FINANCIAL SERVICES COMMISSION
SECURITIES BULLETIN

Liquidity Management For Security Dealers That Are Not Licensed Deposit Takers

November 22, 2004

1.0 Background

Licensees have significant holdings of government securities and other assets which are in many cases funded by repurchase agreements with clients. These arrangements expose licensees to significant liquidity risks which require a high standard of liquidity management. This bulletin sets out some principles and practical guidance for sound liquidity management. The text of this bulletin was drawn from the Office of Thrift Supervision, Regulatory Bulletin, RB 32-32, dated December 2, 2003 and modified accordingly.[1]

2.0 Liquidity Management

Liquidity management is the ability to meet financial obligations at a reasonable cost in a timely manner. The essence of liquidity is having cash when you need it. Each licensee must maintain sufficient liquidity to ensure safe and sound operations.

Liquidity can be thought of as a reservoir of funds that management can readily access to meet funding requirements and business opportunities. Primary sources of liquidity include:

- Liquid assets, i.e. surplus cash and other assets that can be quickly converted into cash
- Liquid liabilities, i.e, liabilities that can easily be sold
- Unused borrowing capacity

Liquidity risk is the risk of not having sufficient funds to meet withdrawals and other financial commitments when due. Liquidity risk has also become largely synonymous with funding risk, that is, the risk of being unable to maintain or acquire funds at a reasonable price when needed.

[1] With permission from Office of Thrift Supervision, Mr. Scott Albinson, Managing Director

Licensee-specific problems or systemic disturbances can trigger liquidity problems. Licensee-specific liquidity problems are usually the result of other problems within a licensee. These include:

- Poor asset quality
- Excessive interest rate risk
- Inadequate capital
- Operational problems
- Inadequate cash flow planning.

Systemic liquidity problems may result from a major financial debacle, a crisis, or other catastrophic event.

Liquidity management involves balancing the trade-off between profitability and the risk of illiquidity. A high degree of liquidity is a positive sign since it indicates a capacity to meet obligations and take advantage of business opportunities. On the other hand, too much liquidity in the form of cash and low-earning assets or expensive borrowings can reduce a licensee's profitability. The key is to find the right balance between liquidity and profitability. That balance will change over time as economic and business conditions change. Finding the right balance depends in part on the licensee's ability to estimate and manage future cash flows.

To manage liquidity, effective managers typically employ the following analytical techniques:

- Maturity gap analysis.
- Cash flow forecasting.
- Scenario planning.

<u>Effective liquidity management, however, starts with the development of written policies and procedures, and the establishment of minimum acceptable levels of liquidity</u>. These policies should clearly define a licensee's strategy for managing liquidity, delineate areas of management responsibility, and establish a process for measuring, monitoring, and managing liquidity. Each licensee should also have contingency plans for dealing with unanticipated cash flow disruptions or cash flow needs.

3.0 Liquidity Management Process

This section provides an overview of the liquidity management process. It includes a brief description of the various sources of liquidity, a basic explanation of the various techniques for measuring liquidity and estimating future cash flow needs, and a guide for assessing the quality of risk management practices. The section concludes with a list of early warning signals of potential liquidity problems.

3.1 Liquid Assets

Licensees often meet liquidity needs through the sale of liquid assets and the maturity of assets. While in theory any asset can serve as a source of liquidity, licensees must consider the length of time it takes to dispose of an asset and the price at which it can be sold. Unencumbered assets that a licensee can sell or borrow against with relative ease without appreciable loss are ideal sources of liquidity.

Liquid assets would generally include deposits with other financial institutions and short-term securities. In addition, licensees may consider as liquid assets other securities that can easily be sold or are about to mature. Because of the time dimension of liquidity, an asset may be a source of liquidity if it matures or can be sold within the time horizon of the need for funds. But as a general rule, assets with shorter maturities or those with a higher quality are more liquid.

