

INTERAGENCY POLICY STATEMENT ON FUNDING AND LIQUIDITY RISK MANAGEMENT

March 17, 2010

The Office of the Comptroller of the Currency (OCC), Board of Governors of the Federal Reserve System (FRB), Federal Deposit Insurance Corporation (FDIC), the Office of Thrift Supervision (OTS), and the National Credit Union Administration (NCUA) (collectively, the agencies) in conjunction with the Conference of State Bank Supervisors (CSBS)¹ are issuing this guidance to provide consistent interagency expectations on sound practices for managing funding and liquidity risk. The guidance summarizes the principles of sound liquidity risk management that the agencies have issued in the past² and, where appropriate, harmonizes these principles with the international statement recently issued by the Basel Committee on Banking Supervision titled “Principles for Sound Liquidity Risk Management and Supervision.”³

Recent events illustrate that liquidity risk management at many financial institutions is in need of improvement. Deficiencies include insufficient holdings of liquid assets, funding risky or illiquid asset portfolios with potentially volatile short-term liabilities, and a lack of meaningful cash flow projections and liquidity contingency plans.

The following guidance reiterates the process that institutions should follow to appropriately identify, measure, monitor, and control their funding and liquidity risk. In particular, the guidance re-emphasizes the importance of cash flow projections, diversified funding sources, stress testing, a cushion of liquid assets, and a formal well-developed contingency funding plan (CFP) as primary tools for measuring and managing liquidity risk. The agencies expect every depository financial institutions⁴ to manage liquidity risk using processes and systems that are commensurate with the institution’s complexity, risk profile, and scope of operations. Liquidity risk management processes and plans should be well documented

¹ The various state banking supervisors may implement this policy statement through their individual supervisory process.

² For national banks, see the *Comptroller’s Handbook on Liquidity*. For state member banks and bank holding companies, see the Federal Reserve’s *Commercial Bank Examination Manual* (section 4020), *Bank Holding Company Supervision Manual* (section 4010), and *Trading and Capital Markets Activities Manual* (section 2030). For state non-member banks, see the FDIC’s *Revised Examination Guidance for Liquidity and Funds Management* (Trans. No. 2002-01) (Nov. 19, 2001) as well as Financial Institution Letter 84-2008, *Liquidity Risk Management* (August 2008). For savings associations, see the Office of Thrift Supervision’s *Examination Handbook*, section 530, “Cash Flow and Liquidity Management”; and the *Holding Companies Handbook*, section 600. For federally insured credit unions, see Letter to Credit Unions No. 02-CU-05, Examination Program Liquidity Questionnaire (March 2002). Also see Basel Committee on Banking Supervision, “Principles for Sound Liquidity Risk Management and Supervision,” (September 2008).

³ Basel Committee on Banking Supervision, “Principles for Sound Liquidity Risk Management and Supervision”, September 2008. See www.bis.org/publ/bcbs144.htm. Federally insured credit unions are not directly referenced in the principles issued by the Basel Committee.

⁴ Unless otherwise indicated, this interagency guidance uses the term “depository financial institutions” or “institutions” to include banks, saving associations, and federally insured natural person credit unions. Federally insured credit unions (FICUs) do not have holding company affiliations, and, therefore, references to holding companies contained within this guidance are not applicable to FICUs.

and available for supervisory review. Failure to maintain an adequate liquidity risk management process will be considered an unsafe and unsound practice.

Liquidity and Liquidity Risk

Liquidity is a financial institution's capacity to meet its cash and collateral obligations at a reasonable cost. Maintaining an adequate level of liquidity depends on the institution's ability to efficiently meet both expected and unexpected cash flows and collateral needs without adversely affecting either daily operations or the financial condition of the institution.

Liquidity risk is the risk that an institution's financial condition or overall safety and soundness is adversely affected by an inability (or perceived inability) to meet its obligations. An institution's obligations, and the funding sources used to meet them, depend significantly on its business mix, balance-sheet structure, and the cash flow profiles of its on- and off-balance-sheet obligations. In managing their cash flows, institutions confront various situations that can give rise to increased liquidity risk. These include funding mismatches, market constraints on the ability to convert assets into cash or in accessing sources of funds (i.e., market liquidity), and contingent liquidity events. Changes in economic conditions or exposure to credit, market, operation, legal, and reputation risks also can affect an institution's liquidity risk profile and should be considered in the assessment of liquidity and asset/liability management.

