

**Assessment of the Compliance of the
Fedwire Securities Service with the
Recommendations for Securities Settlement Systems**

Revised
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Acronyms List

CCP	Central counterparty
CFR	Code of Federal Regulations
COP	Conference of Presidents
CPSS	Committee on Payment and Settlement Systems
CPSIPS	Core Principles for Systemically Important Payment Systems
CUSIP	Committee on Uniform Securities Identification Procedures
CSD	Central securities depository
DVP	Delivery versus payment
ET	Eastern time
FDIA	Federal Deposit Insurance Act
FDIC	Federal Deposit Insurance Corporation
FICC	Fixed Income Clearing Corporation
FRA	Federal Reserve Act
FRIT	Federal Reserve Information Technology
FSPC	Financial Services Policy Committee
GAO	Government Accountability Office
GSD	Government Securities Division
GSE	Government-sponsored enterprise
ICSD	International central securities depository
IOSCO	International Organization of Securities Commissions
ITOC	Information Technology Oversight Committee
MBSD	Mortgage-Backed Securities Division
MCA	Monetary Control Act of 1980
OCC	Office of the Comptroller of the Currency
OC	Operating circular
PSR	Payment system risk
RTTM	Real-time trade matching
SEC	Securities and Exchange Commission
SIFMA	Securities Industry and Financial Markets Association
SIPA	Securities Investor Protection Act
SOMA	System Open Market Account
SSS	Securities settlement system
TRADES	Treasury/Reserve Automated Debt Entry System
UCC	Uniform Commercial Code
U.S.C.	United States Code
WPO	Wholesale Product Office

Glossary of Terms

Central counterparty	An entity that is the buyer to every seller and seller to every buyer of a specified set of contracts.
Central securities depository	A facility (or an institution) for holding securities, which enables securities transactions to be processed by book-entry. Physical securities may be immobilized by the depository or securities may be dematerialized. In addition to safekeeping, a central securities depository may incorporate comparison, clearing, and settlement functions.
Confirmation	The process in which the terms of a trade are verified either by market participants directly or by some central entity.
Custody	The safekeeping and administration of securities and financial instruments on behalf of others.
Delivery versus payment	A link between a securities transfer system and a funds transfer system that ensures that delivery occurs if, and only if, payment occurs.
Dematerialization	The elimination of physical certificates or documents of title which represent ownership of securities so that securities exist only as accounting records.
Discount window	The Reserve Banks' overnight lending facility. Credit extended through the discount window must be secured by collateral.
Fedwire-eligible securities	Securities issued by the U.S. Department of the Treasury, federal agencies, government-sponsored enterprises, and certain international organizations that are issued, maintained, transferred, and settled over the Fedwire Securities Service.
International central securities depository	A central securities depository that clears and settles international securities or cross-border transactions in domestic securities.
Intraday credit	A negative balance in an institution's master account at any time during the Fedwire operating day. Also called daylight overdraft.
Master account	An account with reserve and clearing balances on the books of a Reserve Bank. Master accounts do not contain book-entry securities.
Matching	The process for comparing the trade or settlement details provided by counterparties to ensure that they agree with respect to the terms of the transaction. Also called comparison.
Overnight overdraft	Daylight overdrafts that have not been extinguished prior to the close of the business day.

Repurchase agreement (repo)	A contract to sell and subsequently repurchase securities at a specified date and price.
Securities account	An account at a Reserve Bank containing book-entry securities.
Securities settlement system	The full set of institutional arrangements for confirmation, clearance, and settlement of securities trades and safekeeping securities.
Settlement bank	The entity that maintains cash accounts used to settle payment obligations associated with securities transactions. The settlement bank may be either a commercial bank, the settlement system itself, or a central bank.

List of 2009 Revisions

The following is a summary of the revisions to this assessment. Additional minor editorial and technical changes were made throughout.

Section of the Assessment	Revision
Introduction	A footnote was added concerning two GSEs that have been placed into conservatorship.
Issuance, Transfer and Settlement, and Recommendations 2, 6, 7, 10, and 15	Fedwire Securities Service statistics updated for 2008.
Trading	The number of primary dealers was updated.
Clearance and Settlement	A footnote was added concerning FICC's plan to adopt a CCP for settling mortgage-backed securities.
Access Methods	Access methods were updated to reflect the replacement of the legacy computer interface connection with a new access solution called FedLine Direct.
Recommendation 5	A footnote was added concerning the Federal Reserve Bank of New York's temporary facility to lend Treasury securities on a term basis.
Recommendation 9	A footnote was added regarding revisions to the Federal Reserve Policy on Payment System Risk.
Recommendation 10	A reference to the Working Group on New Bank Implementation was removed because the group no longer exists.
Recommendation 11	The footnote on contingency testing was updated to reflect changes in testing requirements.
Recommendation 11	Information on the Federal Reserve Bank of New York's operational risk management program was added.
Recommendation 15	Pricing details were updated to reflect the 2009 price structure.
Recommendation 15	The section on capacity levels was updated to reflect changes in the transaction capacity of the Fedwire Securities Service.

I. Introduction

In November 2001, the Committee on Payment and Settlement Systems (CPSS) and the Technical Committee of the International Organization of Securities Commissions (IOSCO) issued the *Recommendations for Securities Settlement Systems (Recommendations)*.¹ The *Recommendations* identified nineteen minimum standards that all securities settlement systems (SSSs) worldwide should meet to enhance international financial stability, reduce risk, increase efficiency, and provide adequate safeguards for investors.² Following on this effort, in November 2002, the CPSS and the Technical Committee of IOSCO developed an assessment methodology to facilitate evaluation of SSSs against the minimum standards.³

In support of the international risk-management standards for SSSs, the Board of Governors of the Federal Reserve System (Board) incorporated the *Recommendations* into the Federal Reserve Policy on Payment System Risk (PSR policy), which addresses risk-management in U.S. payments and settlement systems.⁴ The PSR policy was revised in January 2007 to set the expectation that systemically important SSSs conduct self-assessments against the *Recommendations* and disclose publicly the results.⁵

The Board, in close collaboration with the Federal Reserve Bank of New York, has completed this assessment of the Fedwire[®] Securities Service against the *Recommendations* pursuant to the PSR policy. The Fedwire Securities Service is a part of the institutional arrangements in the United States for the clearance and settlement of securities issued by the U.S. Department of the Treasury (Treasury), federal agencies, government-sponsored enterprises (GSEs), and certain international organizations. For the purposes of the assessment, these securities are collectively referred to as Fedwire-eligible securities. In this assessment, securities issued by the Treasury are referred to as Treasury securities and securities issued by all other Fedwire-eligible issuers are collectively referred to as non-Treasury securities. Other key components of the clearance and settlement arrangements for these securities in the United States include the Fixed Income

¹ Committee on Payment and Settlement Systems and Technical Committee of the International Organization of Securities Commissions, *Recommendations for Securities Settlement Systems*, Bank for International Settlements, November 2001. See www.bis.org/publ/cpss46.htm.

² The *Recommendations* defined an SSS broadly to include the full set of institutional arrangements for confirmation, clearance and settlement of securities trades and safekeeping of securities. As such, the *Recommendations* as a whole are not focused on a particular type of system, but apply to a wide variety of different “systems”, institutional arrangements and market practices that collectively provide the clearance and settlement infrastructure for a particular securities market.

³ Committee on Payment and Settlement Systems and Technical Committee of the International Organization of Securities Commissions, *Assessment Methodology for “Recommendations for Securities Settlement Systems,”* Bank for International Settlements, November 2002. See www.bis.org/publ/cpss51.pdf.

⁴ The PSR policy is available at www.federalreserve.gov/paymentsystems/psr/default.htm.

⁵ The PSR policy also encourages system operators to refer to the assessment methodology for guidance on the minimum standards and to respond to the key questions included therein.

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Clearing Corporation (FICC) and the two clearing banks, The Bank of New York Mellon and JPMorgan Chase.⁶

1.0 General

As the U.S. central bank, the Federal Reserve plays several roles in the payment and settlement system. These roles include acting as fiscal agent for the Treasury, federal agencies, GSEs, and certain international organizations, and providing settlement services. In their capacity as fiscal agents, the Federal Reserve Banks (Reserve Banks) act as the central securities depository (CSD) for securities issued by these entities through the Fedwire Securities Service. The Fedwire Securities Service is also the key interbank settlement system for Fedwire-eligible securities. The objective of this assessment is to determine the extent to which the Fedwire Securities Service meets the *Recommendations*.

1.1 Scope of the Assessment

This assessment focuses on one component of the institutional arrangements for clearance and settlement of securities in the United States – the Fedwire Securities Service, which provides for the issuance, maintenance, transfer, and safekeeping of Fedwire-eligible securities.⁷ Where relevant, this assessment refers to other key entities that perform critical clearance and settlement services or functions for the Fedwire-eligible securities market, but these entities are not evaluated as part of this assessment against the *Recommendations*.⁸

1.2 Institutional and Market Structure

Various institutional and market arrangements facilitate the issuance, trading, and clearance and settlement of Fedwire-eligible securities. The Reserve Banks, through the Fedwire Securities Service, provide key issuance, transfer, and settlement services. In addition, FICC and the two clearing banks perform clearance and settlement functions for market participants. Together, these entities constitute the core of the clearance and settlement arrangements for the Fedwire-eligible securities market. In addition, there are numerous brokers, dealers, and institutional and individual investors that trade and invest in this market.⁹ Although the scope of this assessment

⁶ FICC, a wholly owned subsidiary of The Depository Trust & Clearing Corporation, is a private-sector clearing corporation that facilitates the clearance and settlement of Treasury and non-Treasury securities transactions. The Bank of New York Mellon and JPMorgan Chase specialize in providing the clearing and credit services needed by the primary dealers and other financial institutions in this market.

⁷ Securities issued by certain international organizations are outside the scope of this assessment. The market for these securities is small in comparison to the other Fedwire-eligible securities. As of year-end 2008, the amount of these securities held in custody was about \$67 billion (par value), or 0.1 percent of total Fedwire-eligible securities. In 2008, original issues of these securities made up 0.6 percent of the total volume and 0.3 percent of the total value of all original issues on the Fedwire Securities Service. In addition, the legal framework for securities issued by international organizations inside the United States differs slightly from the legal framework for the securities issued by the Treasury, federal agencies, and GSEs.

⁸ Among these entities, FICC has completed a self-assessment against the CPSS/IOSCO Recommendations for Central Counterparties. See www.dtcc.com/legal/compliance.

⁹ Broker is broadly defined in the Securities Exchange Act “as any person engaged in the business of effecting transactions in securities for the account of others.” See 15 U.S.C. § 78c(a)(4). Unlike a broker, who acts as an

is limited to the Fedwire Securities Service, this section of the assessment discusses the Fedwire-eligible securities market more broadly. The life cycle of a security in this market has three segments – issuance, trading, and clearance and settlement.

Issuance

The Treasury, federal agencies, and GSEs use the Fedwire Securities Service to issue securities which have been sold publicly to investors in the primary market. As of year-end 2008, there were about \$47 trillion (par value) of securities held in custody on the Fedwire Securities Service. Those investors or entities that are not Fedwire Securities Service participants hold securities indirectly through accounts at various intermediaries or directly with the issuer, such as the Treasury. The majority of primary market issuance activity involves primary dealers purchasing securities for themselves and their customers.¹⁰ These purchases settle on the books of the clearing banks.

Trading

In the secondary market, brokers, dealers, depository institutions, and investors buy and sell Fedwire-eligible securities that have been purchased in the primary market.¹¹ Secondary market trades occur primarily between intermediaries such as dealers or through interdealer brokers, rather than through a recognized securities exchange.¹² This market is known as a dealer market or an over-the-counter market. Participation in this market is concentrated among eighteen primary dealers.

Clearance and Settlement

Once the trade is executed, dealers may use a number of market utilities to clear and settle the trade.¹³ Clearance for the vast majority of Fedwire-eligible securities is performed by one of the

agent, a dealer acts as a principal. A dealer is defined in the Securities Exchange Act “as any person engaged in the business of buying and selling securities for such person’s own account through a broker or otherwise.” See 15 U.S.C. § 78c(a)(5). Broker-dealers may trade securities on their own behalf or on behalf of investors. For the purposes of this assessment, the term broker-dealer is used interchangeably with the term dealer.