3.2 Cash and Deposits with Other Institutions

While cash is the essence of liquidity, the cash balances reported on a licensee's balance sheet are not necessarily available to meet a liquidity shortfall. While a minimum level of operating cash balance is needed for day-to-day transactions, other cash balances may be in the form of checks or drafts in the process of collection, and are unavailable. Typically only excess cash balances – balances over and above those needed for daily operations and scheduled payments – are considered to be a source of liquidity.

As a practical matter, most licensees view their portfolios of money market instruments and investment securities as a primary source of liquidity. The International Accounting Standards Board (IASB) requires institutions to designate investment securities as either available-for-sale, trading, or held-to-maturity. Securities designated as available-for-sale or trading must be carried on the balance sheet at fair value. Securities designated as held-to-maturity are carried at amortized cost. In general, according to the accounting rules, licensees may not sell securities in the held-to-maturity portfolio before maturity without "tainting" the entire portfolio – an event that would cause the entire portfolio of held-to maturity securities to be reported at fair value.

Licensees should be familiar with IAS 39 and understand the circumstances when they may sell held-to-maturity securities without penalty of tainting. Moreover, licensees should carefully consider their liquidity needs before designating securities as either available-for-sale, trading, or held-to-maturity. While the designation of a security as available-for-sale, trading, or held-to-maturity has certain consequences for accounting purposes, it has no bearing on whether the security is liquid in an economic sense. Whether an investment is liquid depends on how easily the holder can sell it in the market. Securities with tight bid-ask spreads are more liquid than those with wide bid-ask spreads.

3.3 Pledged Assets

In assessing liquidity, it is important to know which assets have been pledged to secure borrowings or for other purposes. Pledged assets are not liquid. In addition, it is important to determine which assets are currently unpledged, eligible, and available as collateral to secure borrowings.

3.4 Liquid Liabilities

In addition to having liquid assets to satisfy liquidity needs, licensees also have been meeting these needs through liability sources such as institution/broker borrowings. A licensee's ability to borrow or attract funds in the markets is generally a function of its size, reputation, creditworthiness, and capital levels. In general, funds provided by institutions/brokers are usually more sensitive to interest rate movements causing them to pose a greater liquidity risk to the licensee.

3.5 Retail Funding

The liquidity management programme should regularly monitor the make-up of accounts to determine the amounts that are stable, fluctuating or seasonal, or volatile. Licensees should remain knowledgeable of the characteristics of the funding source using periodic internal reports. Lack of such knowledge could lead to unwise decisions and subsequent related problems.

Generally, retail and institutional investors behave differently under stress and changing economic conditions. A liquidity manager should distinguish between the two and track trends separately.

3.6 Funding Sources

Borrowing sources that a licensee can access immediately, at a reasonable cost, and with a high degree of certainty are sources of liquidity.

Management should take the following actions if engaging in institutional/broker borrowings:

- Review borrowing concentrations. Determine whether an amount of borrowings from a single source poses an undue risk
- Review borrowing contracts
  - Determine if there are any embedded options or other features that may affect the interest rate or pose liquidity risk
  - Review collateral agreements for fees, maintenance requirements, and triggers for increases in collateral
- Review stress tests
  - Determine how to identify and monitor the risks of the various terms of each contract, including penalties and option features
  - Perform tests before entering into any agreement and periodically thereafter
  - Ensure that the stress test results depict the potential impact of contractual triggers and external events (such as interest rate changes that may result in the exercise of embedded options or the termination of the contract) on the licensee, as well as on its overall earnings and liquidity position
- Ensure that there are management processes in place to control liquidity and interest rate risks and that contingent funding plans have also been put in place.
- Fully inform the Board of Directors, or the asset/liability management committee about the risks of institutional/broker borrowing agreements prior to engaging in the transactions, as well as on an ongoing basis
- Ensure that the instruments are consistent with the licensee's portfolio objectives and level of sophistication of its risk management practices. Only licensees with technical knowledge and risk management systems sufficient to adequately identify, monitor, and control the risks of complex institutional/broker borrowings should use this type of funding

3.7 Securities Sold Under Repurchase Agreements

Securities sold under repurchase agreements are a means of financing inventories of securities. Under repurchase agreements, securities are temporarily "loaned out," for periods ranging from overnight to one year in return for borrowed funds. The vast majority mature in three months or less. A standard repurchase agreement involves the acquisition of funds through the sale of securities with a simultaneous commitment to repurchase the securities on a specified date at a specified price. The collateral most often used by licensees is Government of Jamaica securities. The repurchase agreement rate is the interest rate that the borrower pays the lender for the use of funds.

