agreed future date (i.e. the reverse of repo transactions).
 - iv Securities borrowing - the bank borrows securities from a third party and gives cash or other securities to that party in exchange as collateral.
8. **‘Secured Obligations’** means obligations that are secured by legal rights on specifically designated assets owned by the bank which are used in the case of bankruptcy, insolvency or liquidation.
9. **‘High-Quality Liquid Asset (‘HQLA’)** an asset is considered to be HQLA if it can be easily and immediately converted into cash at little or no loss of value under stress scenarios.
10. **‘Operational Deposits’** are the deposits generated by clearing, custody and cash management activities.
11. **‘Stable Deposits’** are the amounts of the deposits that are fully insured by a deposit insurance scheme which represents a portion from the deposits in the transactional accounts (e.g. accounts where salaries are automatically deposited), as per the provisions of those regulations.
12. **‘Transactional Accounts’** are defined as the accounts used to settle transactions pertaining to salaries and customer income.

MODULE	Liquidity Risk Management:
CHAPTER	Appendix D : Definitions

Appendix D: Definitions (Continued)

13. **‘Unencumbered Assets’** means assets free of legal, regulatory, contractual or other restrictions on the ability of the bank to liquidate, sell or transfer these assets. Liquid assets should not be used to cover trading positions or to secure, collateralize or credit-enhance any transaction, nor be designated to cover operational costs (such as rents and salaries).
14. **‘Retail Deposits’** are defined as deposits placed with a bank by a natural person. Deposits from legal entities, sole proprietorships or partnerships are captured in wholesale deposit categories.
15. **‘Wholesale Funding’** is defined as those deposits and obligations that are raised from non-natural persons (i.e. legal entities, including sole proprietorships and partnerships).
16. **‘Small Business Deposits’** are the deposits that are considered as having similar characteristics to retail accounts, provided the total aggregated funding raised from one small business customer is less than BHD 500,000 (on a consolidated basis where applicable).
17. **‘Default Funds’**, also known as clearing deposits or guarantee fund contributions (or any other names), are clearing members’ funded or unfunded contributions towards, or underwriting of, a CCP’s mutualized loss-sharing arrangements.
18. **‘Central Counterparty (CCP)’** is the party that intermediates in the settlement process between counterparties to contracts related to financial instruments, becoming the buyer to every seller, and the seller to every buyer in the market.
19. **‘Principal Amount’** means the amount of any outstanding claim (excluding any interest and other expenses) on, or contingent liability in respect of, the relevant counterparty.
20. **‘Variation Margin’** means a clearing member’s or client’s funded collateral posted on a daily or intraday basis, to a CCP based upon price movements of their transactions.
21. **‘Initial Margin’** means a clearing member’s or client’s funded collateral posted to the CCP to mitigate the potential future exposure of the CCP to the clearing member, arising from the possible future change in the value of the transactions.
22. **‘Fiduciary’** is a legal entity that is authorised to manage assets on behalf of a third party. Fiduciaries include asset management entities such as pension funds and other collective investment vehicles.

MODULE	Liquidity Risk Management:
CHAPTER	Appendix E : Operational Deposits

Appendix E: Operational Deposits²⁰

1. Certain banking activities related to payments and settlement systems lead to customers needing to place, or leave, deposits with a bank in order to cover such transactions. This is conditional on the fact that the activities have a substantive dependency with the bank and the deposit is required for such activities;
2. Qualifying activities in this context refer to clearing, custody or cash-management activities that meet the following criteria:
 - a. The customer is reliant on the bank to perform these services as an independent third party intermediary in order to fulfil its normal banking activities over the next 30 days. For example, this condition would not be met if the bank is aware that the customer has adequate back-up arrangements;
 - b. These services must be provided under a legally-binding agreement to customers; and
 - c. The termination of such agreements shall be subject either to a notice period of at least 30 days or significant switching costs (such as those related to transaction, information technology, early termination or legal costs) to be borne by the customer if the operational deposits are moved before 30 days.
3. Qualifying operational deposits generated by such activities are ones where:
 - a. The deposits are by-products of the underlying services provided by the bank and are not sought out in the wholesale market; and
 - b. The deposits are held in specifically designated accounts and priced without giving an economic incentive to the customer.
4. Only that part of the deposit balance with the service provider that is proven to serve a customer's operational needs can qualify as stable. Excess balances should be treated in the appropriate category for (non-operational) deposits. If the bank is unable to determine the amount of the excess balance, the entire deposit should be considered non-operational;
5. Banks must determine the methodology for identifying excess balances in operational accounts. The methodology should be conducted at a sufficiently granular level to adequately assess the risk of withdrawal in an idiosyncratic stress. The methodology should take into account relevant factors, such as the average balances in advance of specific payment needs;
6. If the deposit arises out of correspondent banking, or from the provision of prime brokerage services, it will be treated as if it was a non-operational activity for the purpose of determining run-off factors²¹.