¹⁰ Primary dealers are banks and securities broker-dealers that trade securities with the Open Market Desk at the Federal Reserve Bank of New York, which acts on behalf of the Reserve Banks in order to implement the Federal Open Market Committee’s monetary policy directives. See www.newyorkfed.org/markets/primarydealers.html.

¹¹ Treasury securities are also traded before issuance in the “when-issued” market. When-issued trading extends from the day a Treasury auction is announced until the issue date. Settlement of when-issued trades occurs on the issue date.

¹² Interdealer brokers often operate electronic trading systems through which they collect dealer quotes, post them to electronic screen services, and execute trades between dealers. Trading through an interdealer broker is conducted on a blind basis; neither the buyer nor the seller is known to the respective counterparty.

¹³ The types of trades include dealer financing or repurchase agreement (repo) transactions and outright purchases and sales on behalf of customers and for the dealer’s own account. A repo is a sale of securities coupled with an agreement to repurchase the securities at a specified price on a later date. Common types of repos include deliver-out repos, triparty repos, and general collateral finance (GCF) repos. A deliver-out repo is a bilateral repo arrangement where the collateral (securities) is transferred against payment over the Fedwire Securities Service to the investor or its custodian. A triparty repo is a repo arrangement between three parties – the borrower (dealer), the lender (investor), and the triparty agent (dealer’s clearing bank). A GCF repo is a bilateral repo where the lender of

divisions of FICC: the Government Securities Division (GSD) or the Mortgage Backed-Securities Division (MBSD). FICC members submit their trades through interdealer brokers, who are also FICC members, or directly to the GSD or the MBSD.¹⁴

The GSD provides trade comparison, trade netting, and risk-management services to its members for both Treasury and non-mortgage-backed non-Treasury securities.¹⁵ FICC, through the GSD, acts as a central counterparty (CCP), interposing itself between the buyer and seller from a trade. Members may submit trade data on an automated basis to the GSD intraday, as trades are executed. In the comparison process, the GSD uses FICC's real-time trade matching system (RTTM) to receive, validate, and report trade data on the buy and sell sides of a securities transaction.¹⁶ Only trades that the GSD reports as compared are eligible for netting.

The GSD's netting system then aggregates and, on a multilateral basis, offsets deliver and receive obligations for netting members to establish a single net deliver or receive obligation for a member's trade activity in each security. It is at this point that FICC, through the GSD, interposes itself as the counterparty between the buyer and seller for these net settlement obligations.¹⁷

Net deliver and receive obligations must then be satisfied between the GSD and each counterparty. The GSD and the members instruct their clearing bank to deliver or receive securities to or from the GSD's accounts maintained at the two clearing banks. All securities deliveries, whether to or from one of the two clearing banks, are made against full payment over the Fedwire Securities Service or on the books of the clearing bank.¹⁸ The GSD employs risk-management services to address the liquidity and credit risks that may arise in the clearance and settlement process. The GSD's risk-management practices include membership standards, margin and clearing-fund requirements, and loss allocation procedures.¹⁹

funds agrees to accept a variety of Treasury and other securities as collateral rather than one security type; these transactions are netted through FICC.

¹⁴ Dealers that are not FICC members or that do not use an interdealer broker to submit trades to FICC may settle their trades on a gross basis either on the books of a depository institution or through the Fedwire Securities Service via a depository institution. Non-member dealers may also submit trades to FICC through a dealer member with which they have a correspondent relationship.

¹⁵ GSD membership includes, but is not limited to, all of the primary dealers, banks and broker-dealers that are not primary dealers, and interdealer brokers. For additional information about GSD membership and services, see www.dtcc.com.

¹⁶ The RTTM service provides trade input matching for dealer-to-dealer trades and interdealer broker trades. RTTM enables participants to reduce the elapsed time between trade execution and the point at which legal and binding confirmation is achieved. The results of RTTM are reported on real-time screens available via a terminal service and through interactive messaging.

¹⁷ This process, in which FICC becomes the counterparty to every member, is known as novation (the substitution of a new legal obligation or contract for an old one, or the substitution of one party in a contract with another party).

¹⁸ Securities delivered to the GSD's account at its clearing banks are instantaneously redelivered to the GSD's participants that are due to receive securities. The GSD's rules dictate that all deliveries whether to the GSD or from the GSD must be made by 3:00 p.m. eastern time (ET), prior to the closing time of the Fedwire Securities Service at 3:15 p.m. ET.

¹⁹ For additional information on the GSD's risk-management practices, see www.dtcc.com.

The MBSD provides trade comparison, trade netting, and risk-management services to its members that trade in the forward and over-the-counter option markets for mortgage-backed securities issued by the Government National Mortgage Association (Ginnie Mae), Federal National Mortgage Association (Fannie Mae), and Federal Home Loan Mortgage Corporation (Freddie Mac).²⁰ The MBSD also provides an electronic pool notification (EPN) and confirmation service, which is a real-time electronic communications network through which buyers and sellers are able to transmit mortgage-backed securities pool information.²¹ MBSD members, typically dealers or interdealer brokers, submit trade details on trade date.

After trade details are submitted, the MBSD performs its trade comparison, or matching. Depending on when the trade details are submitted, results of the matching process and confirmations are available to participants either on trade date or on the business day after trade date (T+1). To enable its participants to submit executed trade terms and receive timely comparison results, the MBSD uses RTTM and interactive messaging. For most trades, the MBSD multilaterally nets the trades and provides members with their net settlement obligations for each mortgage-backed security three days before the settlement date. Some other trades will require settlement on a gross basis. FICC does not currently act as a CCP through the MBSD, and therefore, does not guarantee settlement for its members.²² Members are responsible for settling their obligations directly with their counterparties outside of MBSD. On the pre-determined settlement date, members will instruct their clearing banks to deliver securities against payment to their counterparties, with final settlement either on the Fedwire Securities Service or on the books of a clearing bank.

The GSD and the MBSD facilitate the clearance of secondary market trades of Fedwire-eligible securities. Settlement may then occur over the Fedwire Securities Service, on the books of a dealer, or on the books of a depository institution, usually one of the two clearing banks. Settlement of secondary market trades of Treasury securities typically occurs on T+1, but can, by agreement between counterparties, settle anytime from trade date to T+N, where N represents the number of business days between trade date and the future settlement date.²³ The final settlement of mortgage-backed securities occurs primarily on fixed monthly settlement dates, as

²⁰ MBSD membership includes commercial banks, GSEs, institutional investors, issuance companies, international organizations, investment managers, interdealer brokers, mortgage originators, private investment companies, and registered broker-dealers active in the MBSD market. For additional information about MBSD membership, see www.dtcc.com.

²¹ Sellers are required to submit pool information to the buyer at least forty-eight hours prior to delivery, either by telephone, facsimile, or EPN.

²² FICC has outlined a strategy to align the services provided by its MBSD with a CCP model of settlement, similar to its GSD. For additional information on this strategy, or the MBSD's risk-management practices in general, see www.dtcc.com.

²³ Other trading arrangements have different settlement cycles. With regard to the settlement of overnight repos, the initial sell side of the transaction settles on trade date, while the repurchase side, or buy back of the securities, settles on T+1. The settlement of repos with longer maturities, however, called term repos, may occur outside of the Fedwire Securities Service. Forward trades in Treasury securities settle on a T+N basis, where N is greater than or equal to two business days.

designated by the Securities Industry and Financial Markets Association (SIFMA), in the settlement month that was contracted at the time of trade execution.²⁴

1.2.1 Fedwire Securities Service Overview

The Reserve Banks support the securities life cycle described above through the Fedwire Securities Service. The Fedwire Securities Service provides several critical services for the Fedwire-eligible securities market, including securities account maintenance, securities issuance, and transfer and settlement services. An overview of the Fedwire Securities Service follows.

Participants

The Reserve Banks' Operating Circular 7 (Book-Entry Securities Account Maintenance and Transfer Services) (OC 7) section 3.12 specifically defines the types of entities eligible to become participants.²⁵ Fedwire Securities Service participants include depository institutions, as defined in section 19 of the Federal Reserve Act (FRA), and certain other institutions, including U.S. branches and agencies of foreign banks.²⁶ As of year-end 2008, the Fedwire Securities Service had approximately 6,400 participants.²⁷

Access Methods

The Reserve Banks provide two types of electronic access solutions to connect to the Fedwire Securities Service – a computer-to-computer solution and a browser-based solution. Participants conducting large volumes of securities transfers typically use the computer-to-computer solution, called FedLine Direct[®].²⁸ Participants that use the FedLine Direct access solution must either program their own internal systems or install third-party vendor software on their internal systems to interface with a Reserve Bank.

Participants conducting small to moderate volumes of securities transfers typically access the Fedwire Securities Service through the browser-based solution, called FedLine Advantage[®]. In contingency situations, participants that typically use the FedLine Direct access solution may also obtain access to the Fedwire Securities Service using the FedLine Advantage access solution. FedLine Advantage does not require participants to program their own internal systems to interface with a Reserve Bank. Instead, participants complete electronic browser-based forms provided by the Reserve Banks to initiate securities transfers.

²⁴ For additional information about SIFMA and mortgage-backed securities settlement dates, see www.sifma.org.

²⁵ OC 7 is available at www.frbservices.org/regulations/operating_circulars.html.

²⁶ See 12 U.S.C. § 461(b)(1)(A).

²⁷ Approximately 2,600 of these participants sent or received securities over the Fedwire Securities Service in 2008.

²⁸ The FedLine Direct access solution replaced the legacy computer interface connections as of year-end 2008.

[®] FedLine Direct and FedLine Advantage are registered trademarks of the Reserve Banks.

In addition to online access solutions, participants can originate securities transfers off line by providing transfer instructions to the appropriate Reserve Bank via telephone. Once the Reserve Bank authenticates the instructions, it enters the information into a Fedwire Securities Service interface application for execution. Offline securities transfers require manual processing by the Reserve Banks and cost more than online transfers. In 2008, offline transfers accounted for less than one percent of all transfers originated on the Fedwire Securities Service.

Securities Account Maintenance

Fedwire Securities Service participants may maintain one or more securities accounts, which are classified as either unrestricted or restricted. Participants typically use unrestricted accounts to segregate their internal holdings of securities from those they hold for their customers, which may include nonbank broker-dealers. Restricted accounts are used to pledge collateral to secure obligations related to Treasury programs, Federal Reserve discount window loans, payment system risk requirements, joint custody, and other government and federal agency purposes.²⁹ Withdrawals from restricted accounts typically require pledgee approval before securities are released. Neither the Treasury nor the Reserve Banks charge participants account maintenance fees for accounts containing only Treasury securities. The Reserve Banks, however, charge participants account maintenance fees for accounts containing non-Treasury securities.³⁰

Securities Issuance

The Reserve Banks, in their capacity as fiscal agents for the Treasury, federal agencies, and GSEs, facilitate the issuance of securities to Fedwire Securities Service participants. Original issuance of securities over the Fedwire Securities Service occurs between 8:30 a.m. and 2:30 p.m. eastern time (ET) each business day.

Transfer and Settlement

Participants use the Fedwire Securities Service to transfer securities to settle secondary market trades, to move collateral used to secure obligations, and to facilitate repurchase agreement (repo) transactions. In 2008, the Fedwire Securities Service processed more than 25 million securities transfers, valued at more than \$419 trillion. The average number of transfers per day in 2008 was about 99,000, with an average daily value of approximately \$1.7 trillion. The Fedwire Securities Service processes securities transfers on a gross basis in real time.³¹ The transfers of securities and any related funds are final and irrevocable when a Reserve Bank

²⁹ Treasury programs for which securities collateral is pledged include Treasury Tax and Loan, Circular 176 (see 31 CFR Part 202), and Circular 154 (see 31 CFR Part 225).

³⁰ Accounts used to pledge collateral only to secure obligations relating to Treasury programs and Federal Reserve discount window loans are not charged these account maintenance fees.

Refer to table 2 in the answers to key questions for Recommendation 15 for a listing of Fedwire Securities Service fees.