Sound Practices of Liquidity Risk Management

An institution's liquidity management process should be sufficient to meet its daily funding needs and cover both expected and unexpected deviations from normal operations. Accordingly, institutions should have a comprehensive management process for identifying, measuring, monitoring, and controlling liquidity risk. Because of the critical importance to the viability of the institution, liquidity risk management should be fully integrated into the institution's risk management processes. Critical elements of sound liquidity risk management include:

- Effective corporate governance consisting of oversight by the board of directors and active involvement by management in an institution's control of liquidity risk.
- Appropriate strategies, policies, procedures, and limits used to manage and mitigate liquidity risk.
- Comprehensive liquidity risk measurement and monitoring systems (including assessments of the current and prospective cash flows or sources and uses of funds) that are commensurate with the complexity and business activities of the institution.
- Active management of intraday liquidity and collateral.
- An appropriately diverse mix of existing and potential future funding sources.
- Adequate levels of highly liquid marketable securities free of legal, regulatory, or operational impediments, that can be used to meet liquidity needs in stressful situations.
- Comprehensive contingency funding plans (CFPs) that sufficiently address potential adverse liquidity events and emergency cash flow requirements.

- Internal controls and internal audit processes sufficient to determine the adequacy of the institution's liquidity risk management process.

Supervisors will assess these critical elements in their reviews of an institution's liquidity risk management process in relation to its size, complexity, and scope of operations.

Corporate Governance

The board of directors is ultimately responsible for the liquidity risk assumed by the institution. As a result, the board should ensure that the institution's liquidity risk tolerance is established and communicated in such a manner that all levels of management clearly understand the institution's approach to managing the trade-offs between liquidity risk and short-term profits. The board of directors or its delegated committee of board members should oversee the establishment and approval of liquidity management strategies, policies and procedures, and review them at least annually. In addition, the board should ensure that it:

- Understands the nature of the liquidity risks of its institution and periodically reviews information necessary to maintain this understanding.
- Establishes executive-level lines of authority and responsibility for managing the institution's liquidity risk.
- Enforces management's duties to identify, measure, monitor, and control liquidity risk.
- Understands and periodically reviews the institution's CFPs for handling potential adverse liquidity events.
- Understands the liquidity risk profiles of important subsidiaries and affiliates as appropriate.

Senior management is responsible for ensuring that board-approved strategies, policies, and procedures for managing liquidity (on both a long-term and day-to-day basis) are appropriately executed within the lines of authority and responsibility designated for managing and controlling liquidity risk. This includes overseeing the development and implementation of appropriate risk measurement and reporting systems, liquid buffers (e.g., cash, unencumbered marketable securities, and market instruments), CFPs, and an adequate internal control infrastructure. Senior management is also responsible for regularly reporting to the board of directors on the liquidity risk profile of the institution.

Senior management should determine the structure, responsibilities, and controls for managing liquidity risk and for overseeing the liquidity positions of the institution. These elements should be clearly documented in liquidity risk policies and procedures. For institutions comprised of multiple entities, such elements should be fully specified and documented in policies for each material legal entity and subsidiary. Senior management should be able to monitor liquidity risks for each entity across the institution on an ongoing basis. Processes should be in place to ensure that the group's senior management is actively monitoring and quickly responding to all material developments and reporting to the boards of directors as appropriate.

Institutions should clearly identify the individuals or committees responsible for implementing and making liquidity risk decisions. When an institution uses an asset/liability committee (ALCO) or other similar senior management committee, the committee should actively monitor the institution's liquidity profile and should have sufficiently broad representation across major institutional functions that can directly or indirectly influence the institution's liquidity risk profile (e.g., lending, investment securities, wholesale and retail funding). Committee members should include senior managers with authority over the units responsible for executing liquidity-related transactions and other activities within the liquidity risk management process. In addition, the committee should ensure that the risk measurement system adequately identifies and quantifies risk exposure. The committee also should ensure that the reporting process communicates accurate, timely, and relevant information about the level and sources of risk exposure.