²⁰ Based on the definition of operational deposits in the LCR guidelines.

²¹ Correspondent banking refers to arrangements under which one bank (correspondent) holds deposits owned by other banks (respondents) and provides payment and other services in order to settle foreign currency transactions (e.g. so called 'nostro' and 'vostro' accounts used to settle transactions in a currency other than the domestic currency of the respondent bank, for the provision of clearing and settlement of payments). Prime brokerage is a package of services offered to large active investors, particularly institutional hedge funds. These services usually include: clearing, settlement and custody; consolidated reporting; financing (margin, repo or synthetic); securities lending; capital introduction, and risk analytics.

MODULE	Liquidity Risk Management:
CHAPTER	Appendix E : Operational Deposits

Appendix E: Operational Deposits²² (Continued)

7. The portion of the operational deposits generated by clearing, custody and cash management activities that is fully covered by deposit insurance can receive the same treatment as ‘stable’ retail deposits;
8. A clearing relationship, in this context, refers to a service arrangement, granted by the bank as a direct participant in settlement systems that enables customers to transfer funds (or securities) indirectly through participants in domestic settlements systems to final recipients. Such services are limited to the following activities; transmission, overdraft and settlement;
9. A custody relationship refers to the provision of safekeeping, reporting, processing of assets or the facilitation of the operational and administrative elements of related activities on behalf of customers in the process of their transacting and retaining financial assets. Such services are limited to the settlement of securities transactions, the transfer of contractual payments, the processing of collateral, and the receipt of dividends and other income, transfer of funds and stocks and agency services, including payment and settlement services (excluding correspondent banking);
10. A cash management relationship refers to the provision of cash management and related services to customers. Cash management services refers to those products and services provided to a customer to manage its cash flows, assets and liabilities, and conduct financial transactions necessary to the customer’s operational activities. Such services are limited to payment remittance, collection and aggregation of funds, payroll administration, and control over the disbursement of funds.

²² Based on the definition of operational deposits in the LCR guidelines.

MODULE	Liquidity Risk Management:
CHAPTER	Appendix F: Bilateral Netting Agreements

Appendix F: Bilateral Netting Agreements²³

1. Exposures to the same counterparties arising out of a range of forwards, swaps, options and similar derivative contracts, could be subject to a netting treatment according to the following requirements.
2. Accordingly, for the NSFR purposes:
 - a. Banks may net transactions subject to novation under which any obligation between a bank and its counterparty to deliver a given currency, on a given value date, is automatically amalgamated with all other obligations for the same currency and value date, legally substituting one single amount for the previous gross obligations;
 - b. Banks may also net transactions subject to any legally valid form of bilateral netting not covered in (a), including other forms of novation; and
 - c. In both cases (a) and (b), a bank will need to satisfy the CBB that it has:
 - i. A netting contract or agreement with the counterparty which creates a single legal obligation, covering all included transactions, so that the bank would have either a claim to receive, or an obligation to pay, only the net sum of the positive and negative mark-to-market values of included individual transactions in the event a counterparty fails to perform due to any of the following; default, bankruptcy, liquidation or similar circumstances;
 - ii. Written and reasoned legal opinions that, in the event of a legal challenge, the relevant courts and administrative authorities would find the bank's exposure to be such a net amount under:
 - a) The law of the jurisdiction in which the counterparty is chartered and the branch that conducted the netting;
 - b) The law that governs the individual transactions;
 - c) The law that governs any contract or agreement necessary to effect the netting;
 - iii. In this context, the banks may use the following applicable market accepted standard agreements:
 - International Swaps and Derivatives Association ('ISDA') Master Agreement (English law or New York law, as applicable);
 - International Foreign Exchange Master Agreement ('IFEMA') for FX transactions
 - FX Net Agreements for FX transactions;
 - Worldwide Foreign Exchange Netting and Close-Out Agreement for FX transactions;
 - Global Foreign Exchange Netting and Close-Out Agreement ('FXNET "Non-User" Agreement') for FX transactions;
 - International Currency Option Master Agreement ('ICOM');

²³ Based on the Capital Adequacy Ratio – Basel III Guidelines.