³¹ Although transfer messages are processed on a gross basis in real time, some of the transfer messages reflect net positions calculated by FICC. In addition, the Fedwire Securities Service has a limitation on the maximum value that can be sent in one transfer message (\$50 million in par value) and, as a result, trades greater than \$50 million (par value) may require several transfer messages.

makes the appropriate debit or credit entries to the respective sending and receiving participants' securities accounts and corresponding master accounts.³² A notice of the transfer is conclusive evidence that the debit(s) and credit(s) were made. Securities transfers can be made as a delivery-versus-payment (DVP) transaction or as a free of payment transaction. Most securities transfers are DVP transactions.

During a typical DVP transaction, the sending participant (sender) initiates the securities transfer by sending a transfer message to the Fedwire Securities Service requesting a transfer of securities to a receiving participant (receiver). The message identifies the sender and receiver, the securities issue and par amount to be transferred, and any payment information. The Fedwire Securities Service checks the message for syntax errors and verifies that the sender has the correct security and necessary balance (par amount) in its securities account.³³ Once verified, the securities are automatically withdrawn from the sender's securities account and deposited to the receiver's securities account, and simultaneously, the corresponding funds are withdrawn from the receiver's master account and deposited to the sender's master account. Once the transfer is complete, the Fedwire Securities Service sends both the sender and the receiver notice acknowledging that the message has been processed.³⁴

Principal and Interest Processing

The holder of the securities as of a specified record date receives the principal and interest payable on the securities.³⁵ On the payment date, the Fedwire Securities Service releases principal and interest payments for Treasury and federal agencies' securities before 9:15 a.m. ET.³⁶ All other Fedwire-eligible securities' principal and interest payments are released when the issuers have provided funding for their payments to designated funder accounts.³⁷ These

³² A master account, which may hold reserve or clearing balances, is also referred to as a funds account. Additional information on reserve requirements and clearing balances can be found in the *Reserve Maintenance Manual*, available at www.frbservices.org/files/regulations/pdf/rmm.pdf.

³³ The Fedwire Securities Service only accepts messages in the proprietary message format. The key data elements of the message format include the message type/subtype code, the sender's routing number, the sender's securities account, securities CUSIP number, par amount, payment amount, receiver's routing number, and the receiver's securities account.

³⁴ Although OC 7 allows a Reserve Bank to reject a transfer message for any reason, transfer instructions are generally accepted as long as security procedures are met and the instructions conform to proper syntax. A transfer message will be rejected if (a) the message does not designate which securities account is to be credited, (b) the sender does not have all of the required securities in its account, (c) the par amount of the transfer exceeds \$50 million (unless the transfer involves a restricted account), or (d) the appropriate identifying number of the sender or receiver is not used. The Fedwire Securities Service will inform the sender of a rejected transfer message, but will not inform the intended receiver of the rejection. A Reserve Bank reserves the right to debit or credit securities accounts, without further authorization or instruction, to correct any transfer errors.

³⁵ Participants that do not have master accounts arrange for a correspondent depository institution to receive principal and interest payments on their behalf.

³⁶ Federal agency securities include those backed by the full-faith and credit of the U.S. Government; these include Defeasance Trust for Sallie Mae, Department of Veteran Affairs, Ginnie Mae, and Tennessee Valley Authority.

³⁷ For additional information on incremental principal and interest payments, see www.frbservices.org/files/operations/fedwirememos/pdf/CM-247.pdf.

issuers have the flexibility to pay holders of their securities on a flow basis with incremental payments based upon a pre-established percentage of the entire obligation. Participants' master accounts are credited for the principal and interest amounts followed by a notification confirming the completed payment.

The principal and interest payments for mortgage-backed securities vary from month to month. The mortgage-backed securities issuers initiate the process of paying principal and interest by transmitting the pool factors electronically to the Reserve Banks. The Reserve Banks then validate principal and interest data from the issuers before the payment date. This process is referred to as "factor file" processing. Once this validation process is complete, the Fedwire Securities Service sends a notification of release of expected principal and interest payments to the holders of these securities on the Fedwire Securities Service.

Automated Claim Adjustment Processing

The Fedwire Securities Service's automated claim adjustment processing feature for mortgage-backed securities supports fails, interim accounting, and repo tracking. Claim adjustments are processed for securities when the appropriate beneficiary is different than the holder on the record date.³⁸ This optional feature allows participants to add information to transfer messages, using specific field tags in the transfer message format, which the Fedwire Securities Service uses to calculate and facilitate the payment of the adjusted principal and interest payments owed to counterparties in the related transfers.

Securities Stripping and Reconstitution

The Fedwire Securities Service provides securities stripping and reconstitution processing for certain securities. The securities stripping process separates the securities' principal and interest components so each component can be traded as a separate security in the secondary market. Participants can request that a security be stripped by transferring securities free of payment to a designated account at the Federal Reserve Bank of New York. Following receipt of the securities in the account, the Fedwire Securities Service creates separate securities for each principal and interest component, transfers these securities back to the sender, and, at the same time, retires the original security.

Participants may also reconstitute or reassemble the principal and interest components of a bond or note. Once the original security is reconstituted it can then be traded and transferred as a whole bond in the secondary market. Participants can request that a security be reconstituted by transferring the principal and interest components free of payment to a designated account at the Federal Reserve Bank of New York. These transfers must contain a unique identifier, consisting of ten alphanumeric characters, which links the interest and principal components. The Fedwire Securities Service retires the principal and interest components and creates a reconstituted security.

³⁸ For additional information on the automated claim adjustment processing feature, see OC 7 appendix D at www.frbservices.org/regulations/operating_circulars.html.

Operating Hours

The core operating hours for the Fedwire Securities Service are 8:30 a.m. to 3:15 p.m. ET, Monday through Friday, excluding designated holidays.³⁹ Participants may originate online securities transfers during these core operating hours. Online participants may initiate reversal transactions until 3:30 p.m. ET and move or reposition their securities among their securities accounts until 4:30 p.m. ET against payment and until 7:00 p.m. free of payment.⁴⁰ Offline participants may initiate securities transfers or other requests from 9:00 a.m. to 1:30 p.m. ET for same-day processing and until 4:00 p.m. ET for future-day processing. Under special circumstances, participants may ask the Reserve Banks to extend the Fedwire Securities Service operating hours.⁴¹

1.3 Description of Regulatory Structure and Practices

The oversight, regulation, and supervision of the Fedwire-eligible securities market are conducted by the Federal Reserve, the U.S. Securities and Exchange Commission (SEC), the Treasury, and other state and federal agencies.

The Board is responsible for the general supervision of the Reserve Banks, which own and operate the Fedwire Securities Service. The Board conducts periodic exams of the Reserve Banks, approves Reserve Bank budgets, reviews pricing of Reserve Bank financial services, and engages an independent external auditor to audit the financial statements of the Reserve Banks. The Board also provides the Reserve Banks with an objective and independent assessment of Reserve Bank strategies for and ongoing operations of the Fedwire Securities Service. In addition, internal Reserve Bank auditors test control procedures for Reserve Bank operations, including the Fedwire Securities Service, and report the results of their audits directly to each Reserve Bank's board of directors.⁴² As the fiscal principal, the Treasury also oversees certain fiscal agency activities of the Fedwire Securities Service. The Government Accountability Office (GAO), the investigative arm of the U.S. Congress, may also examine activities of the Fedwire Securities Service.

The SEC is charged by statute to facilitate the establishment of a national system for the prompt and accurate clearance and settlement of securities transactions.⁴³ The SEC is the primary regulator of the U.S. securities markets and regulates, among other things, clearing agencies, such as FICC, and market participants, such as nonbank broker-dealers.⁴⁴ SEC supervisory

³⁹ A list of holidays is available in OC 7 appendix B at www.frbsecurities.org/regulations/operating_circulars.html.

⁴⁰ Transfers may be reversed only by a separate transfer effected by a transfer message using the reversal code.

⁴¹ Guidelines pertaining to the extension of Fedwire Securities Service operating hours are provided in OC 7.

⁴² For additional information on the Reserve Bank boards of directors, see the answers to key questions for Recommendation 13 or see www.federalreserve.gov/generalinfo/listdirectors/about.htm.

⁴³ For additional information on the SEC, see www.sec.gov.

⁴⁴ In addition, the SEC is the functional regulator for U.S.-based broker-dealer affiliates of both foreign banks and bank holding companies.

authority includes reviewing and approving new rules and proposed changes to existing rules of clearing agencies, examining registered clearing agencies and market participants, and investigating possible violations of securities law.

The Federal Reserve and the Treasury's Office of the Comptroller of Currency (OCC) are the primary supervisors for the two clearing banks, The Bank of New York Mellon and JPMorgan Chase, respectively.⁴⁵ The Bank of New York Mellon, as a state-chartered bank, is also supervised by the New York State Banking Department.⁴⁶ These banking regulators have the power to examine banks and issue certain rules and regulations governing banking activities. The regulators may take supervisory actions against non-compliant banks or banks engaging in unsound activities by removing officers and directors, negotiating agreements to change practices, and issuing cease-and-desist orders, among other actions.

The Treasury and other federal agencies are responsible for promulgating the regulations governing Fedwire-eligible securities. The Treasury/Reserve Automated Debt Entry System (TRADES) regulations, which govern Treasury bonds, notes, and bills, are promulgated by the Treasury. Other federal agency securities are governed by the comparable regulations to TRADES, as adopted by their respective issuer. Regulations governing GSE securities are promulgated by the issuer's regulator.

1.4 Information and Methodology Used for Assessment

The methodology used for this assessment follows the guidelines provided in the CPSS-IOSCO *Assessment Methodology for Recommendations for Securities Settlement Systems (Assessment Methodology)*. Part II of this assessment provides an executive summary and a detailed assessment of the Fedwire Securities Service against the *Recommendations*. In the detailed assessment of observance, answers are provided, wherever applicable, for each of the key questions outlined in the *Assessment Methodology*. The *Assessment Methodology* provides detailed guidance for assigning an assessment category (observed, broadly observed, partly observed, non-observed, and not applicable) for each recommendation based on the answers to these key questions. In addition, clarifying comments and other relevant information are included to inform the assessments because this guidance is not intended to be applied in a purely mechanical fashion. Although the Fedwire Securities Service may not strictly meet an assessment criterion, it may successfully address the safety or efficiency objectives that underlie the recommendation, key issues, and key questions. All sources of information used in this assessment, where appropriate, have been cited.

⁴⁵ The primary federal bank regulator for nationally chartered banks is the OCC. The primary regulators for state-chartered member banks are the Federal Reserve and the appropriate state banking department. The Federal Reserve is the consolidated regulator of bank holding companies.

For additional information on the OCC and its functions, see www.occ.treas.gov. For additional information on the Federal Reserve's regulation and supervision role, see www.federalreserve.gov/bankinforeg/default.htm.

⁴⁶ For more information on the New York State Banking Department, see www.banking.state.ny.us/.

II. Assessment of Observance

2.0 Executive Summary

The Fedwire Securities Service is mostly compliant with the standards outlined in the *Recommendations* and appropriately addresses legal, pre-settlement, settlement, operational, and custody risks, and other issues. The Fedwire Securities Service observed thirteen of the nineteen recommendations. Recommendation 2 is broadly observed and Recommendation 14 is partly observed, but residual risks in those areas are generally mitigated by other market utilities and industry practices. Four recommendations (Recommendations 3, 4, 5, and 19) are not directly applicable.

Legal Risk

U.S. law provides a well-established legal framework for the Fedwire-eligible securities market and, more specifically, the Fedwire Securities Service (Recommendation 1). This legal framework, which is based on statutes, regulations, and operating agreements, provides a high degree of legal assurance for transaction finality and asset security. The legal framework is public and readily accessible.

Pre-settlement Risk

Pre-settlement risk in the Fedwire-eligible securities market is addressed by other market utilities that provide trade confirmation, trade netting, and other post-trade services. In this context, the Fedwire Securities Service does not provide trade confirmation services or require participants to match settlement instructions (Recommendation 2). The Reserve Banks also do not interpose themselves as a CCP to trades in the market for Fedwire-eligible securities given the existence of FICC as an industry-owned CCP for Treasury and other non-mortgage-backed non-Treasury securities (Recommendation 4). In addition, settlement cycles are determined by market conventions (Recommendation 3) and securities lending occurs outside the Fedwire Securities Service (Recommendation 5).