Strategies, Policies, Procedures, and Risk Tolerances

Institutions should have documented strategies for managing liquidity risk and clear policies and procedures for limiting and controlling risk exposures that appropriately reflect the institution's risk tolerances. Strategies should identify primary sources of funding for meeting daily operating cash outflows, as well as seasonal and cyclical cash flow fluctuations. Strategies should also address alternative responses to various adverse business scenarios.⁵ Policies and procedures should provide for the formulation of plans and courses of actions for dealing with potential temporary, intermediate-term, and long-term liquidity disruptions. Policies, procedures, and limits also should address liquidity separately for individual currencies, legal entities, and business lines, when appropriate and material, and should allow for legal, regulatory, and operational limits for the transferability of liquidity as well. Senior management should coordinate the institution's liquidity risk management with disaster, contingency, and strategic planning efforts, as well as with business line and risk management objectives, strategies, and tactics.

Policies should clearly articulate a liquidity risk tolerance that is appropriate for the business strategy of the institution considering its complexity, business mix, liquidity risk profile, and its role in the financial system. Policies should also contain provisions for documenting and periodically reviewing assumptions used in liquidity projections. Policy guidelines should employ both quantitative targets and qualitative guidelines. For example, these measurements, limits, and guidelines may be specified in terms of the following measures and conditions, as applicable:

- Cash flow projections that include discrete and cumulative cash flow mismatches or gaps over specified future time horizons under both expected and adverse business conditions.
- Target amounts of unencumbered liquid asset reserves.
- Measures used to identify unstable liabilities and liquid asset coverage ratios. For example, these may include ratios of wholesale funding to total liabilities, potentially

⁵ In formulating liquidity management strategies, members of complex banking groups should take into consideration their legal structures (e.g., branches versus separate legal entities and operating subsidiaries), key business lines, markets, products, and jurisdictions in which they operate.

volatile retail (e.g., high-cost or out-of-market) deposits to total deposits, and other liability dependency measures, such as short-term borrowings as a percent of total funding.

- Asset concentrations that could increase liquidity risk through a limited ability to convert to cash (e.g., complex financial instruments,⁶ bank-owned (corporate-owned) life insurance, and less marketable loan portfolios).
- Funding concentrations that address diversification of funding sources and types, such as large liability and borrowed funds dependency, secured versus unsecured funding sources, exposures to single providers of funds, exposures to funds providers by market segments, and different types of brokered deposits or wholesale funding.
- Funding concentrations that address the term, re-pricing, and market characteristics of funding sources with consideration given to the nature of the assets they fund. This may include diversification targets for short-, medium-, and long-term funding; instrument type and securitization vehicles; and guidance on concentrations for currencies and geographical markets.
- Contingent liability exposures such as unfunded loan commitments, lines of credit supporting asset sales or securitizations, and collateral requirements for derivatives transactions and various types of secured lending.
- Exposures of material activities, such as securitization, derivatives, trading, transaction processing, and international activities, to broad systemic and adverse financial market events. This is most applicable to institutions with complex and sophisticated liquidity risk profiles.
- Alternative measures and conditions may be appropriate for certain institutions.

Policies also should specify the nature and frequency of management reporting. In normal business environments, senior managers should receive liquidity risk reports at least monthly, while the board of directors should receive liquidity risk reports at least quarterly. Depending upon the complexity of the institution's business mix and liquidity risk profile, management reporting may need to be more frequent. Regardless of an institution's complexity, it should have the ability to increase the frequency of reporting on short notice, if the need arises. Liquidity risk reports should impart to senior management and the board a clear understanding of the institution's liquidity risk exposure, compliance with risk limits, consistency between management's strategies and tactics, and consistency between these strategies and the board's expressed risk tolerance.

Institutions should consider liquidity costs, benefits, and risks in strategic planning and budgeting processes. Significant business activities should be evaluated for both liquidity risk exposure and profitability. More complex and sophisticated institutions should incorporate liquidity costs, benefits, and risks in the internal product pricing, performance measurement, and new product approval process for all material business lines, products, and activities. Incorporating the cost of liquidity into these functions should align the risk-taking incentives of

⁶ Financial instruments that are illiquid, difficult to value, or marked by the presence of cash flows that are irregular, uncertain, or difficult to model.

individual business lines with the liquidity risk exposure their activities create for the institution as a whole. The quantification and attribution of liquidity risks should be explicit and transparent at the line management level and should include consideration of how liquidity would be affected under stressed conditions.