3.8 Lines of Credit

An unused portion of a line of credit with another financial licensee can be an important source of liquidity, particularly if it represents a binding legal commitment to borrow without major restrictions on its use and the borrowing rate is reasonable.

4.0 Techniques for Measuring Liquidity

The purpose of liquidity analysis is to measure a licensee's current liquidity position and its ability to meet future funding needs. An analysis of a licensee's *current liquidity position* generally involves a review of key balance sheet ratios, while the analysis of a licensee's ability to meet *future funding needs* involves an analysis of projected cash inflows and outflows.

4.1 Financial Ratio Analysis

The measurement of liquidity is an inexact and highly subjective process. This is largely due to the high degree of cash flow uncertainty associated with assets, liabilities, and off-balance-sheet contracts. In practice, analysts use a variety of financial ratios to measure the current liquidity position of an institution. Some ratios that measure liquidity include the following:

- Liquid assets to total assets.
- Volatile liabilities to total assets.
- Liquid assets to volatile liabilities.
- Net liquid assets to total assets.
- Unpledged eligible collateral to total assets.

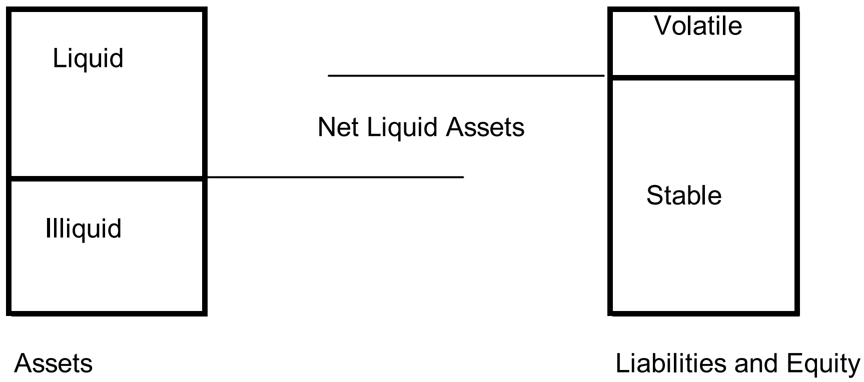
A key issue is defining liquid assets and volatile liabilities. Definitions vary depending on the objective or purpose of the analysis and data limitations. The time horizon of the analysis is particularly important in defining what is and what is not liquid. As a rule, liquid asset definitions include shorter-term assets that are readily saleable and assets that mature over the near-term. Some analysts define liquid assets to include the sum of cash and deposits with other institutions.

Volatile liabilities generally include funding from institutions/brokers. These tend to be interest rate sensitive and are funds that are likely to be withdrawn at a moment's notice. These are considered "hot money."

The basic model for measuring current liquidity is shown in Figure 1. That model relates liquid assets to volatile liabilities. The difference between liquid assets and volatile liabilities represents the net liquidity position. (Liquid assets - volatile liabilities = net liquidity position).

Figure 1.

Static Balance Sheet Liquidity Model



Ratios:
1) Liquid assets/total assets
2) Volatile liabilities to liquid assets
3) Volatile liabilities/total liabilities

A licensee can improve its liquidity position in a number of different ways. For example, it can take the following actions:

- Increase holdings of high-quality liquid assets
- Shorten the maturities of assets
- Lengthen the maturities of liabilities
- Diversify funding sources by maturity, geographic region, other

Successful liquidity management requires accurate measurement and control of the daily inflow and outflow of funds. Advance knowledge of liquidity shortfalls makes it possible to explore alternative ways to deal with them. Two useful techniques for monitoring cash flows are liquidity gap analysis and liquidity forecasting.