Settlement Risk

The Fedwire Securities Service's rules and procedures provide a number of tools by which the system mitigates settlement risk. The Fedwire Securities Service is a real-time settlement system that provides for DVP and final settlement in central bank money (Recommendations 7, 8, and 10). In addition, the Reserve Banks may extend intraday credit to Fedwire Securities Service participants to ensure timely settlement of securities transfers, while employing various risk controls to limit credit risk to the Reserve Banks (Recommendation 9). Finally, virtually all securities eligible for the Fedwire Securities Service are dematerialized, which reduces the cost and risk associated with the custody and transfer of securities (Recommendation 6).

Operational Risk

The Fedwire Securities Service maintains a high degree of security and operational reliability. The Federal Reserve manages an overall information security program, which is designed to

protect information from loss or misuse, and regularly tests extensive contingency arrangements. Additionally, the Fedwire Securities Service complies with the Federal Reserve Bank of New York's operational risk management program (Recommendation 11).

Custody Risk

Securities held in the Fedwire Securities Service are held in individual participants' accounts, and are subject to regular verification and a series of supervisory and internal controls (Recommendation 12).

Other Issues

Several other issues do not fit neatly into the aforementioned risk categories, including governance issues and risk disclosure. The Reserve Banks, as the CSD, are subject to a governance structure, which includes the Board, the Treasury, and other government entities, that is designed to pursue the public interest goals of settlement system security, efficiency, and accessibility (Recommendations 13). The Reserve Banks permit fair and open access to the Fedwire Securities Service to all eligible participants, although the types of entities that are eligible are generally limited to domestic and foreign depository institutions with operations in the United States and governmental entities authorized to use the Federal Reserve as fiscal agent (Recommendation 14). The Reserve Banks maintain safe, secure, and cost-effective operations by regularly reviewing service levels and improving the efficiency of the Fedwire Securities Service (Recommendation 15). The Reserve Banks are also subject to transparent oversight and regulation (Recommendation 18). The Fedwire Securities Service communication procedures and standards are easily convertible into international standards (Recommendation 16). The Fedwire Securities Service does not, however, have links to other CSDs to settle cross-border trades (Recommendation 19). Finally, this assessment, in conjunction with other publicly available information, is intended to assist Fedwire Securities Service participants in identifying and evaluating accurately the risks and costs associated with using the service (Recommendation 17).

With respect to broadly observed Recommendation 2 and partly observed Recommendation 14, no steps are recommended or currently contemplated to achieve full observance. In the case of Recommendation 2, trade confirmation is completed in a timely manner outside of the Fedwire Securities Service. FICC provides trade confirmation services for Fedwire-eligible securities. In the case of Recommendation 14, the Board and the Treasury have considered providing direct access to the Fedwire Securities Service to nonbank broker-dealers; however, the analysis concluded that without routine access to credit, direct access to the Fedwire Securities Services for nonbank broker-dealers would be of limited value to them.

Table 1 provides a summary of assessment results by category.

Table 1: Collation of assessment results by assessment category	
Assessment category	Recommendations
Observed	1, 6, 7, 8, 9, 10, 11, 12, 13, 15, 16, 17, 18
Broadly Observed	2
Partly Observed	14
Non-observed	
Not Applicable	3, 4, 5, 19

2.1 Recommendation by Recommendation Assessment of Observance

Recommendation 1: Legal Framework

Securities settlement systems should have a well-founded, clear, and transparent legal basis in the relevant jurisdictions.

Answers to Key Questions

1. Are the laws, regulations, rules and procedures, and contractual provisions governing securities settlement arrangements public and readily accessible to system participants?

The laws, regulations, rules and procedures, and contractual provisions that constitute the legal framework governing the Fedwire Securities Service are public and readily accessible, via the Internet, to system participants and the general public.

2. (i) Does the legal framework demonstrate a high degree of legal assurance that:
 - (a) transactions are enforceable?

The legal framework governing the Fedwire Securities Service, and the Fedwire-eligible securities market broadly, offers a high degree of legal assurance that transactions are enforceable. The rights and obligations of parties to, and the enforceability of, transactions in the Fedwire Securities Service are subject to a broad and detailed treatment in this legal framework. The statutes, regulations, and agreements relevant to the Fedwire Securities Service are clearly stated, understandable, internally coherent, and unambiguous.

Federal Statutes

Section 15 of the FRA authorizes the Reserve Banks to act as fiscal agents for the Treasury.⁴⁷ The Reserve Banks are authorized by other federal statutes to act as fiscal agents for all of the other issuers in a similar capacity.⁴⁸ The Reserve Banks operate the Fedwire Securities Service pursuant to these authorities. The Fedwire Securities Service is the mechanism through which the Reserve Banks issue and maintain book-entry records evidencing ownership of the Treasury and non-Treasury debt.⁴⁹

⁴⁷ See 12 U.S.C. § 391.

⁴⁸ See 12 U.S.C. § 393 (Farm Credit System); 12 U.S.C. § 1435 (Federal Home Loan Banks); 12 U.S.C. § 1441 (Financing Corporation); 12 U.S.C. § 1441b (Resolution Funding Corporation); 12 U.S.C. § 1723a(g) (Government National Mortgage Association and Federal National Mortgage Association); 12 U.S.C. § 1452 (Federal Home Loan Mortgage Corporation); 12 U.S.C. § 2279aa-3(d) (Federal Agricultural Mortgage Corporation); 22 U.S.C. § 290i-5 (African Development Bank); 22 U.S.C. § 285d (Asian Development Bank); 22 U.S.C. § 283d (Inter-American Development Bank); 22 U.S.C. § 286d (Bank for Reconstruction and Development); and 22 U.S.C. § 282d (International Finance Corporation).

⁴⁹ At the request of the Treasury, the Reserve Banks also issue certain other federal agency securities using this authority.

Treasury and other Federal Agency Regulations

The Treasury promulgated the TRADES regulations to govern Treasury bonds, notes, and bills on the Fedwire Securities Service.⁵⁰ In accordance with the TRADES regulations, federal law governs the rights and obligations of, and claims against, the U.S. government and the Reserve Banks with respect to the operation of the Fedwire Securities Service and the servicing of Treasury securities. TRADES regulations provide that state law governs the rights and obligations of the various parties with respect to book-entry securities to the extent such state law is consistent with TRADES. Federal agency issuers or, in the case of GSEs, their regulators have promulgated regulations comparable to TRADES.

State Statutes

In addition to federal statutes and regulations, transaction enforceability is governed by state securities and commercial code. Each of the fifty states, the District of Columbia, the Commonwealth of Puerto Rico, and the U.S. Virgin Islands have adopted Uniform Commercial Code (UCC) Articles 8 and 9 into state law.⁵¹ UCC Article 8 sets out rules regarding the rights and obligations of entitlement holders, securities intermediaries, and other parties in both direct and indirect systems for holding securities. UCC Article 9 governs the rights and obligations of parties to a secured transaction.

Federal Reserve Bank Operating Circulars

In addition to the aforementioned statutes and regulations, each Reserve Bank publishes identical operating circulars for the Reserve Banks' various services that describe the terms agreed upon by participants.⁵² Under both UCC Article 8 and the federal regulations governing the Fedwire Securities Service, these agreements have a special status as clearing corporation agreements.⁵³ Like TRADES and corresponding agency regulations, the operating circulars supersede inconsistent provisions of state law. The operating circulars that are directly relevant to providing the Fedwire Securities Service are OC 7, Operating Circular 1 (Account Relationships) (OC 1), and Operating Circular 5 (Electronic Access) (OC 5).

OC 7 sets forth the terms under which each Reserve Bank maintains securities accounts and effects transfers of Fedwire-eligible securities for participants in the Fedwire Securities Service. In accordance with OC 7, a participant may hold Fedwire-eligible securities at a Reserve Bank in one or more securities accounts. In addition, OC 7 specifies the Fedwire Securities Service

⁵⁰ See 31 CFR Part 357 subpart B.

⁵¹ The UCC was developed and endorsed by the Uniform Law Commission (ULC) and the American Law Institute, two private-sector organizations that study and recommend statutory changes and promote uniformity among state laws. The UCC is not effective in a state until the state's legislature adopts it.

⁵² Reserve Bank operating circulars are available at www.frbsservices.org/regulations/operating_circulars.html.

⁵³ A clearing corporation is defined as a person registered as a clearing agency under the federal securities laws, a Reserve Bank, or any other person that provides clearance and settlement services that would be required to register as a clearing agency but for an exclusion or exemption to the federal securities laws if such person promulgates rules and is subject to regulation by a federal or state governmental authority. See UCC § 8-102.

operating hours, rules for extending the operating hours, security procedures, format and media requirements for security transfers, charges for securities transfer services, automated claim adjustments for mortgage-backed securities, and contingency guidelines. OC 7 also sets forth the terms under which the Reserve Banks hold book-entry securities in custody for the benefit of a state or local government or unit thereof to which the securities have been pledged.

OC 1 sets out the terms for opening, maintaining, and terminating a master account with a Reserve Bank. With few exceptions, a participant holds only one master account with its Reserve Bank. A participant must establish and maintain a master account to send or receive securities transfers against payment. In addition, OC 1 contains provisions regarding a participant's default on an obligation to a Reserve Bank. Pursuant to OC 1, the account holder grants its Reserve Bank all of the account holder's right, title, and interest in property, whether owned at that time or acquired in the future, in the possession or control of, or maintained with, any Reserve Bank, including securities, security entitlements, and security accounts.

OC 5 sets forth the terms under which a participant may access Reserve Bank services, including the Fedwire Securities Service, by means of electronic connections.

(b) customers' assets are adequately protected (particularly against the insolvency of custodians and intermediaries)?

The legal framework governing the Fedwire Securities Service, and the Fedwire-eligible securities market broadly, also offers a high degree of legal assurance that customers' assets are protected.

Interests in Fedwire-eligible securities are held on either direct or indirect holding systems. In direct holding systems, interests in securities are held on the books of the issuer or their official registrar. For example, individuals and entities may directly hold these interests on the books of the Treasury, through *TreasuryDirect*. Although there is no equivalent to *TreasuryDirect* for non-Treasury securities, it may be possible to be a direct holder of non-Treasury securities at the official registrar in certificated form.

In indirect, or tiered, holding systems, interests in securities are recorded on the books of the securities intermediary. When securities are transferred in an indirect holding system, the transfer is reflected in accounts on the books of the securities intermediary. The Fedwire Securities Service is an indirect holding system, in which participants hold accounts with Reserve Banks and nonparticipants hold accounts on the books of a participant or some other intermediary.

In the Fedwire Securities Service, participants hold securities accounts with the Reserve Banks. The Reserve Banks are the custodians for participants' securities. As custodians, they maintain records of the identities and interests of each participant. Because participants' assets are held directly with the central bank, those assets are adequately protected against a custodial

insolvency. Also, participants have limited rights against the Treasury, federal agencies, and GSEs for principal and interest payments.⁵⁴

Nonparticipants hold securities accounts or interests on the books of a participant or some other intermediary that holds its interests with a participant. The Reserve Banks do not maintain records of the identities or interests of nonparticipants. Nonparticipants do not have any rights against the issuer or any intermediary other than their direct intermediary. While Reserve Banks do not face liquidity constraints as part of the U.S. central bank, nonparticipants' custodians may. As indicated below, however, U.S. law protects nonparticipants' assets held at a custodian or intermediary.

The process for distributing assets held by insured depository institutions that become insolvent is governed by the liquidation provisions of the Federal Deposit Insurance Act (FDIA).⁵⁵ The FDIA liquidation provisions generally provide that the beneficial owner of a Fedwire-eligible security held by a failed bank normally would be entitled to the security if the customer's exclusive ownership interest is properly documented.