Liquidity Risk Measurement, Monitoring, and Reporting

The process of measuring liquidity risk should include robust methods for comprehensively projecting cash flows arising from assets, liabilities, and off-balance-sheet items over an appropriate set of time horizons. For example, time buckets may be daily for very short timeframes out to weekly, monthly, and quarterly for longer time frames. Pro forma cash flow statements are a critical tool for adequately managing liquidity risk. Cash flow projections can range from simple spreadsheets to very detailed reports depending upon the complexity and sophistication of the institution and its liquidity risk profile under alternative scenarios. Given the critical importance that assumptions play in constructing measures of liquidity risk and projections of cash flows, institutions should ensure that the assumptions used are reasonable, appropriate, and adequately documented. Institutions should periodically review and formally approve these assumptions. Institutions should focus particular attention on the assumptions used in assessing the liquidity risk of complex assets, liabilities, and off-balance-sheet positions. Assumptions applied to positions with uncertain cash flows, including the stability of retail and brokered deposits and secondary market issuances and borrowings, are especially important when they are used to evaluate the availability of alternative sources of funds under adverse contingent liquidity scenarios. Such scenarios include, but are not limited to, deterioration in the institution's asset quality or capital adequacy.

Institutions should ensure that assets are properly valued according to relevant financial reporting and supervisory standards. An institution should fully factor into its risk management practices the consideration that valuations may deteriorate under market stress and take this into account in assessing the feasibility and impact of asset sales on its liquidity position during stress events.

Institutions should ensure that their vulnerabilities to changing liquidity needs and liquidity capacities are appropriately assessed within meaningful time horizons, including intraday, day-to-day, short-term weekly and monthly horizons, medium-term horizons of up to one year, and longer-term liquidity needs of one year or more. These assessments should include vulnerabilities to events, activities, and strategies that can significantly strain the capability to generate internal cash.

Stress Testing

Institutions should conduct stress tests regularly for a variety of institution-specific and marketwide events across multiple time horizons. The magnitude and frequency of stress testing should be commensurate with the complexity of the financial institution and the level of its risk exposures. Stress test outcomes should be used to identify and quantify sources of potential liquidity strain and to analyze possible impacts on the institution's cash flows, liquidity position, profitability, and solvency. Stress tests should also be used to ensure that current exposures are consistent with the financial institution's established liquidity risk tolerance. Management's

active involvement and support is critical to the effectiveness of the stress testing process. Management should discuss the results of stress tests and take remedial or mitigating actions to limit the institution's exposures, build up a liquidity cushion, and adjust its liquidity profile to fit its risk tolerance. The results of stress tests should also play a key role in shaping the institution's contingency planning. As such, stress testing and contingency planning are closely intertwined.

Collateral Position Management

An institution should have the ability to calculate all of its collateral positions in a timely manner, including the value of assets currently pledged relative to the amount of security required and unencumbered assets available to be pledged. An institution's level of available collateral should be monitored by legal entity, jurisdiction, and currency exposure, and systems should be capable of monitoring shifts between intraday and overnight or term collateral usage. An institution should be aware of the operational and timing requirements associated with accessing the collateral given its physical location (i.e., the custodian institution or securities settlement system with which the collateral is held). Institutions should also fully understand the potential demand on required and available collateral arising from various types of contractual contingencies during periods of both marketwide and institution-specific stress.

Management Reporting

Liquidity risk reports should provide aggregate information with sufficient supporting detail to enable management to assess the sensitivity of the institution to changes in market conditions, its own financial performance, and other important risk factors. The types of reports or information and their timing will vary according to the complexity of the institution's operations and risk profile. Reportable items may include but are not limited to cash flow gaps, cash flow projections, asset and funding concentrations, critical assumptions used in cash flow projections, key early warning or risk indicators, funding availability, status of contingent funding sources, or collateral usage. Institutions should also report on the use of and availability of government support, such as lending and guarantee programs, and implications on liquidity positions, particularly since these programs are generally temporary or reserved as a source for contingent funding.