MODULE	Liquidity Risk Management:
CHAPTER	Appendix F: Bilateral Netting Agreements

Appendix F: Bilateral Netting Agreements (Continued)

- iv. Banks are only permitted to avail the benefit of Master Netting Agreements in jurisdictions where such agreements are legally enforceable (i.e. where legal precedence exists). The use of such netting should also be supported by the positive opinion of the licensed bank's Legal department; and
 - v. Banks intending to use any Master Netting Agreements other than those listed in previous paragraph should seek the explicit approval of the CBB to do so.
3. Procedures are in place to ensure that the legal characteristics of netting arrangements are kept under review, in the light of possible changes that may be applicable to these type of agreements at a later stage;
 4. In certain arrangements (such as contracts including 'walk away clauses') where the counterparty terminates the contract, this event is not taken into consideration for the purposes of calculating the NSFR. Thus, the exposure is calculated without taking into account the Netting Agreement;
 5. Exposure on bilaterally-netted derivative transactions will be calculated as the sum of the net mark-to-market replacement cost, if positive, plus an add-on based on the notional underlying principal. The add-on for netted transactions ('ANet') will equal the weighted average of the gross add-on ('AGross')²⁴ and the gross add-on adjusted by the ratio of net current replacement cost to gross current replacement cost ('NGR'). This is expressed through the following formula:

$$ANet = 0.4 * AGross + 0.6 * NGR * AGross$$

Where:

NGR=level of net replacement cost/level of gross replacement cost for transactions subject to legally enforceable netting agreements.²⁵

6. The scale of the gross add-ons to apply in this formula will be the same as those for non-netted transactions, as set out in the CBB's Capital Adequacy Ratio Guidelines. The CBB will continue to review the scale of add-ons to make sure they are appropriate; and
7. For purposes of calculating potential future credit exposure to a netting counterparty for forward foreign exchange contracts and other similar contracts, in which notional principal is equivalent to cash flows, notional principal is defined as the net receipts falling due on each value date in each currency.

²⁴ AGross equals the sum of individual add-on amounts (calculated by multiplying the notional principal amount by the appropriate add-on factors set out in the CBB Capital Adequacy Ratio Guidelines) of all transactions subject to legally-enforceable netting agreements with one counterparty

²⁵ The CBB permits a choice of calculating the NGR on a counterparty by counterparty or on an aggregate basis level for all transactions subject to legally enforceable netting agreements. However, the method chosen by a licensed bank is to be used consistently. Under the aggregate approach, net negative current exposures to individual counterparties cannot be used to offset net positive current exposures of another counterparty, i.e. for each counterparty the net current exposure used in calculating the NGR is the maximum of the net replacement cost or zero. Note that under the aggregate approach, the NGR is to be applied individually to each legally enforceable netting agreement.

MODULE	Liquidity Risk Management:
CHAPTER	Appendix G: Utilising the Cash Portion of Variation Margin Received to Reduce the Replacement Cost

Appendix G: Utilising the Cash Portion of Variation Margin Received to Reduce the Replacement Cost²⁶

Banks may use the cash portion of variation margin received to reduce the replacement cost portion (but not the potential future exposure) of the leverage ratio exposure measure, and may deduct the receivables assets from the cash variation margin provided from the leverage ratio exposure measure (if the cash variation margin provided has been recognized as an asset under the bank's accounting framework) subject to the following conditions being met:

- For trades not cleared through a qualifying central counterparty ("QCCP") the cash received by the recipient counterparty is not segregated from the cash portion of the variation margin;
- Variation margin is calculated and exchanged on a daily basis based on mark-to-market valuation of derivatives positions;
- The cash variation margin is received in the same currency as the currency of settlement of the derivative contract;
- Variation margin exchanged is enough to cover the mark-to-market exposure of the derivative; and
- Derivatives transactions and variation margins are covered by a single MNA between the counterparties, and the MNA must be legally enforceable.

²⁶ Based on the Leverage Ratio for Conventional Banks guidelines.