The failure of entities other than insured depository institutions, such as nonbank broker-dealers, would require application of other statutes. The stockbroker liquidation procedures under the U.S. Bankruptcy Code and the Securities Investor Protection Act (SIPA) provide some protections to investors when a brokerage firm fails owing customers cash and securities that are missing from customer accounts. The Securities Investor Protection Corporation (SIPC) usually asks a federal court to appoint a trustee to liquidate the firm and protect its customers. With small brokerage firm failures, SIPC sometimes deals directly with customers. In general, a trustee for a failed broker-dealer will return to customers all securities that already are registered in their name or are in the process of being registered. After this step, the firm's remaining customer assets are then divided on a pro rata basis with funds shared in proportion to the size of claims. If sufficient funds are not available in the firm's customer accounts to satisfy claims within these limits, the reserve funds of SIPC are used to supplement the distribution, up to a ceiling of \$500,000 per customer, including a maximum of \$100,000 for cash claims. Additional funds may be available to satisfy the remainder of customer claims after the cost of liquidating the brokerage firm is taken into account.⁵⁶

For additional information on the protection of customer property, see the answers to key questions for Recommendation 12.

- (ii) Does the legal framework demonstrate a high degree of assurance that there is a clear and effective legal basis for:
 - (a) arrangements for the immobilisation or dematerialisation of securities and the transfer of securities by book entry?

⁵⁴ Under U.S. law, however, indirect holders are not typically entitled to claims against an issuer.

⁵⁵ See 12 U.S.C. § 1811.

⁵⁶ See 11 U.S.C. § 753 and 15 U.S.C. § 78fff-(c)(1).

The legal framework provides a high degree of assurance that there is a clear and effective legal basis for the immobilization or dematerialization and transfer of Fedwire-eligible securities.

Section 15 of the FRA and other federal statutes provide the legal basis for the Reserve Banks to issue, maintain, and transfer Fedwire-eligible securities.⁵⁷ TRADES and corresponding agency regulations, UCC Article 8, and OC 7 explicitly and specifically set out rules governing transfers of interests in securities recorded in book-entry form by the Reserve Banks.

For additional information on immobilizing or dematerializing securities, see the answers to key questions for Recommendation 6.

(b) netting arrangements?

U.S. law supports netting arrangements relating to securities transactions, but the Fedwire Securities Service does not provide netting services.

(c) securities lending arrangements (particularly the ability to obtain a security interest in assets)?

U.S. law supports securities lending arrangements, but the Fedwire Securities Service does not provide securities lending services.

For additional information on securities lending arrangements, see the answers to key questions for Recommendation 5.

(d) finality of settlement?

OC 7 defines finality of settlement for transfers through the Fedwire Securities Service. OC 7 states that, unless a transfer is rejected by the Fedwire Securities Service, all debits and credits with respect to a transfer become final at the time that the debits and credits are posted to the participants' securities accounts and, if the transfer is against payment, the participants' master accounts. Notice of the transfer is conclusive evidence that the debit(s) and credit(s) were made.

For additional information on settlement finality through the Fedwire Securities Service, see the answers to key questions for Recommendation 8.

(e) arrangements for achieving delivery versus payment?

OC 7 provides a clear and effective legal basis for the DVP feature in the Fedwire Securities Service. Under OC 7, a securities transfer may be either (1) a securities transfer that does not involve any funds credit or debit to a master account other than a transaction fee (free transfer) or (2) a securities transfer that is accompanied by a funds credit to the master account of the sender and a funds debit to the master account of the receiver, for the amount of the transfer (transfer against payment). A participant must maintain a master account at a Reserve Bank to be a

⁵⁷ See 12 U.S.C. § 391.

sender or receiver of transfers against payment. A DVP transfer is completed under OC 7 when the debits and credits associated with both the securities transfer and the funds movements are made.

For additional information on DVP through the Fedwire Securities Service, see the answers to key questions for Recommendation 7.

- (iii) Has a court in the jurisdiction ever failed to uphold the legal basis of these activities/arrangements? And if so, for what reasons?

No U.S. court has failed to uphold the legal basis of the Fedwire Securities Service.

3. Are the rules of the system and contracts between system participants enforceable notwithstanding the insolvency of a participant?

The rules governing the Fedwire Securities Service and contracts between participants are enforceable notwithstanding the insolvency of a participant. U.S. insolvency law does not include a zero-hour rule that allows the unwinding of securities transfers. Moreover, both the Bankruptcy Code and the FDIA generally uphold the enforceability of contracts to deliver securities that involve a financial intermediary, notwithstanding the insolvency of one of the parties to the contract.

For additional information on the protection of a customer's position in the event of the custodian's insolvency, see the answers to key questions for Recommendation 12.

4. (i) Is there a significant level of cross-border participation in the SSS? If so, please describe and answer Question 4(ii).

As a general matter, the Fedwire Securities Service does not permit participation by foreign banks without a U.S. presence.⁵⁸ Fedwire Securities Service participants generally are either U.S. depository institutions or U.S. branches or agencies of foreign banks. Participants may, however, conduct cross-border activity through direct or relayed links to other central securities depositories (CSDs) or international central securities depositories (ICSDs).⁵⁹

In addition, it is Federal Reserve policy to accept securities for the Fedwire Securities Service only if the offering documents for the securities specify that the securities are governed by U.S. law.⁶⁰

⁵⁸ Some foreign central banks, foreign monetary authorities, foreign governments, and certain international organizations participate in the Fedwire Securities Service.

⁵⁹ The *Assessment Methodology* contains a detailed description of direct, indirect, and relayed links. See www.bis.org/publ/cpss51.htm.

⁶⁰ Although international organizations are beyond the scope of this assessment, securities issued by these organizations on the Fedwire Securities Service are also governed by U.S. law. The Reserve Banks act as fiscal agents and depositories for these international organizations, and these actions are governed by U.S. law.

- (ii) Are other jurisdictions relevant for determining the adequacy of the legal framework? How has this been determined? Has the legal framework been evaluated for the other relevant jurisdictions? Are there conflict of laws issues and, if so, have they been addressed?

The laws of non-U.S. jurisdictions are not directly applicable to disputes involving Fedwire Securities Service participants.

Assessment

Recommendation 1 is observed.

Recommendation 2: Trade Confirmation

Confirmation of trades between direct market participants should occur as soon as possible after trade execution, but no later than trade date (T+0). Where confirmation of trades by indirect market participants (such as institutional investors) is required, it should occur as soon as possible after trade execution, preferably on T+0, but no later than T+1.

Answers to Key Questions

1. What percentage of trades between direct market participants is submitted to a trade confirmation system on the trade date (T+0)? How soon after submission are problems communicated to the appropriate parties?

The Fedwire Securities Service does not provide trade confirmation services. As described in section 1.2 of the Introduction, trade confirmation services for Fedwire-eligible securities are provided by FICC.⁶¹

2. Does the CSD require settlement instructions to be matched prior to settlement?

The Fedwire Securities Service does not require settlement instructions to be matched prior to settlement. The matching of settlement instructions is not seen as necessary given the existence of trade matching, confirmation, and netting services by FICC prior to settlement. .

3. Are there trade confirmation procedures that are capable of comparing trade information between direct and indirect market participants by T+1? Is use of the system mandatory? For what types of indirect market participants? Of those trades involving indirect market participants for which confirmation is required, what percentage is confirmed by T+0, by T+1, by the contractual settlement date?

In the United States, trade confirmation is not required for transactions submitted for settlement in the Fedwire Securities Service. Trade matching between direct participants in FICC is required by FICC. Trade matching or confirmation between direct and indirect market participants outside of FICC and Fedwire Securities Service is done at the discretion of the participants.

Assessment

Recommendation 2 is broadly observed.

⁶¹ For statistics on trade confirmations and a description of the trade confirmation process, see www.dtcc.com.

Comments

In assigning an assessment rating, the *Assessment Methodology* lists three key issues to consider: (1) confirmation of trades between direct market participants should occur no later than trade date; (2) settlement instructions should be matched prior to settlement; and (3) where confirmation of trades by indirect market participants is required by regulators, clearing systems, or market operators, it should occur as soon as possible after trade execution, preferably on trade date, but no later than T+1.

The guidance in the *Assessment Methodology* indicates that in some cases, a securities settlement system may not strictly meet the assessment criteria for observance but may successfully address the safety or efficiency objectives that underlie the recommendation and the key issues and key questions. The intent of Recommendation 2 is to ensure that settlement failures are avoided and risks and costs are managed effectively. Although the Fedwire Securities Service does not pre-match settlement instructions, the existence of prompt pre-settlement confirmation services provided by FICC, as well as delivery and receipt controls at settlement intermediaries, such as clearing banks and custodians, achieve the intent of Recommendation 2 in practice.

Based on the compensating controls in the market, the existing pre-settlement capabilities of FICC, and the overall objective of providing efficient services to the market for Fedwire-eligible securities, the Federal Reserve believes the Fedwire Securities Service broadly observes Recommendation 2.

Recommendation 3: Settlement Cycles

Rolling settlement should be adopted in all securities markets. Final settlement should occur no later than T+3. The benefits and costs of a settlement cycle shorter than T+3 should be evaluated.

Assessment

Recommendation 3 is not applicable to the Fedwire Securities Service.

Comments

Rolling settlement is not applicable to the Fedwire Securities Service because the Fedwire Securities Service provides for real-time final settlement of Fedwire-eligible securities transfers on the day the transfers are submitted to the Fedwire Securities Service. While the Fedwire Securities Service may settle transfers as early as trade date, in most instances securities trades are compared, confirmed, and netted through FICC before final settlement.

In addition, the Federal Reserve does not have the authority to set the settlement cycle or establish parameters for fails, despite the Fedwire Securities Service's capability to settle on a rolling settlement cycle. Settlement cycle decisions for Fedwire-eligible securities are generally made by market participants and industry groups. For example, settlement of secondary market trades of Treasury securities typically occurs on T+1. Settlement can, however, by agreement between counterparties, occur anytime from trade date to T+N, where N is equal to the number of business days between trade date and the future settlement date. Additionally, the final settlement of mortgage-backed securities occurs primarily on fixed monthly settlement dates, as designated by the Securities Industry and Financial Markets Association (SIFMA), in the settlement month that was contracted at the time of trade execution.⁶²

⁶² Mortgage-backed securities notification and settlement dates are available at www.sifma.org. MBSD's Processing Schedules, which lists mortgage-backed securities settlement cycles and cash settlement schedules, are available at www.dtcc.com.

Recommendation 4: Central Counterparties (CCPs)

The benefits and costs of a central counterparty (CCP) should be evaluated. Where such a mechanism is introduced, the CCP should rigorously control the risks it assumes.

Assessment

Recommendation 4 is not applicable to the Fedwire Securities Service.

Comments

Given the real-time settlement system design of the Fedwire Securities Service and the existence of FICC, the Reserve Banks have concluded that a CCP is not necessary for the Fedwire Securities Service.

As described in section 1.2 of the Introduction, FICC, through the GSD, acts as the CCP for Treasury and non-mortgage-backed non-Treasury securities. CCP services are not currently provided by the MBSD to participants in the mortgage-backed securities market, although FICC is working towards doing so.

Recommendation 5: Securities Lending

Securities lending and borrowing (or repurchase agreements and other economically equivalent transactions) should be encouraged as a method for expediting the settlement of securities transactions. Barriers that inhibit the practice of lending securities for this purpose should be removed.

Assessment

Recommendation 5 is not applicable to the Fedwire Securities Service.

Comments

The Fedwire Securities Service does not provide securities lending services to participants. The securities lending market for Fedwire-eligible securities exists outside of the Fedwire Securities Service and has its own conventions and procedures. Major market participants, including broker-dealers and large custodian banks, may offer these services to parties seeking to finance their positions or meet delivery obligations (such as to facilitate settlement or cover a short position).

The Federal Reserve supports the practice and operations of securities lending and recognizes the importance of this practice in expediting the settlement of Treasury securities transactions. In support of this practice, the Federal Reserve Bank of New York lends Treasury securities from the Federal Reserve's portfolio, called the System Open Market Account (SOMA), to provide a short-term source of liquidity to repo markets and to facilitate smooth clearing of government securities.⁶³ While these transactions may settle over the Fedwire Securities Service, primary dealers bid to borrow securities and receive notification of awards through another application.⁶⁴

⁶³ In 2008, the Federal Reserve Bank of New York began lending Treasury securities from SOMA on a term basis through a temporary facility. This facility is scheduled to remain available to primary dealers until February 1, 2010. For additional information, see www.newyorkfed.org/markets/tslf.html.