Liquidity across Currencies, Legal Entities, and Business Lines

A depository institution should actively monitor and control liquidity risk exposures and funding needs within and across currencies, legal entities, and business lines. Also, depository institutions should take into account operational limitations to the transferability of liquidity, and should maintain sufficient liquidity to ensure compliance during economically stressed periods with applicable legal and regulatory restrictions on the transfer of liquidity among regulated entities. The degree of centralization in managing liquidity should be appropriate for the depository institution's business mix and liquidity risk profile⁷. The agencies expect depository

⁷ Institutions subject to multiple regulatory jurisdictions should have management strategies and processes that recognize the potential limitations of liquidity transferability, as well as the need to meet the liquidity requirements of foreign jurisdictions.

institutions to maintain adequate liquidity both at the consolidated level and at significant legal entities.

Regardless of its organizational structure, it is important that an institution actively monitor and control liquidity risks at the level of individual legal entities, and the group as a whole, incorporating processes that aggregate data across multiple systems in order to develop a group-wide view of liquidity risk exposures. It is also important that the institution identify constraints on the transfer of liquidity within the group.

Assumptions regarding the transferability of funds and collateral should be described in liquidity risk management plans.

Intraday Liquidity Position Management

Intraday liquidity monitoring is an important component of the liquidity risk management process for institutions engaged in significant payment, settlement, and clearing activities. An institution's failure to manage intraday liquidity effectively, under normal and stressed conditions, could leave it unable to meet payment and settlement obligations in a timely manner, adversely affecting its own liquidity position and that of its counterparties. Among large, complex organizations, the interdependencies that exist among payment systems and the inability to meet certain critical payments has the potential to lead to systemic disruptions that can prevent the smooth functioning of all payment systems and money markets. Therefore, institutions with material payment, settlement and clearing activities should actively manage their intraday liquidity positions and risks to meet payment and settlement obligations on a timely basis under both normal and stressed conditions. Senior management should develop and adopt an intraday liquidity strategy that allows the institution to:

- Monitor and measure expected daily gross liquidity inflows and outflows.
- Manage and mobilize collateral when necessary to obtain intraday credit.
- Identify and prioritize time-specific and other critical obligations in order to meet them when expected.
- Settle other less critical obligations as soon as possible.
- Control credit to customers when necessary.
- Ensure that liquidity planners understand the amounts of collateral and liquidity needed to perform payment-system obligations when assessing the organization's overall liquidity needs.

Diversified Funding

An institution should establish a funding strategy that provides effective diversification in the sources and tenor of funding. It should maintain an ongoing presence in its chosen funding markets and strong relationships with funds providers to promote effective diversification of funding sources. An institution should regularly gauge its capacity to raise funds quickly from

each source. It should identify the main factors that affect its ability to raise funds and monitor those factors closely to ensure that estimates of fund raising capacity remain valid.

An institution should diversify available funding sources in the short-, medium-, and long-term. Diversification targets should be part of the medium- to long-term funding plans and should be aligned with the budgeting and business planning process. Funding plans should take into account correlations between sources of funds and market conditions. Funding should also be diversified across a full range of retail as well as secured and unsecured wholesale sources of funds, consistent with the institution's sophistication and complexity. Management should also consider the funding implications of any government programs or guarantees it uses. As with wholesale funding, the potential unavailability of government programs over the intermediate- and long-term should be fully considered in the development of liquidity risk management strategies, tactics, and risk tolerances. Funding diversification should be implemented using limits addressing counterparties, secured versus unsecured market funding, instrument type, securitization vehicle, and geographic market. In general, funding concentrations should be avoided. Undue over-reliance on any one source of funding is considered an unsafe and unsound practice.

An essential component of ensuring funding diversity is maintaining market access. Market access is critical for effective liquidity risk management as it affects both the ability to raise new funds and to liquidate assets. Senior management should ensure that market access is being actively managed, monitored, and tested by the appropriate staff. Such efforts should be consistent with the institution's liquidity risk profile and sources of funding. For example, access to the capital markets is an important consideration for most large complex institutions, whereas the availability of correspondent lines of credit and other sources of wholesale funds are critical for smaller, less complex institutions.

An institution should identify alternative sources of funding that strengthen its capacity to withstand a variety of severe institution-specific and marketwide liquidity shocks. Depending upon the nature, severity, and duration of the liquidity shock, potential sources of funding include, but are not limited to, the following:

- Deposit growth.
- Lengthening maturities of liabilities.
- Issuance of debt instruments⁸.
- Sale of subsidiaries or lines of business.
- Asset securitization.
- Sale (either outright or through repurchase agreements) or pledging of liquid assets.