4.2 Liquidity Gap Analysis

A liquidity gap schedule provides an analytical framework for measuring future funding needs by comparing the amount of assets and liabilities maturing over specific time intervals. Table 1 below presents a sample liquidity gap schedule.

Table 1. Liquidity Gap Schedule

	Less than 10 days	Over 10 days but less than 3 months	Over 3 months but less 6 months	Over 6 months but less than one year	1 to 5 years	Over 5 years and capital	Total
Assets	10	10	10	5	65	0	100
Liabilities & Equity	50	30	15	0	0	5	100
Net outflow (assets minus liabilities)	-40	-20	-5	5	65	-5	0
Cumulative net outflow	-40	-60	-65	-60	5	0	0

In the Liquidity Gap Schedule, assets and liabilities are slotted into different time intervals according to their remaining time to maturity. Significant negative gapping at the shorter end of the schedule (that is, borrowing short and lending long) increases the risk that the licensee may not be able to manage maturing liabilities as they come due.

While it is important to understand the liquidity of a licensee's existing balance sheet, it is also important to forecast the expected cashflows over time.

4.3 Liquidity/Cash Flow Forecasting

Cash flow forecasting is a critical element in managing liquidity. The objective of cash flow forecasting is to project cash inflows and outflows over future periods. A common practice is to project net funds deficits for short-term (next 5-10 days) and long-term planning intervals (3-6 months, 6-12 months). By projecting cash flows for short- and long-term planning periods, a licensee can significantly reduce the risk that sizable net funds deficits go unnoticed and unattended. A sample forecast is presented in Table 2 below.

Table 2

CASH FLOW FORECAST

	Forecast 0 - 30 days	Forecast 31 - 60 days	Forecast 61 - 90 days	Forecast 91 - 365 days
Cash Inflows:				
Retail investments	200	400	600	800
Institutional investments	400	600	200	200
Maturing assets	-	-	-	500
Unused borrowing capacity	10	10	10	10
Other	-	-	-	-
Total Inflows	610	1,010	810	1,510
Cash Outlflows:				
Maturing Retail Repos	800	1,000	2,000	3,000
% expected to roll-over*	50%	50%	50%	50%
Maturing Retail repos to be paid	400	500	1,000	1,500
Maturing Institutional Repos	900	500	200	1,500
% expected to roll-over*	10%	10%	10%	10%
Maturing Institutional repos to be paid	810	450	180	1,350
Maturing debt	0	0	0	0
Other	0	0	0	0
Total Outflows	1,210	950	1,180	2,850
Net Surplus (deficit)	-600	60	-370	-1,340
Cumulative net surplus	-600	-540	-910	-2,250

* Based on demonstrated roll-over history.

A licensee should establish strategies for addressing cashflow mismatches. The first line of defense is setting limits. These include but are not limited to the following:

1) Maximum projected cashflow shortfall tolerated for specified time (for example one week ahead, one month ahead, or one quarter ahead) as a percentage of liquid assets and unused borrowings.
2) Maximum overnight borrowings to total assets
3) Maximum volatile liabilities to total assets
4) Minimum liquid assets to volatile liabilities
5) Minimum ratio of liquid assets to total assets

4.4 Scenario Analysis

Scenario analysis examines several possible situations, usually worst case, most likely case and best case. Helpful exercises consist of: 1) determining the liquidity needs of licensees' investors and any seasonal fluctuations associated with those needs; 2) creating scenarios under which the arrival of new information about a licensee could increase investors' desire to withdraw funds. A result of scenario analysis is that the licensee would be required to focus on the level of liquidity that could be reasonably built within a specified period to meet different situations. The discipline of doing these exercises can help to guide the limit setting process for the various ratios outlined in this bulletin, for example, minimum liquid assets to volatile liabilities.

5.0 Assessing the Liquidity Risk Management Practices

Each licensee should have a written strategy for the day-to-day management of liquidity. The liquidity strategy should define the licensee's general approach to managing liquidity, including various quantitative and qualitative targets. The liquidity strategy should cover specific policies on the composition of assets and liabilities, the use of institutional/broker funding, and strategies for addressing temporary and longer-term liquidity disruptions.