Additional information on SOMA is available at www.newyorkfed.org/markets/soma/sysopen_accholdings.html.

⁶⁴ Additional information on securities lending is available at www.newyorkfed.org/markets/securitieslending.html.

Recommendation 6: Central Securities Depositories (CSDs)

Securities should be immobilized or dematerialized and transferred by book entry in CSDs to the greatest extent possible.

Answers to Key Questions

1. Are securities issued on a dematerialised basis or as a physical certificate? If the latter, are they immobilised in a CSD to facilitate settlement? What percentage of securities issued domestically is either immobilised or dematerialised, and what is the trend? Is the transfer of securities carried out by book entry or does it require any form of physical delivery?

Fedwire-eligible securities are issued on a dematerialized basis. As of year-end 2008, of the approximately \$5.8 trillion (par value) of Treasury securities held in custody on the Fedwire Securities Service, 99.99 percent are dematerialized. A limited number of Treasury securities issued before the mid-1980s are eligible to be converted into certificated form. Also, certain real estate mortgage investment conduits (REMICs) issued by Ginnie Mae may be converted into certificated form. The trend, however, is towards the elimination of physical certificates for Fedwire-eligible securities. All securities held in accounts on the Fedwire Securities Service are in book-entry form and securities transfers are electronic.

2. Is there a lag between settlement and registration and what are the implications of the time lag for finality? If the CSD is not the official registrar, does the transfer of securities in the CSD result in the transfer of securities in the official register?

There is no lag between settlement and the establishment of the security entitlement, which is the equivalent of registration in the indirect holding system. Under TRADES and corresponding agency regulations, a participant obtains an interest in a Fedwire-eligible security when a Reserve Bank indicates by book-entry that a security has been credited to that participant's account. The answers to the key questions for Recommendations 7 and 8 offer a more detailed description of settlement finality.

The Reserve Banks, as the CSD, do not act as the official registrar. The Fedwire Securities Service is an indirect holding system and maintains records only of the identities and interests of the participants on the Fedwire Securities Service. Investors that have interests in Fedwire-eligible securities held with an intermediary other than the Reserve Banks are reflected on the books of that intermediary and are not recognized by the issuers.

Investors, however, may hold their securities directly with the issuer or its official registrar. Investors holding their Treasury securities in *TreasuryDirect* have their interests recorded directly on the books of the Treasury, the official registrar. It may be possible to be a direct holder of non-Treasury securities at the official registrar in certificated form.

Assessment

Recommendation 6 is observed.

Recommendation 7: Delivery versus Payment (DVP)

CSDs should eliminate principal risk by linking securities transfers to funds transfers in a way that achieves delivery versus payment.

Answers to Key Questions

1. Does the technical, legal and contractual framework ensure that delivery of securities takes place if, and only if, payment is received? If so, how?

The technical, legal, and contractual framework of the Fedwire Securities Service ensures delivery of securities against payment.

The Fedwire Securities Service is a DVP system that processes securities transfers individually in real time.⁶⁵ The transfer of securities and associated payment occurs simultaneously and is final when the respective securities and master accounts are credited and debited. Securities transfer messages identify the sending and receiving participants, the securities issue and par amount to be transferred, and the payment information. The system checks the transfer messages for technical acceptability and verifies that the sender has the securities in its securities account. Once verified, the securities are automatically debited from the sender's securities account and credited to the receiver's securities account, and simultaneously, the corresponding funds are debited from receiver's master account and credited to the sender's master account. Once the transaction is complete, the Fedwire Securities Service sends a notice acknowledging that the message has been processed to both the sender and the receiver. While most transfers are against payment, participants can make transfers free of payment.

The legal and contractual frameworks also support DVP transfers. As discussed in the answers to key questions for Recommendation 8, OC 7 section 9.1 provides that settlement finality occurs when a Reserve Bank debits and credits the participants' respective securities and funds accounts.

2. What proportion of trades between direct participants of the CSD (by value) is settled on a DVP basis?

The Fedwire Securities Service settles the large majority of securities transfers on a DVP basis. In 2008, DVP transfers accounted for approximately 85 percent of total securities transfer volume. Transfers free of payment accounted for approximately 15 percent of all securities transfers and were primarily associated with intrabank transfers (repositioning securities within a participant's family of accounts).

⁶⁵ The Fedwire Securities Service follows DVP Model 1, as described in the CPSS, *Delivery Versus Payment in Securities Settlement Systems*, Bank for International Settlements, September 1992. DVP Model 1 includes systems that settle transfer instructions for both securities and funds on a trade-by-trade (gross) basis, with final (unconditional) transfer of securities from the seller to the buyer (delivery) occurring at the same time as final transfer of funds from the buyer to the seller (payment).

Assessment

Recommendation 7 is observed.

Recommendation 8: Timing of Settlement Finality

Final settlement should occur no later than the end of the settlement day. Intraday or real-time finality should be provided where necessary to reduce risks.

Answers to Key Questions

1. Does the CSD permit final settlement of securities transfers by the end of the settlement day? Is the timing of settlement finality clearly defined for transactions within the CSD and for transactions over a link to another CSD?

The Fedwire Securities Service provides for final settlement of securities transfers on a real-time basis throughout the settlement day.

The timing of settlement finality is clearly defined in the TRADES and corresponding agency regulations, UCC Article 8, and OC 7. Pursuant to the TRADES and corresponding agency regulations and UCC Article 8, an interest in a Fedwire-eligible security is created when a Reserve Bank credits, by book-entry, the security to a participant's securities account. OC 7 section 9.1 provides that, unless a transfer is rejected, all debits and credits in connection with a transfer become final at the time a Reserve Bank posts the debits and credits to the participants' securities accounts and master accounts. The Fedwire Securities Service generally processes securities transfers and associated funds transfers immediately following the receipt of a transfer message.

2. Does the CSD permit final settlement of DVP transfers on a continuous basis throughout the day or at certain designated times during the day? If the latter, at what times do transfers become final? Is there a need for intraday or real-time finality to reduce risks? Do central banks use the SSS in monetary policy operations or to collateralise intraday credit extensions in a payment system? Do active trading parties or CCPs have a need for intraday or real-time finality to manage their risks effectively? Is there a need for intraday or real-time finality to facilitate settlement through links to other CSDs? Is there a need for intraday finality to facilitate the smooth functioning of some markets (for example, repurchase agreement markets)?

The Fedwire Securities Service provides for final settlement of DVP transfers on a real-time basis throughout the operating day. Real-time settlement supports monetary policy, credit extensions, and the smooth functioning of the Treasury securities market.

The Open Market Desk of the Federal Reserve Bank of New York uses the Fedwire Securities Service to support monetary policy operations involving the outright purchase of Fedwire-eligible securities.⁶⁶ For the more frequent open market operations involving repos, the Open Market Desk settles via the triparty repo services provided by the clearing banks, JPMorgan Chase and The Bank of New York Mellon. In addition, participants can use their securities

⁶⁶ Additional information on the Open Market Desk is available at www.newyorkfed.org/markets/openmarket.html.

holdings in the Fedwire Securities Service to collateralize intraday Reserve Bank credit, as well as overnight discount window borrowings.

For additional information on intraday credit, see the answers to key questions for Recommendation 9.

3. Does the CSD prohibit the unilateral revocation of unsettled transfer instructions late in the settlement day? Does the CSD receive provisional transfers of securities from any other CSDs? If so, does it prohibit retransfer of these securities until they become final? If not, what would be the consequences of an unwind of such provisional transfers for the CSD's participants?

All securities transfers sent over the Fedwire Securities Service are settled on a real-time basis. As a result, there are no unsettled transfer messages that could be revoked by participants at any point in the settlement day. The Fedwire Securities Service does not have direct, indirect, or relayed links to other CSDs or ICSDs and, therefore, does not receive provisional transfers from any other CSD.

Assessment

Recommendation 8 is observed.

Recommendation 9: CSD Risk Controls to Address Participants' Failures to Settle

CSDs that extend intraday credit to participants, including CSDs that operate net settlement systems, should institute risk controls that, at a minimum, ensure timely settlement in the event that the participant with the largest payment obligation is unable to settle. The most reliable set of controls is a combination of collateral requirements and limits.

Answers to Key Questions

1. Does the CSD ensure that timely settlement can be completed in the event of an inability to settle by the participant with the largest obligation? If so, how? Are the credit exposures of the CSD fully collateralised? If not, what measures are in place to address risks stemming from granting uncollateralised credit? Are limits imposed on credit extensions by the CSD? Does the CSD have sufficient liquidity resources to ensure timely settlement?

The Fedwire Securities Service is a DVP Model 1 system, processing securities transfers on a gross basis in real time. The transfer of securities and the related funds, if any, is final and irrevocable when a Reserve Bank debits and credits the participants' securities and master accounts. The Reserve Banks facilitate settlement and mitigate participants' liquidity risk through the extension of intraday credit. Part II of the PSR policy defines the limits, requirements, and fees for intraday credit extensions.⁶⁷

Liquidity Risk

The Reserve Banks may extend intraday credit, in the form of daylight overdrafts, to Fedwire Securities Service participants, which facilitates the timely settlement of securities transfers against payment. Participants could incur securities-related funds overdrafts in their master accounts as a result of the debit of funds from their master accounts to pay for securities received. As the central bank, the Federal Reserve does not face liquidity risk from the Fedwire Securities Service operations or the provision of intraday credit. Intraday credit limits, as prescribed in part II of the PSR policy, can constrain some participants' payment operations. Each participant is aware of these constraints and is responsible for managing its master account throughout the day.⁶⁸

⁶⁷ In December 2008, the Board adopted major revisions to part II of the PSR policy that are designed to improve intraday liquidity management and payment flows for the banking system and help to mitigate the credit exposures to the Reserve Banks from daylight overdrafts. The changes include a new approach that explicitly recognizes the role of the central bank in providing intraday credit to healthy depository institutions, a zero fee for collateralized daylight overdrafts, a 50 basis point (annual rate) charge for uncollateralized daylight overdrafts, and a biweekly daylight overdraft fee waiver of \$150. These changes will be implemented in 2010. For more information on the revised PSR policy see www.federalreserve.gov/newsevents/press/other/20081219a.htm.

⁶⁸ For additional information on Reserve Bank accounts, see the *Account Management Guide* and the *Reserve Maintenance Manual* at www.frbservices.org/regulations/accounting_guides_and_manuals.html.

The Federal Reserve expects participants to extinguish their daylight overdrafts by the end of the Fedwire operating day.⁶⁹ A participant can extinguish daylight overdrafts with incoming payments to its master account, including payments from financing obtained in the money markets, or with funds borrowed from the Reserve Banks' discount window, the Reserve Banks' overnight credit facility. To obtain a discount window loan, a participant must have executed the appropriate legal agreements with and pledged adequate collateral to its Reserve Bank. A participant must contact its Reserve Bank and explicitly request a discount window loan, which is made at the discretion of the Reserve Bank. If a participant does not extinguish its daylight overdraft before the end of the Fedwire operating day, it will be charged for an overnight overdraft at a penalty rate. Overnight overdrafts are strongly discouraged, incur higher fees than discount window loans, and may be subject to supervisory attention.

Credit Risk

The Reserve Banks' provision of intraday credit converts participant liquidity risk into credit risk borne by the Reserve Banks. If a participant were to fail and close before extinguishing its daylight overdraft, its Reserve Bank could face a financial loss. Part II of the PSR policy attempts to control and mitigate these exposures while providing sufficient liquidity to participants paying for the receipt of DVP securities transfers and other transactions.

Part II of the PSR policy requires that all participants incurring daylight overdrafts in their master accounts adopt a maximum limit on daylight overdrafts (net debit cap). Generally, net debit caps are based on creditworthiness, as determined by the participants' capital adequacy and the most recent supervisor ratings.⁷⁰ All net debit caps are granted at the discretion of the Reserve Banks. Only participants with routine discount window access are eligible for a positive net debit cap.⁷¹ Participants that have access to the highest levels of intraday credit must annually assess their financial condition and operating environment.