⁸ Federally insured credit unions can borrow funds (which includes issuing debt) as given in section 106 of the Federal Credit Union Act (FCUA). Section 106 of the FCUA as well as section 741.2 of the NCUA Rules and Regulations establish specific limitations on the amount that can be borrowed. Federal Credit Unions can borrow from natural persons in accordance with the requirements of part 701.38 of the NCUA Rules and Regulations.

- Drawing down committed facilities.
- Borrowing.

Cushion of Liquid Assets

Liquid assets are an important source of both primary (operating liquidity) and secondary (contingent liquidity) funding at many institutions. Indeed, a critical component of an institution's ability to effectively respond to potential liquidity stress is the availability of a cushion of highly liquid assets without legal, regulatory, or operational impediments (i.e., unencumbered) that can be sold or pledged to obtain funds in a range of stress scenarios. These assets should be held as insurance against a range of liquidity stress scenarios including those that involve the loss or impairment of typically available unsecured and/or secured funding sources. The size of the cushion of such high-quality liquid assets should be supported by estimates of liquidity needs performed under an institution's stress testing as well as aligned with the risk tolerance and risk profile of the institution. Management estimates of liquidity needs during periods of stress should incorporate both contractual and noncontractual cash flows, including the possibility of funds being withdrawn. Such estimates should also assume the inability to obtain unsecured and uninsured funding as well as the loss or impairment of access to funds secured by assets other than the safest, most liquid assets.

Management should ensure that unencumbered, highly liquid assets are readily available and are not pledged to payment systems or clearing houses. The quality of unencumbered liquid assets is important as it will ensure accessibility during the time of most need. An institution could use its holdings of high-quality securities, for example, U.S. Treasury securities, securities issued by U.S. government-sponsored agencies, excess reserves at the central bank or similar instruments, and enter into repurchase agreements in response to the most severe stress scenarios.

Contingency Funding Plan⁹

All financial institutions, regardless of size and complexity, should have a formal CFP that clearly sets out the strategies for addressing liquidity shortfalls in emergency situations. A CFP should delineate policies to manage a range of stress environments, establish clear lines of responsibility, and articulate clear implementation and escalation procedures. It should be regularly tested and updated to ensure that it is operationally sound. For certain components of the CFP, affirmative testing (e.g., liquidation of assets) may be impractical. In these instances, institutions should be sure to test operational components of the CFP. For example, ensuring that roles and responsibilities are up-to-date and appropriate; ensuring that legal and operational documents are up-to-date and appropriate; and ensuring that cash and collateral can be moved where and when needed, and ensuring that contingent liquidity lines can be drawn when needed.

⁹ Financial institutions that have had their liquidity supported by temporary government programs administered by the Department of the Treasury, Federal Reserve and/or FDIC should not base their liquidity strategies on the belief that such programs will remain in place indefinitely.

Contingent liquidity events are unexpected situations or business conditions that may increase liquidity risk. The events may be institution-specific or arise from external factors and may include:

- The institution's inability to fund asset growth.
- The institution's inability to renew or replace maturing funding liabilities.
- Customers unexpectedly exercising options to withdraw deposits or exercise off-balance-sheet commitments.
- Changes in market value and price volatility of various asset types.
- Changes in economic conditions, market perception, or dislocations in the financial markets.
- Disturbances in payment and settlement systems due to operational or local disasters.

Insured institutions should be prepared for the specific contingencies that will be applicable to them if they become less than Well Capitalized pursuant to Prompt Correction Action (PCA) provisions under the Federal Deposit Insurance Corporation Improvement Act¹⁰. Contingencies may include restricted rates paid for deposits, the need to seek approval from the FDIC/NCUA to accept brokered deposits, and the inability to accept any brokered deposits¹¹.