The sophistication of a licensee's policies, procedures, and information systems for managing liquidity should be related to the following items:

- Size and complexity of the licensee.
- Strength and stability of the licensee's core investor base.
- The licensee's dependence on institutional/broker funding.
- Variability of the licensee's cash flows.
- Financial condition of the licensee.

Licensees with deteriorating financial condition should increase attention to liquidity management and contingency planning.

5.1 Board and Senior Management Oversight

Effective oversight is an integral part of an effective liquidity management programme. The board and senior management should understand their oversight responsibilities.

Board of Directors

The board of directors should establish the licensee's tolerance for liquidity risk, set liquidity requirements, and approve significant policies related to liquidity management. The board should also ensure senior management takes the necessary steps to monitor and control liquidity risk. The board should understand the nature and level of the licensee's liquidity risk, and management should inform the board regularly of the liquidity position of the licensee.

Senior Management

Senior management should establish policies, procedures, and guidelines for managing and monitoring liquidity to ensure adequate liquidity at all times. Policies should include internal controls. In addition, senior management should review the licensee's liquidity position on a regular basis and monitor internal and external factors and events that could have a bearing on the licensee's liquidity. Senior management should also prepare contingency funding plans. Senior management should review periodically the licensee's liquidity strategies, policies, and procedures.

5.2 Policies and Procedures

A licensee should have clearly defined policies and procedures for managing liquidity.
The board of directors has ultimate responsibility for the adequacy of policies and procedures; senior management has responsibility for their design and implementation. Polices and procedures should include the following:

- *Delineated lines of responsibility*. Identification of individuals or committees responsible for managing and monitoring liquidity risk.

- *An overall liquidity strategy*. It bears repeating. The liquidity strategy should define the general approach the licensee will follow in managing liquidity, including various quantitative and qualitative targets. The liquidity strategy should cover specific policies on the composition of assets and liabilities, including policies on investment in illiquid securities and the use of institutional/broker funding. There should also be a written strategy for addressing temporary and long-term liquidity disruptions.

- *A process for measuring and monitoring liquidity*. Although licensees can use a number of procedures for measuring and monitoring liquidity, the most effective procedures involve pro-forma cash flow projections. (See sample cashflow forecast above in Table 2) These range from simple calculations to complex models for projecting cash inflows and outflows over different planning periods (time bands) to identify cash shortfalls and surpluses in future periods. While liquidity measures based on balance sheet ratios are useful in measuring a licensee's current liquidity position and in monitoring trends in liquidity, licensees should focus their attention on forward looking, pro-forma measures of liquidity.

  Please note, such strategies which rely heavily on seeking liquidity from the Bank of Jamaica will be considered imprudent and inadequate.

- *Quantitative guidelines and limits*. Guidelines and limits will vary depending on the nature of a licensee's operations and circumstances. Licensees could set guidelines, for example, on the size of cash flow mismatches over specified time horizons. Because of the subjective nature of the numbers in pro-forma cashflow projections, licensees may find it impractical to establish precise risk limits or precise rules for addressing cash flow mismatches projected to occur in future periods. Nevertheless, a licensee should make an effort to define its tolerance for cash flow mismatches and should establish strategies for addressing them. Licensees can also tie limits to the balance sheet ratios presented earlier in this bulletin.

- *Internal control procedures to ensure adherence to policies and procedures that address the integrity of the liquidity risk management process*. An effective system of internal control should promote effective operations, reliable financial and regulatory reporting, and compliance with relevant laws and institutional policies. Internal control systems should provide appropriate approval processes, limits, and ensure regular and independent evaluation and review of the liquidity risk management process. Such reviews should address any significant changes in the nature of the instruments acquired, changes in limits and controls that were set since the last review. Internal control should include the following activities:

  - Procedures for approvals of exceptions to policies, limits, and authorizations. Positions that exceed established limits should receive the prompt attention of appropriate management and should be resolved according to the process described in approved policies.
  - A schedule for the periodic review of the liquidity policies and procedures. Periodic reviews of the liquidity management process and related procedures should address any significant changes in liquidity risk limits, liquidity strategy, information systems, and internal controls since the last review.