The Federal Reserve expects participants to manage actively their accounts to avoid incurring daylight overdrafts in excess of their net debit cap. Reserve Banks employ ex-post and, in some cases, real-time monitoring of participants' daylight overdrafts. A participant exceeding its net debit cap may be contacted by its Reserve Bank and counseled.

In addition, the PSR policy relies heavily on both periodic and ongoing assessments of participants' financial condition. The Federal Reserve has developed extensive guidelines to

⁶⁹ The Fedwire operating day discussed in the PSR policy refers to the operating day of the Fedwire Funds Service, which ends at 6:30 p.m. ET.

⁷⁰ Net debit caps are calculated by applying a cap multiple from one of six cap classes (zero, exempt-from-filing, de minimis, average, above average, and high) to an institution's capital measure. The different cap categories correspond to different degrees of permissible intraday credit usage. The calculation process and cap categories are described in detail in sections II and VI of the *Guide to the Federal Reserve's Payment System Risk Policy*. See www.federalreserve.gov/paymentsystems/psr/relpol.htm.

⁷¹ Discount window access is governed by the Board's Regulation A (12 CFR Part 201). See www.frbdiscountwindow.org.

monitor internally the condition of participants that have access to Reserve Bank intraday credit. The guidelines establish standard criteria and practices used by the Reserve Banks for account risk-management. These criteria help identify institutions that present high potential risk to the Reserve Bank and that, as a result, require special controls and monitoring. Each Reserve Bank retains the right to protect its risk exposure from individual participants by unilaterally reducing net debit caps, imposing collateralization or clearing balance requirements, rejecting or delaying certain transactions, or in extreme cases, taking the institution off line or prohibiting it from using the Fedwire Securities Service.⁷²

Collateral

The PSR policy generally does not require participants to pledge collateral to the Reserve Banks to secure daylight overdrafts.⁷³ The PSR policy allows certain healthy participants to pledge collateral to their Reserve Bank to secure daylight overdraft capacity in excess of their net debit caps, subject to Reserve Bank approval. The net debit cap plus the additional capacity is referred to as the “maximum daylight overdraft capacity.”⁷⁴ Collateral pledged for all Federal Reserve purposes, including intraday credit, is marked-to-market or internally valued and subject to haircuts in accordance with the Federal Reserve’s methodology.⁷⁵ The Reserve Banks may, however, require participants that pose exceptional risk, such as those in weakened financial condition or in imminent danger of failure, to pledge collateral to secure any daylight overdrafts.

Security Interest in Securities Purchased with Intraday Credit

Under UCC Article 9, a security interest in favor of a securities intermediary attaches to a person’s security entitlement if the securities intermediary purchases the security entitlement for that person on credit.⁷⁶ Accordingly, a security interest in favor of a Reserve Bank attaches to Fedwire securities entitlements when the entitlements are purchased through the use of the Reserve Bank’s intraday credit. Under the UCC, such a security interest has priority over a

⁷² The Reserve Banks can monitor in real time payment transactions of an individual depository institution. Under certain circumstances, the Reserve Banks may place the institution on the “real-time monitor,” which rejects certain credit originations initiated by the depository institution if sufficient funds are not available in the institution’s master account. The real-time monitor does not affect transactions on the Fedwire Securities Service.

⁷³ Although the PSR policy does not require the explicit collateralization of most daylight overdrafts, the Reserve Banks’ intraday credit exposure may be secured by collateral pledged to the Reserve Banks for discount window purposes.

⁷⁴ Participants are expected to manage their account to their maximum daylight overdraft capacity, that is, the lesser of their net debit cap plus collateral held or their approved maximum daylight overdraft capacity.

Under the revised PSR policy, the Board adopted a streamlined procedure for obtaining the maximum daylight overdraft capacity for certain foreign banking organizations. The streamlined procedure became effective in March 2009.

⁷⁵ Any type of collateral that is acceptable for discount window purposes is acceptable for intraday credit. For additional information on the types and valuation of assets accepted for collateral purposes, see www.frbdiscountwindow.org.

⁷⁶ See UCC § 9-206.

conflicting security interest held by another secured party.⁷⁷ The TRADES regulations clarify that a security interest in a security entitlement marked on the books of a Reserve Bank has priority over any other interest in the securities, except a security interest in favor of the United States to secure deposits of public money, such as deposits to the Treasury tax and loan accounts.⁷⁸ Further, in OC 1 the account holder explicitly grants to the Reserve Bank all of the account holder's rights, title, and interest in property, whether owned at that time or acquired in the future, in the possession or control of, or maintained with, any Reserve Bank, including securities, security entitlements, and security accounts to secure any obligation of the account holder to any Reserve Bank.⁷⁹

Other Relevant PSR Policy Provisions

Daylight overdraft fees

Since 1994, the PSR policy has included a fee on daylight overdrafts intended to moderate the use of intraday credit.⁸⁰ The Federal Reserve initially set the annual rate for the overdraft fee at 24 basis points and increased it to the current level of 36 basis points on April 13, 1995.⁸¹ The overdraft fee is applied to a measure of average daily overdrafts for each institution less a deductible amount related to the institution's capital.

Transfer-size limit on book-entry securities

In 1988, the Board imposed a \$50 million limit on the par value of individual book-entry securities transfers over the Fedwire Securities Service.⁸² The purpose of this limit is to encourage dealers to split large trades into multiple, partial deliveries, and thereby reduce daylight overdrafts related to book-entry securities transactions.⁸³

⁷⁷ See UCC § 9-328 (c).

⁷⁸ See 31 CFR 357.12 (e) (3).

⁷⁹ In addition, participants desiring access to the discount window must execute the letter of agreement in Reserve Bank Operating Circular 10 (Lending) (OC 10). Under OC 10, collateral pledged by a participant to secure discount window advances secures both intraday and overnight credit.

⁸⁰ A detailed description of the fee and its calculation can be found in section IV of the *Guide to the Federal Reserve's Payment System Risk Policy*. See www.federalreserve.gov/paymentsystems/psr/relpol.htm.

⁸¹ In December 2008, the Board adopted major revisions to part II of the PSR policy. These changes include a new approach that explicitly recognizes the role of the central bank in providing intraday credit to healthy depository institutions, a zero fee for collateralized daylight overdrafts, a 50 basis point (annual rate) charge for uncollateralized daylight overdrafts, and a biweekly daylight overdraft fee waiver of \$150. See www.federalreserve.gov/paymentsystems/psr/relpol.htm.

⁸² The \$50 million limit does not apply to original issue deliveries of securities from a Reserve Bank to a depository institution or transactions sent to or by a Reserve Bank in its capacity as fiscal agent. The \$50 million limit also does not apply to debits or credits to restricted securities accounts on a Reserve Bank's books.

⁸³ Before the limit's introduction, dealers generally accumulated securities in the full amount of the trade before they delivered them. Partial deliveries, those for less than the full amount of the trade obligation, were typically returned to the sending institution. Dealers' practice of stockpiling large amounts of securities to meet large trade obligations until close to the end of the day often resulted in the use of daylight credit at their clearing banks. The clearing banks, in turn, had to hold positive balances in their master accounts or use the Federal Reserve's daylight credit to accommodate this practice.

2. Does the CSD permit overdraft or debit balances in securities?

The Reserve Banks do not permit participants to incur debit balances in securities accounts. If a participant initiates a securities transfer and does not have the securities in its securities account, the Fedwire Securities Service will reject the transfer message.

3. Does the CSD evaluate the probability of multiple failures? Can settlement be completed in that event? If not, has the CSD evaluated the cost of ensuring settlement in the event of multiple failures?

Final settlement is completed at the time the transfer is accepted and processed by the Fedwire Securities Service. The failure of a Fedwire Securities Service participant could result in a credit exposure to a Reserve Bank if the failing participant were in an overdraft position.

Assessment

Recommendation 9 is observed.

Recommendation 10: Cash Settlement Assets

Assets used to settle the ultimate payment obligations arising from securities transactions should carry little or no credit or liquidity risk. If central bank money is not used, steps must be taken to protect CSD members from potential losses and liquidity pressures arising from the failure of the cash settlement agent whose assets are used for that purpose.

Answers to Key Questions

1. Is the settlement agent the central bank that issues the currency? If the central bank is settling in a foreign currency, what steps has it taken as settlement agent to ensure that the settlement assets pose little or no credit or liquidity risk? If the central bank is not used, what steps have been taken to protect CSD members from failure of the cash settlement agent? Is the CSD itself organised as a limited purpose bank? Does it strictly limit any risks associated with non-settlement activities?

The settlement agents are the Reserve Banks, which are part of the U.S. central bank that issues the currency. Final settlement of DVP transactions on the Fedwire Securities Service occurs against payment of funds in central bank money, through the transfer of account balances held at a Reserve Bank. The Fedwire Securities Service settles transactions denominated only in U.S. dollars.

2. Are settlement banks subject to prudential supervision by government authorities? Who determines which institutions can be used as settlement institutions? What are the criteria? If multiple settlement institutions can be used in principle, how many are used in practice? How concentrated are payment flows? On an average day, what percentage of total payments is credited to accounts at the institution that accounts for the largest share of the payment flows? What is the financial condition of that institution (for example, its capital ratios and its credit ratings)? Are the concentration of exposures and the financial condition of the settlement banks monitored and evaluated? If so, by whom?

Settlement Bank Supervision

The Reserve Banks are the settlement banks for Fedwire-eligible securities transferred over the Fedwire Securities Service. The Reserve Banks are subject to general supervision by the Board, as well as supervision and control by their own boards of directors. The Reserve Banks are also subject to internal and external audits. For additional information on Reserve Bank supervision and oversight, see the answers to key questions for Recommendation 18.

The two clearing banks, The Bank of New York Mellon and JPMorgan Chase, also serve as settlement banks for Fedwire-eligible securities transferred outside of the Fedwire Securities Service. The Bank of New York Mellon is subject to the regulation and supervision of the Federal Reserve and the New York State Banking Department. JPMorgan Chase is subject to the regulation and supervision of the Federal Reserve and the OCC.

Concentration of Payment Flows

While the key questions related to the concentration of payment flows are in the context of a settlement bank, the following summary statistics address the concentration of the volume and value of DVP securities transfers on the Fedwire Securities Service. As of year-end 2008, the top twenty participants, in terms of volume, accounted for approximately 97 percent of the total transfer volume. The top twenty participants, in terms of value, account for approximately 97 percent of the total transfer value. Additionally, the two clearing banks initiated approximately 71 percent of securities transfers, accounting for approximately 80 percent of the value, on the Fedwire Securities Service.

Financial Condition of Settlement Banks

As part of the U.S. central bank, the Reserve Banks do not face the risk of insolvency as a practical matter. The financial condition of the Reserve Banks is disclosed in the Board's *Annual Report*.

The financial conditions of the two clearing banks are monitored by the Federal Reserve, the OCC, and the Federal Deposit Insurance Corporation (FDIC).⁸⁴ If a credit or legal problem caused the market to lose confidence in one of the clearing banks, and no well-qualified bank stepped forward to purchase the problematic bank's clearing business, the Fedwire-eligible securities market would be seriously disrupted.

3. How quickly can recipients use the proceeds of securities settlements? On the same day? Intraday?

Participants of the Fedwire Securities Service have immediate access to the settlement proceeds credited to their accounts and can use these funds for all other payments.

4. Does the payment system used for interbank transfers among settlement banks observe CPSIPS?

The Fedwire Securities Service achieves DVP through real-time simultaneous exchange of securities against payment; a separate interbank funds transfer system is not used. The other settlement banks may use the Fedwire Funds Service, which transfers funds between participants on a real-time gross basis and observes the *Core Principles for Systemically Important Payment Systems (CPSIPS)*.⁸⁵

⁸⁴ For additional information on the FDIC and its functions, see www.fdic.gov.

⁸⁵ Committee on Payment and Settlement Systems, *Core Principles for Systemically Important Payment Systems*, Bank for International Settlements, January 2001. See www.bis.org/publ/cpss43.htm. For additional information on the assessment of compliance, see www.federalreserve.gov/paymentsystems/coreprinciples/default.htm.