A CFP provides a documented framework for managing unexpected liquidity situations. The objective of the CFP is to ensure that the institution's sources of liquidity are sufficient to fund normal operating requirements under contingent events. A CFP also identifies alternative contingent liquidity resources¹² that can be employed under adverse liquidity circumstances. An institution's CFP should be commensurate with its complexity, risk profile, and scope of operations. As macroeconomic and institution-specific conditions change, CFPs should be revised to reflect these changes

Contingent liquidity events can range from high-probability/low-impact events to low-probability/high-impact events. Institutions should incorporate planning for high-probability/low-impact liquidity risks into the day-to-day management of sources and uses of funds. Institutions can generally accomplish this by assessing possible variations around expected cash flow projections and providing for adequate liquidity reserves and other means of raising funds in the normal course of business. In contrast, all financial institution CFPs will

¹⁰ See 12 USC 1831o; 12 CFR 6 (OCC), 12 CFR 208.40 (FRB), 12 CFR 325.101 (FDIC), and 12 CFR 565 (OTS) and 12 USC 1790d; 12 CFR 702 (NCUA).

¹¹ Section 38 of the FDI Act (12 USC 1831o) requires insured depository institutions that are not well capitalized to receive approval prior to engaging in certain activities. Section 38 restricts or prohibits certain activities and requires an insured depository institution to submit a capital restoration plan when it becomes undercapitalized. Section 216 of the Federal Credit Union Act and part 702 of the NCUA Rules and Regulations establish the requirements and restrictions for federally insured credit unions under Prompt Corrective Action. For brokered, nonmember deposits, additional restrictions apply to federal credit unions as given in parts 701.32 and 742 of the NCUA Rules and Regulations.

¹² There may be time constraints, sometimes lasting weeks, encountered in initially establishing lines with FRB and/or FHLB. As a result, financial institutions should plan to have these lines set up well in advance.

typically focus on events that, while relatively infrequent, could significantly impact the institution's operations. A CFP should:

- Identify Stress Events. Stress events are those that may have a significant impact on the institution's liquidity given its specific balance-sheet structure, business lines, organizational structure, and other characteristics. Possible stress events may include deterioration in asset quality, changes in agency credit ratings, PCA capital categories and CAMELS¹³ ratings downgrades, widening of credit default spreads, operating losses, declining financial institution equity prices, negative press coverage, or other events that may call into question an institution's ability to meet its obligations.
- Assess Levels of Severity and Timing. The CFP should delineate the various levels of stress severity that can occur during a contingent liquidity event and identify the different stages for each type of event. The events, stages, and severity levels identified should include temporary disruptions, as well as those that might be more intermediate term or longer-term. Institutions can use the different stages or levels of severity identified to design early-warning indicators, assess potential funding needs at various points in a developing crisis, and specify comprehensive action plans. The length of the scenario will be determined by the type of stress event being modeled and should encompass the duration of the event.
- Assess Funding Sources and Needs. A critical element of the CFP is the quantitative projection and evaluation of expected funding needs and funding capacity during the stress event. This entails an analysis of the potential erosion in funding at alternative stages or severity levels of the stress event and the potential cash flow mismatches that may occur during the various stress levels. Management should base such analysis on realistic assessments of the behavior of funds providers during the event and incorporate alternative contingency funding sources. The analysis also should include all material on- and off-balance-sheet cash flows and their related effects. The result should be a realistic analysis of cash inflows, outflows, and funds availability at different time intervals during the potential liquidity stress event in order to measure the institution's ability to fund operations. Common tools to assess funding mismatches include:
 - *Liquidity gap analysis* – A cash flow report that essentially represents a base case estimate of where funding surpluses and shortfalls will occur over various future time frames.
 - *Stress tests* – A pro forma cash flow report with the ability to estimate future funding surpluses and shortfalls under various liquidity stress scenarios and the institution's ability to fund expected asset growth projections or sustain an orderly liquidation of assets under various stress events.
- Identify Potential Funding Sources. Because liquidity pressures may spread from one funding source to another during a significant liquidity event, institutions should identify

¹³ Federally insured credit unions are evaluated using the "CAMEL" rating system, which is substantially similar to the "CAMELS" system without the "S" component for rating Sensitivity to market risk. Information on NCUA's rating system can be found in Letter to Credit Unions 07-CU-12, CAMEL Rating System.

alternative sources of liquidity and ensure ready access to contingent funding sources. In some cases, these funding sources may rarely be used in the normal course of business. Therefore, institutions should conduct advance planning and periodic testing to ensure that contingent funding sources are readily available when needed.