- Contingency Planning. Licensees should assess their responses to liquidity events in the context of their implications for a licensee's short-term, intermediate- term, and long-term liquidity profile.

5.3 Management Information Systems

Each licensee should have adequate information systems for measuring, monitoring, and controlling liquidity risk:

- A management information system should provide timely information on the licensee's current and prospective liquidity position.
- Licensees should be able to project their liquidity position and liquidity requirements over various time horizons and scenarios.
- Licensees should clearly define assumptions used in projections in order to be able to evaluate the appropriateness and validity of the projections.
- The information system should provide the data needed by licensees to determine compliance with the licensees' liquidity policies, procedures, and limits.

5.4 Measuring and Monitoring Liquidity

As previously stated, each licensee should have a process for measuring and monitoring its existing liquidity position as well as its net funding requirements. Licensees should take steps to address projected net funding deficits in a timely manner. Management and other staff responsible for managing overall liquidity should be aware of any information, such as a pending decline in earnings, or an impending legal action that could have an adverse impact on perceptions about the financial condition of the licensee.

Licensees should also consider conducting scenario analysis in estimating liquidity requirements. In conducting an analysis of liquidity, licensees should consider the following scenarios:

- Range of possible future scenarios, such as optimistic, pessimistic, and most likely. In estimating normal funding needs, some licensees may use historical data and account for seasonal and other effects believed to determine fund demand and investment flows. Alternatively, some licensees may rely on judgmental business projections, or undertake a customer-by-customer assessment for larger customers and apply historical relationships to the remainder.
- Stressful events such as a loss of institutional/broker funding, a significant maturity of repos, or a sharp increase in funding costs.
- Cash flow timing differences and the related assumptions among scenarios. For example, in a general market crisis, the capacity to sell assets may deteriorate significantly.
- The potential for unanticipated cash outflows and reduced cash inflows associated with embedded options in various assets, liabilities, and off-balance-sheet contacts. Potential cash outflows include financial guarantees, margin calls and early termination of repo contracts.

5.5 Contingency Planning

Each licensee should have a contingency plan for handling unanticipated stressful scenarios that could result in a significant erosion of licensee specific or general-market liquidity. Licensees should update the plan on a regular basis. A contingency plan should accomplish the following:

- Consistently planned use of liquidity sources with the licensee's stated purposes and objectives of its liquidity programme.
- Identify and assess the adequacy of financial resources (source of funds) for contingent needs. The plan should identify all back-up facilities (lines of credit), the conditions related to their use, and the circumstances where the licensee might use them. Periodically, licensees should test all sources of their contingency funding with the goal of ensuring that there are no unexpected impediments or complications in case the licensees need to use the contingency lines. Licensees should understand the various conditions, such as notice periods, that could affect access to backup funding sources.
- Define responsibilities and decision-making authority so that all personnel understand their role during a problem situation.
- Identify the sequence that the licensee will mobilize and commit key sources of funds for contingent needs. The degree of uncertainty as to the magnitude and timing of availability of resources may call for different priorities in different situations.
- Address implementation issues such as procedures by which resources are committed for emergency use or released from one use and transferred to another.
- Identify other actions necessary in the event of an unexpected contingency.
- Assess the potential for funding erosion (magnitude and rate of outflow) by source of funds under different scenarios.

A fundamental principle in designing contingency plans for liquidity purposes is to ensure adequate diversification in the potential sources of funds. Such diversification should not only focus on the number of potential funds providers but on the underlying stability, availability, and flexibility of funds sources in the context of the type of potential liquidity event.

5.6 Managing Access to Funding Sources

Licensees should carefully manage their access to available sources of funding and understand their funding options:

- Licensees should build and maintain relationships with a broad range of funding sources. Licensees should understand how much funding might be available from various sources under normal and adverse circumstances.
- Licensees should be aware of the composition, characteristics, and diversification of its funding sources.