MODULE	Liquidity Risk Management:
CHAPTER	Appendix H: High Quality Liquid Assets as per the LCR

Appendix H: High Quality Liquid Assets as per the LCR

1. Assets are generally qualified as HQLA if they can be easily and immediately converted into cash at little, or no, loss of value under stress circumstances; and
2. The conditions identified in the following paragraphs must be satisfied by levels 1 and 2 assets.

1) Level 1 Assets

3. Level 1 assets are included in their applicable market value, can comprise of an unlimited share of the pool and are not subject to haircuts.
4. Level 1 assets are limited to:
 - a. Coins and banknotes;
 - b. Assets with central banks in the countries in which the liquidity risk is being taken (including cash reserves²⁷) to the extent that allows banks to draw down these assets in times of stress;
 - c. Debt securities/Sukuk issued by the CBB or the Government of the State of Bahrain;
 - d. Debt securities/Sukuk issued or guaranteed by sovereigns, central banks, PSEs, the IMF, the BIS, the ECB and EC, or development banks and satisfying all of the following conditions:
 - i. Assigned a 0 percent risk-weight as shown in Appendix I;
 - ii. Traded in large, deep and active repo or cash markets, characterized by a low level of concentration;
 - iii. Have a proven record as a reliable source of liquidity in the markets (repo or sale), even during stressed market conditions;
 - iv. Not an obligation of a financial institution or any of its subsidiary entities²⁸;
 - e. Where the sovereign has a non-0 percent risk weight, debt securities/Sukuk issued in domestic currency by the sovereign or central bank in the country in which the liquidity risk is being taken or in the bank's home country; and

²⁷ In this context, the central bank reserves would include demand deposits, overnight deposits and term deposits with the central bank that: (i) are repayable within 30 day or are explicitly and contractually repayable on notice from the depositing bank; or (ii) that the bank can use to obtain financing on a term basis or on an overnight basis. Other term deposits with central banks are not eligible for the stock of HQLA.

²⁸ This requires that the holder of the security must not have recourse to the financial institution or any of the financial institution's affiliated entities. In practice, this means that securities, such as government-guaranteed issuance during the financial crisis, which remain liabilities of the financial institution, would not qualify for the stock of HQLA. The only exception is when the bank also qualifies as a PSE under the CBB Capital Adequacy Ratio – Basel III Guidelines where securities issued by the bank could qualify for level 1 assets if all necessary conditions are satisfied.

MODULE	Liquidity Risk Management:
CHAPTER	Appendix H: High Quality Liquid Assets as per the LCR

Appendix H: High Quality Liquid Assets as per the LCR

- f. Where the sovereign has a non-0 percent risk weight, debt securities/Sukuk in foreign currencies issued by the sovereign or central bank up to the amount of the bank's stressed net cash outflows in that specific foreign currency stemming from the bank's operations in the jurisdiction where the bank's liquidity risk is being taken.

2) Level 2 Assets

A. Level 2A Assets

5. Level 2A assets are limited to the following:
 - a. Debt securities/Sukuk issued or guaranteed by sovereigns, central banks, PSEs or MDBs that satisfy all of the following conditions:
 - i. Assigned a 20 percent risk weight as per Annexure (F);
 - ii. Traded in large, deep and active repo or cash markets as characterized by a low level of concentration;
 - iii. Have a proven record as a reliable source of liquidity in the markets (repo or sale) even during stressed market conditions (i.e. maximum decline of price not exceeding 10 percent, or the increase in haircut not exceeding 10 percent over a 30-day period during a relevant period of significant liquidity stress); and
 - iv. Not an obligation of a financial institution or any of its affiliated entities. Debt securities/Sukuk that can be monetised (including commercial paper)²⁹ and covered bonds³⁰ that satisfy all of the following conditions:
 - i. Not issued by a financial institution or any of its affiliated entities;
 - ii. In the case of covered bonds: not issued by the bank itself or any of its affiliated entities;
 - iii. Either have a long-term credit rating from a recognized ECAI of at least (AA-) or in the absence of a long-term rating, a short-term rating equivalent in quality to the long-term rating;

²⁹ Corporate debt securities (including commercial papers) do not include complex structured products or subordinated debt.