- Establish Liquidity Event Management Processes. The CFP should provide for a reliable crisis management team and administrative structure, including realistic action plans used to execute the various elements of the plan for given levels of stress. Frequent communication and reporting among team members, the board of directors, and other affected managers optimize the effectiveness of a contingency plan during an adverse liquidity event by ensuring that business decisions are coordinated to minimize further disruptions to liquidity. Such events may also require the daily computation of regular liquidity risk reports and supplemental information. The CFP should provide for more frequent and more detailed reporting as the stress situation intensifies.
- Establish a Monitoring Framework for Contingent Events. Institution management should monitor for potential liquidity stress events by using early-warning indicators and event triggers. The institution should tailor these indicators to its specific liquidity risk profile. The early recognition of potential events allows the institution to position itself into progressive states of readiness as the event evolves, while providing a framework to report or communicate within the institution and to outside parties. Early-warning signals may include, but are not limited to, negative publicity concerning an asset class owned by the institution, increased potential for deterioration in the institution's financial condition, widening debt or credit default swap spreads, and increased concerns over the funding of off-balance-sheet items.

To mitigate the potential for reputation contagion, effective communication with counterparties, credit-rating agencies, and other stakeholders when liquidity problems arise is of vital importance. Smaller institutions that rarely interact with the media should have plans in place for how they will manage press inquiries that may arise during a liquidity event. In addition, groupwide contingency funding plans, liquidity cushions, and multiple sources of funding are mechanisms that may mitigate reputation concerns.

In addition to early-warning indicators, institutions that issue public debt, use warehouse financing, securitize assets, or engage in material over-the-counter derivative transactions typically have exposure to event triggers embedded in the legal documentation governing these transactions. Institutions that rely upon brokered deposits should also incorporate PCA-related downgrade triggers into their CFPs since a change in PCA status could have a material bearing on the availability of this funding source. Contingent event triggers should be an integral part of the liquidity risk monitoring system. Institutions that originate and/or purchase loans for asset securitization programs pose heightened liquidity risk concerns due to the unexpected funding needs associated with an early amortization event or disruption of warehouse funding. Institutions that securitize assets should have liquidity contingency plans that address these risks.

Institutions that rely upon secured funding sources also are subject to potentially higher margin or collateral requirements that may be triggered upon the deterioration of a specific portfolio of exposures or the overall financial condition of the institution. The ability of a

financially stressed institution to meet calls for additional collateral should be considered in the CFP. Potential collateral values also should be subject to stress tests since devaluations or market uncertainty could reduce the amount of contingent funding that can be obtained from pledging a given asset. Additionally, triggering events should be understood and monitored by liquidity managers.

Institutions should test various elements of the CFP to assess their reliability under times of stress. Institutions that rarely use the type of funds they identify as standby sources of liquidity in a stress situation, such as the sale or securitization of loans, securities repurchase agreements, Federal Reserve discount window borrowing, or other sources of funds, should periodically test the operational elements of these sources to ensure that they work as anticipated. However, institutions should be aware that during real stress events, prior market access testing does not guarantee that these funding sources will remain available within the same time frames and/or on the same terms.

Larger, more complex institutions can benefit by employing operational simulations to test communications, coordination, and decision making involving managers with different responsibilities, in different geographic locations, or at different operating subsidiaries. Simulations or tests run late in the day can highlight specific problems such as difficulty in selling assets or borrowing new funds at a time when business in the capital markets may be less active.

Internal Controls

An institution's internal controls consist of procedures, approval processes, reconciliations, reviews, and other mechanisms designed to provide assurance that the institution manages liquidity risk consistent with board-approved policy. Appropriate internal controls should address relevant elements of the risk management process, including adherence to policies and procedures, the adequacy of risk identification, risk measurement, reporting, and compliance with applicable rules and regulations.

Management should ensure that an independent party regularly reviews and evaluates the various components of the institution's liquidity risk management process. These reviews should assess the extent to which the institution's liquidity risk management complies with both supervisory guidance and industry sound practices, taking into account the level of sophistication and complexity of the institution's liquidity risk profile¹⁴. Smaller, less-complex institutions may achieve independence by assigning this responsibility to the audit function or other qualified individuals independent of the risk management process. The independent review process should report key issues requiring attention including instances of noncompliance to the appropriate level of management for prompt corrective action consistent with approved policy.

¹⁴ This includes the standards established in this interagency guidance as well as the supporting material each agency provides in its examination manuals and handbooks directed at their supervised institutions. Industry standards include those advanced by recognized industry associations and groups.