Liquidity Support between Affiliates

A licensee within a holding company structure may be able to rely on liquidity support from other affiliates within the company. However, limitations on transactions with affiliates are an additional consideration.

Liquidity Risk of the Holding Company

The funding structure of a group company may expose it to more liquidity risk than its subsidiary or affiliate. A group company in a liquidity crisis may not be in a position to look to its subsidiaries or affiliates for relief. However, any up-streaming of value by a subsidiary to its parent or affiliate company would be closely examined by the Financial Services Commission. A licensee may not be insulated from its parent holding company's liquidity risks, particularly when both have similar names. If a parent holding company goes bankrupt, it could have repercussions for the licensee because investors may not understand the legal distinctions between the two.

6.0 Supervisory Concerns

The Financial Services Commission requires licensees to maintain sufficient liquidity to ensure safe and sound operations.

6.1 Early Warning Signals

As indicated earlier in this bulletin, liquidity problems are often symptomatic of other more fundamental problems at a licensee such as excessive credit risk, excessive interest rate risk, inadequate capital, operational problems, and so forth. Factors that could indicate or precipitate liquidity problems include:

- Over-reliance on institutional/broker funding.
- A sharp rise in funding costs.
- A sharp drop in earnings.
- A decline in capital.
- Management problems.
- Adverse publicity.

6.2 FSC's Proposed Examination Objectives

- To determine the adequacy and effectiveness of the licensee's liquidity policies, liquidity management strategies, and contingency funding plans.
- To determine management's ability to measure, monitor, and control the licensee's liquidity position.
- To determine if the licensee's officers and employees are in compliance with established policies and procedures regarding liquidity management.
- To determine the adequacy of the licensee's liquidity.
- To determine the availability of assets readily convertible to cash without undue loss.
- To determine access to other sources of funding.
- To determine diversification of funding sources.
- To determine reliance on short-term, volatile sources of funds, including borrowings and brokered deposits.
- To summarize findings and to initiate corrective action as needed.

6.3 Examination Procedures

Level I

1. Review scoping materials applicable to this programme. Review liquidity and funding reports, cash flow forecasts, and new borrowing contracts and indentures. Review liquidity ratios.
2. Determine if the licensee corrected previously identified liquidity-related problems or weaknesses.
   Review:
     - Prior examination report comments and exceptions.
     - Independent audit exceptions.
     - Any enforcement or supervisory actions and directives.
3. Obtain and review the adequacy of written policies, procedures, business strategies, and contingency plans governing liquidity management.
4. Determine if the licensee's officers and employees are operating in compliance with established policies and procedures regarding liquidity management.

5. Review the licensee's internal reports applicable to liquidity management. Determine whether the reports provide the information needed to effectively measure and control the licensee's liquidity position.
6. Determine the adequacy of liquidity in relation to current and expected cash flow needs:
   - Measure the availability of assets readily convertible to cash without undue loss.
   - Determine the level of access to, and diversification of, funding sources.
   - Determine the degree of reliance on short-term, volatile sources of funds, including institutional/ broker funding.
   - Determine the ability of the licensee to fund outstanding commitments.

Level II

7. Review the contractual terms of borrowing contracts and indentures to assess any liquidity implications. Determine whether the contracts and indentures contain options and other option-like features that could have adverse liquidity implications.
8. Determine the trend and stability of investor base.
9. Determine the licensee's contingency plans for short-, intermediate-, and long-term liquidity needs. Review whether the licensee has adequate diversification in its potential sources of funds it may use.

Level III

10. Discuss with the licensee additional procedures when work in Level II is insufficient to draw conclusions on the adequacy of liquidity management performance.
11. Estimate the amount of cash that the licensee could raise by selling unpledged marketable securities. Estimate the unrealized gain or loss on those securities as a percentage of earnings and capital.
12. Review cash budget projections for the next year under assumptions of stable, declining, and increasing interest rates.
13. Estimate the effect of converting 10% of a licensee's investment portfolio into cash under a stressed scenario.

Comments are invited. Please direct them to:

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