³⁰ Covered bonds are bonds issued and owned by a bank or mortgage institution and are subject by law to special public supervision designed to protect bond holders. Proceeds deriving from the issue of these bonds must be invested in conformity with the law in assets which, during the whole period of the validity of the bonds, are capable of covering claims attached to the bonds and which, in the event of the failure of the issuer, would be used on a priority basis for the reimbursement of the principal and payment of the accrued interest.



MODULE	Liquidity Risk Management:
CHAPTER	Appendix H: High Quality Liquid Assets as per the LCR

Appendix H: High Quality Liquid Assets as per the LCR

- iv. Traded in large, deep and active repo or cash markets characterized by a low level of concentration; and
- v. Have a proven record as a reliable source of liquidity in the markets (repo or sale) even during stressed market conditions (i.e. maximum decline of price not exceeding 10 percent, or the increase in haircut not exceeding 10 percent, over a 30-day period during a relevant period of significant liquidity stress).

B. Level 2B Assets

- 6. Level 2B assets are limited to the following:
 - a. Debt securities/Sukuk (including commercial paper) issued by nonfinancial institutions, that satisfy all of the following conditions:
 - i. Debt securities/Sukuk issued by non-financial institutions or one of their subsidiaries and have a long-term credit rating between A+ and BBB- or the equivalent, or in the absence of a long-term rating, a short-term rating equivalent in quality to the long-term rating;
 - ii. Traded in large, deep and active repo or cash markets characterized by a low level of concentration; and
 - iii. Have a proven record as a reliable source of liquidity in the markets even during stressed market conditions (i.e. maximum decline of price not exceeding 20 percent or the increase in haircut not exceeding 20 percent over a 30-day period during a relevant period of significant liquidity stress).
 - b. Common equity shares that satisfy all of the following conditions, subject to a 50 percent haircut:
 - i. Not issued by a financial institution or any of its affiliated entities.
 - ii. Exchange traded and centrally cleared;
 - iii. A constituent of the major stock index in Bahrain or where the liquidity risk is taken;
 - iv. Denominated in Bahraini Dinar or in the currency of the jurisdiction where the liquidity risk is taken;
 - v. Traded in large, deep and active repo or cash markets characterized by a low level of concentration; and
 - vi. Have a proven record as a reliable source of liquidity in the markets (repo or sale) even during stressed market conditions, (i.e. a maximum decline of share price not exceeding 40 percent, or increase in haircut not exceeding 40 percent, over a 30-day period during a relevant period of significant liquidity).
- 7. If a bank wishes to include other assets under Level 2B assets, prior approval must be obtained from the CBB.

MODULE	Liquidity Risk Management:
CHAPTER	Appendix I: Mapping Notations Used by Individual ECAIs for Sovereigns, Central Banks, PSEs and MDBs

Appendix I: Mapping Notations Used by Individual ECAIs for Sovereigns, Central Banks, PSEs and MDBs

Credit Quality ³¹	Risk Weight
Claims on sovereigns/central banks	
(AAA to AA-) or Equivalent	0%
(A+ to A-) or Equivalent	20%
Claims on PSEs	
Claims on local (Bahraini) PSEs	0%
(AAA to AA-) or Equivalent	20%
Claims on MDBs	
As per the Capital Adequacy Ratio Guidelines	0%
As per the Capital Adequacy Ratio Guidelines	20%

³¹ Based on rating by Standard and Poor's.



MODULE	Liquidity Risk Management
CHAPTER	Appendix J: Illustrative NSFR Computation Template

Appendix J: Illustrative NSFR Computation Template

Bank Name: Conventional Bank Level: Local / Bank-wide / Consolidated		BHD '000								BHD '000				
Sr.	Item	Unweighted Values (before applying factors)				Stable Funding Factors				Weighted Values (after applying factors)				Total Weighted Value
		No Specified maturity	Less than 6 months	More than 6 months and less than one year	Over one year	No Specified maturity	Less than 6 months	More than 6 months and less than one year	Over one year	No Specified maturity	Less than 6 months	More than 6 months and less than one year	Over one year	
Available Stable Funding (ASF)														
1	Capital													
(a)	Common equity tier 1					100%	-	-	-					
(b)	Additional tier 1 capital					100%	-	-	-					
(c)	Tier 2 Capital					100%	0%	0%	0%					
(d)	Capital Instruments not included above with an effective residual maturity of one year or more					-	-	-	100%					
2	Stable Deposits:													
(a)	Stable and fully-insured demand deposits and saving deposits provided by retail customers					95%	95%	95%	100%					
(b)	Fully-insured term deposits provided by retail customers					95%	95%	95%	100%					
3	Less stable deposits:													
(a)	Demand deposits and saving deposits that are not fully-insured and provided by retail customers					90%	90%	90%	100%					
(b)	Demand deposits and saving deposits that are not fully-insured and provided by small business customers					90%	90%	90%	100%					
(c)	Term deposits that are not fully-insured and provided by retail customers					90%	90%	90%	100%					
(d)	Term deposits that are not fully-insured and provided by small business customers					90%	90%	90%	100%					
4	Secured and unsecured funding:													
(a)	Funding provided by non-financial corporate customers					50%	50%	50%	100%					
(b)	Operational deposits					50%	50%	50%	100%					
(c)	Funding from sovereigns, PSEs, and multilateral and national development banks					-	50%	50%	100%					
(d)	Other deposits													
	1. Central Banks					-	0%	50%	100%					
	2. Financial Institutions					-	0%	50%	100%					
	3. Other					-	0%	50%	100%					
5	Derivative liabilities*					0%	0%	0%	0%					
6	Other liabilities (not included in the categories above):													
(a)	Deferred tax liabilities					-	0%	50%	100%					
(b)	Minority interest					100%	0%	50%	100%					
(c)	Other liabilities					0%	0%	0%	100%					
7	"Trade date" payables arising from purchases of financial instruments, foreign currencies and commodities					-	0%	0%	0%					
8	Total ASF (sum of items 1 to 7)													



MODULE	Liquidity Risk Management
CHAPTER	Appendix J: Illustrative NSFR Computation Template

Appendix J: Illustrative NSFR Computation Template (continued)

Bank Name: Conventional Bank		BHD '000								BHD '000				
Level: Local / Bank-wide / Consolidated		Unweighted Values (before applying factors)				Stable Funding Factors				Weighted Values (after applying factors)				
Sr.	Item	No Specified maturity	Less than 6 months	More than 6 months and less than one year	Over one year	No Specified maturity	Less than 6 months	More than 6 months and less than one year	Over one year	No Specified maturity	Less than 6 months	More than 6 months and less than one year	Over one year	Total Weighted Value
Required Stable Funding (RSF)														
9	Coins and banknotes					0%	-	-	-					
10	All central bank reserves (including required reserves and excess reserves)					0%	-	-	-					
11	All claims on central banks					-	0%	50%	100%					
12	"Trade date" receivables arising from sales of financial instruments, foreign currencies and commodities					0%	0%	0%	0%					
13	Unencumbered Level 1 HQLA													
(a)	Marketable securities representing claims on or guaranteed by:													
	1. Government of Bahrain or the Central Bank of Bahrain					5%	-	-	-					
	2. Sovereigns, central banks, PSEs, and MDBs that are assigned a 0% risk weight					5%	-	-	-					
	3. The Bank for International Settlements, the International Monetary Fund, the European Central Bank and the European Community					5%	-	-	-					
(b)	Non-0% risk-weighted sovereigns:													
	1. Debt securities/Sukuk issued in domestic currency by the sovereign or central bank in the country in which the liquidity risk is being taken or in the bank's home country					5%	-	-	-					
	2. Debt securities/Sukuk in foreign currencies issued by the sovereign or central bank up to the amount of the bank's stressed net cash outflows in that specific foreign currency stemming from the bank's operations in the jurisdiction where the bank's liquidity risk is being taken					5%	-	-	-					
14	Unencumbered Level 2A HQLA													
(a)	Marketable securities representing claims on or guaranteed by sovereigns, central banks, PSEs or multilateral development banks that are assigned a 20% risk weight					15%	-	-	-					
(b)	Corporate debt securities (including commercial paper) and covered bonds with a credit rating equal or equivalent to at least AA-					15%	-	-	-					



MODULE	Liquidity Risk Management
CHAPTER	Appendix J: Illustrative NSFR Computation Template

Appendix J: Illustrative NSFR Computation Template (continued)

Bank Name: Conventional Bank Level: Local / Bank-wide / Consolidated		BHD '000								BHD '000				
Sr.	Item	Unweighted Values (before applying factors)				Stable Funding Factors				Weighted Values (after applying factors)				Total Weighted Value
		No Specified maturity	Less than 6 months	More than 6 months and less than one year	Over one year	No Specified maturity	Less than 6 months	More than 6 months and less than one year	Over one year	No Specified maturity	Less than 6 months	More than 6 months and less than one year	Over one year	
15	Unencumbered Level 2B HQLA													
(a)	Corporate debt securities (including commercial paper) with a credit rating of between A+ and BBB-					50%	-	-	-					
(b)	Exchange traded common equity shares not issued by financial institutions or other affiliates					50%	-	-	-					
16	Unencumbered loans to and deposits with financial institutions where the loan is secured against Level 1 HQLA					-	10%	50%	100%					
17	Unencumbered securities that are not in default and exchange-traded equities in cases where the issuer is not in default					-	-	-	85%					
18	Encumbered assets:													
(a)	HQLA encumbered for a period of more than 6 months and less than one year					-	-	50%	-					
(b)	All other encumbered assets					-	-	-	100%					
19	Loans:													
(a)	Loans to non-financial corporate clients					-	50%	50%	100%					
(b)	Loans to retail and small business customers, and loans to sovereigns and PSEs					-	50%	50%	100%					
(c)	Unencumbered residential mortgages with a risk weight of less than or equal to 35%					-	-	-	65%					
(d)	Other unencumbered loans and deposits with a risk weight of less than or equal to 35%					-	-	-	65%					
(e)	Other unencumbered performing loans and not included in the above categories, excluding loans to financial institutions, with a risk weight of than or equal to 35%					-	-	-	85%					
(f)	Unencumbered loans to and deposits with financial institutions					-	15%	50%	100%					
20	Deposits held at other financial institutions for operational purposes					50%	50%	50%	50%					



MODULE	Liquidity Risk Management
CHAPTER	Appendix J: Illustrative NSFR Computation Template

Appendix J: Illustrative NSFR Computation Template (continued)

Bank Name: Conventional Bank Level: Local / Bank-wide / Consolidated		BHD '000				Stable Funding Factors				BHD '000				
Sr.	Item	Unweighted Values (before applying factors)				Stable Funding Factors				Weighted Values (after applying factors)				Total Weighted Value
		No Specified maturity	Less than 6 months	More than 6 months and less than one year	Over one year	No Specified maturity	Less than 6 months	More than 6 months and less than one year	Over one year	No Specified maturity	Less than 6 months	More than 6 months and less than one year	Over one year	
21	Cash, securities or other assets posted as initial margin for derivative contracts and cash or other assets provided to contribute to the default fund of a CCP					85%	-	-	-					
22	Physical traded commodities, including gold					85%	-	-	-					
23	Derivative Assets**					100%	-	-	-					
24	20% of derivative liabilities (i.e. negative replacement cost amounts) before deducting variation margin posted					100%	-	-	-					
25	Debt securities issued or guaranteed by banks and financial institutions					100%	50%	50%	100%					
26	Unlisted investments not included in the above categories					100%	50%	50%	100%					
27	Listed investments not included in the above categories					100%	50%	50%	100%					
28	Non-performing loans					100%	50%	50%	100%					
29	All other assets					100%	50%	50%	100%					
Off-Balance Sheet exposures														
30	Irrevocable and conditionally revocable credit and liquidity facilities					5%	5%	5%	5%					
31	Unconditionally revocable credit and liquidity facilities					5%	5%	5%	5%					
32	Trade finance-related obligations (including guarantees and letters of credit)					5%	5%	5%	5%					
33	Guarantees and letters of credit unrelated to trade finance obligations					5%	5%	5%	5%					
34	Non-contractual obligations such as:													
(a)	Potential requests for debt repurchases of the bank's own debt or that of related conduits, securities investment vehicles and other such financing facilities					5%	5%	5%	5%					
(b)	Structured products where customers anticipate ready marketability, such as adjustable rate notes and variable rate demand notes (VRDNs)					5%	5%	5%	5%					
(c)	Managed funds that are marketed with the objective of maintaining a stable value					5%	5%	5%	5%					
(d)	Other non-contractual obligations					5%	5%	5%	5%					
35	All other off-balance sheet exposures not included above					5%	5%	5%	5%					
36	Total RSF (Sum of items 9 to 35)													
37	NSFR(8/36)													
	* Net of NSFR derivative assets if NSFR Derivative liabilities are greater than NSFR derivative assets													
	** Net of NSFR derivative liabilities if NSFR derivative assets are greater than NSFR derivative liabilities													