Assessment

Recommendation 10 is observed.

Recommendation 11: Operational Reliability

Sources of operational risk arising in the clearing and settlement process should be identified and minimized through the development of appropriate systems, controls and procedures. Systems should be reliable and secure, and have adequate, scalable capacity. Contingency plans and backup facilities should be established to allow for timely recovery of operations and completion of the settlement process.

Answers to Key Questions

1. Does the system operator have a process for identifying and managing its operational risks?

The Fedwire Securities Service operates within the context of the Federal Reserve's overall information security program, which consists of defined policies and an architectural framework. This program is designed to protect information from loss or misuse, and thereby minimize the risk of monetary loss, productivity loss, or embarrassment to the Federal Reserve. The program addresses areas of potential operational risk and personnel, facilities, and equipment security.

The Federal Reserve's information security program requires each Reserve Bank with management responsibilities for a business function, such as the Fedwire Securities Service, to complete information security risk assessments to determine that the appropriate controls are in place to manage operational risk. The Fedwire Securities Service, because of its critical role in the Fedwire-eligible securities market, is subject to several additional formal Reserve Bank risk assessment programs, including the Federal Reserve Bank of New York enterprise risk-management initiatives, and compliance with the Federal Information Security Management Act of 2002 (FISMA).⁸⁶

The Reserve Banks have processes for identifying and managing operational risks associated with the Fedwire Securities Service. For example, the Fedwire Securities Service complies with the Federal Reserve Bank of New York's operational risk management program. This program is a methodology for management and monitoring of operational risks. In addition, on a day-to-day basis a team of dedicated technical and software specialists monitors the Fedwire applications to ensure efficient processing of transactions and addresses any technical issues promptly. The Reserve Banks also conduct robust application and network testing, including penetration and stress testing.

2. Does the system operator have contingency plans and backup facilities for the failure of key systems, and are these tested and reviewed regularly with participants taking part? Do contingency plans ensure at a minimum that the status of all transactions at the time of the disruption can be identified with certainty in a timely manner? How long does it take to recover operations through backup systems? Do the procedures provide for preservation of all transaction data? How does the system operator ensure the integrity of messages?

⁸⁶ FISMA provides the framework for ensuring the effectiveness of information security controls over information resources that support federal government operations and assets. See 44 U.S.C. § 3541, et seq.

The Reserve Banks view the Fedwire Securities Service's business continuity as critically important. The Reserve Banks maintain and regularly test contingency plans and backup facilities to ensure resilience of the Fedwire Securities Service and all integral support functions. The Fedwire Securities Service meets or exceeds the recommendations published in the *Interagency Paper on Sound Practices to Strengthen the Resilience of the U.S. Financial System*.⁸⁷ The Reserve Banks maintain multiple out-of-region backup data centers and redundant out-of-region staffs that support the data centers, Fedwire Securities Service applications, and customer testing facilities and support services. The Reserve Banks rotate production support among out-of-region staffs regularly. In addition, the Fedwire applications transmit and log transactions and critical database changes to both the primary and secondary backup data centers in real time throughout the day. The Reserve Banks also conduct on-site and remote-site recovery tests at the out-of-region data centers each year.

As outlined in the Reserve Banks' OC 7, Fedwire Securities Service participants are responsible for developing their own contingency and recovery plans, such as backup computer and operations facilities. The most active Fedwire Securities Service participants are required to participate in a minimum number of contingency tests each year, including tests from the customers' backup sites.⁸⁸ In addition, the Reserve Banks' customer testing facilities are available to all Fedwire Securities Service participants. Participants are also expected to follow Federal Financial Institutions Examination Council guidance for regulated depository institutions, among others, regarding business resumption and information systems contingency planning.

In the event of a Fedwire Securities Service processing disruption, participants have a process by which they reconcile their records of transfer messages sent with the Reserve Banks' records. After a disruption, the Reserve Banks issue reports to participants listing the securities transfers that the Reserve Banks have processed. Participants reconcile this report and their own reports to identify any gaps in the sequence numbers assigned to each transfer initiated by the participant. These gaps represent transfers that were submitted but not accepted or processed by the Fedwire Securities Service. Once the Fedwire Securities Service resumes processing, participants resend those transfer messages that fall within the gaps, flagged as possible duplicate messages. Participants exercise this reconciliation process regularly during contingency tests.

The Reserve Banks' procedures to ensure the integrity of transfer messages are also outlined in OC 7. The Reserve Banks require participants to implement appropriate physical and logical security measures to protect any access controls, hardware, or software. These security measures ensure that the initiation of a transfer message occurs from locations that the Reserve Banks have authorized and requires action by more than one of the participant's employees. The Reserve

⁸⁷ The paper advises financial institutions on steps necessary to strengthen the overall resilience of and to protect the U.S. financial system in the event of a wide-scale disruption. See www.federalreserve.gov/boarddocs/srletters/2003/SR0309a1.pdf.

⁸⁸ In 2008, the most active Fedwire Securities Service participants were required to participate in either two or three of five Reserve Bank-coordinated contingency tests, depending on their level of activity. Participants were required to perform at least one of these contingency tests from their contingency site and at least one from their primary site.

Banks also require messages to contain adequate identifying information and adhere to other media and format requirements.

3. Are operational reliability issues reviewed regularly by senior management, including review by persons not responsible for the relevant operations? Are periodic external audits of the IT (information technology) system conducted? Is there an independent internal audit function and does it review operational risk controls?

Operational reliability issues are reviewed regularly by senior management with various roles in relation to the Fedwire Securities Service, including persons not responsible for the securities service operations. Senior management of the Wholesale Product Office (WPO) focuses on operational reliability as a part of ongoing management attention.⁸⁹

Each Reserve Bank has an independent internal audit department that reports directly to that Reserve Bank's board of directors. Working cooperatively, the Reserve Banks' internal audit staffs conduct end-to-end audits of Fedwire Securities Service activities on a risk-based schedule. The Board conducts periodic risk-based reviews of the Fedwire Securities Service, including reviews of the IT system. As part of the annual external audit of the Reserve Banks, independent external auditors conduct risk-based reviews of the IT system.

4. How many times during the last year has a key system failed? What is the most common cause of failures? How long did it take to resume processing? How much transaction data, if any, was lost? Does the system operator have capacity plans for key systems and are key systems tested periodically to determine if they can handle stress volume?

In 2008, the Fedwire Securities Service application was available for 100 percent of its operating hours.⁹⁰ The availability standard for the Fedwire Securities Service is 99.90 percent of operating hours. The Reserve Banks have dedicated staff that manage and test capacity to ensure that the Fedwire Securities Service can handle high volume levels. In addition to monitoring actual volume levels, staff considers market factors that could influence future volume levels. Staff increases the Fedwire Securities Service's capacity based on volumes experienced and these market factors, as appropriate. After a change in capacity, staff conducts high-volume stress tests.

Assessment

Recommendation 11 is observed.

⁸⁹ The WPO manages, operates, supports, and maintains the wholesale services on behalf of the Reserve Banks. For additional information on the WPO, see the answers to key questions for Recommendation 13.

⁹⁰ This availability standard refers to the core settlement component of the Fedwire Securities Service application. The Fedwire Securities Service's end-to-end availability also depends on the availability of the access solutions customers use to connect to the Service. In 2008, the applications supporting FedLine Advantage connections for low-to-moderate volume customers were available 99.86 percent of operating hours compared to a target of 99.90 percent; the applications supporting FedLine Direct connections for high volume customers were available 99.97 percent of operating hours compared to a target of 99.50 percent.

Recommendation 12: Protection of Customers' Securities

Entities holding securities in custody should employ accounting practices and safekeeping procedures that fully protect customers' securities. It is essential that customers' securities be protected against the claim of a custodian's creditors.

Answers to Key Questions

1. What arrangements are used to protect customers' securities from theft, loss or misuse and to ensure that they will not become subject to claims of the custodian's creditors (for example, are segregation, insurance, or compensation schemes used)? Are those arrangements based upon specific laws and regulations? In the event of the custodian's insolvency, do those arrangements enable a customer's positions to be moved by a receiver to a solvent intermediary?

The Reserve Banks maintain records of the identities and interests of the participants on the Fedwire Securities Service. Each participant, in turn, maintains a record of how its Fedwire Securities Service holdings are allocated between it and its direct customers, and this process is repeated throughout a tiered structure. The Fedwire Securities Service allows participants to have multiple securities accounts so that the participants can, to the extent desirable or required by law, segregate their customer holdings.

To ensure that the Reserve Banks' records are accurate and that securities accounts are not subject to theft, loss, or misuse, both physical and technical security controls are incorporated into the Fedwire Securities Service, and periodic audits are performed. In addition, participants receive a notice after each debit or credit to their securities account (except for the credit of a security upon original issue or the debit upon maturity). At the end of each day, each participant receives a summary of its net balances for each security issue for which there was activity.

UCC Article 8 provides that securities intermediaries, including the Federal Reserve Banks, are required to maintain a sufficient quantity of investment property (for example, securities) to satisfy all of their customers' claims.⁹¹ In addition, by regulation, securities intermediaries are prohibited from using customer securities in their own business activities. Thus, by law, a securities intermediary is prohibited from pledging or selling a customer security except as agreed to by the customer or to the extent UCC Article 8 creates a statutory lien in favor of the securities intermediary.

UCC Article 8 further provides that all interests in a particular security held by an intermediary are held for the benefit of its customers to the extent necessary to satisfy the claims of its customers and are not the property of the intermediary.⁹² Moreover, such interests are not subject to the claims of the creditors of the securities intermediary unless the securities intermediary is a clearing corporation or the creditor has control over the financial asset.

⁹¹ See UCC § 8-504.

⁹² See UCC § 8-503.

There are two exceptions to the general rule that customers have priority over claims of a securities intermediary's creditors. The first exception arises when the securities intermediary is a clearing corporation.⁹³ Creditors of a clearing corporation are given preference over the securities intermediary's customers to ensure that clearing corporations can obtain the liquidity necessary to complete settlement. If a clearing corporation is unable to settle, there could be systemic consequences in the securities market. This exception is not a realistic possibility for the Reserve Banks because, as a part of the central bank, they do not face liquidity constraints.

The second exception arises when a creditor obtains control of the securities entitlement. This exception does expose a customer to the risk that its securities intermediary will wrongfully pledge or transfer its interest.⁹⁴ This risk is mitigated because securities intermediaries are regulated entities and may not grant a security interest in a financial asset without the agreement of the entitlement holder. Moreover, if the creditor of the securities intermediary does obtain control of customer securities by acting in collusion with the securities intermediary and the intermediary is insolvent, the intermediary's customer may bring a claim directly against the creditor to recover the securities entitlement.

If a failed broker has violated the customer protection regulations and does not have sufficient securities to satisfy its customers' claims, its customers generally will receive protection against loss by the SIPA. Under the act, a customer of a failed broker is entitled to a pro-rata share of any cash and securities held by the broker for its customers (other than securities registered in the name of a customer) and up to \$500,000 from the SIPA fund.

Under U.S. law, the customer of an insolvent intermediary is able to move its positions to a solvent intermediary.⁹⁵

⁹³ See UCC § 8-511.

⁹⁴ U.S. law protects a customer of a securities intermediary from a claim by a third party that the third party has a property interest in the customer's security entitlement. Specifically, U.S. law does not recognize these adverse claims so long as the customer obtained his or her securities entitlement for value and without notice of the adverse claim. Under the TRADES regulations, a Reserve Bank is not liable to any person asserting an adverse claim to a book-entry security in a participant's securities account even when the claim arises as a result of a transfer or disposition of the Treasury security by a Reserve Bank, provided that the Reserve Bank acted pursuant to instructions that it reasonably believed to be genuine. Similar provisions are included in the equivalent corresponding agency regulations and OC 7. For example, OC 7, section 4.3 provides that unrestricted securities accounts are held for, and subject to, the sole order of the participant who owns the account. This is true regardless of the name used by the participant or the Reserve Bank to identify the account; such names are for the convenience of the participant only and do not create legal rights and obligations.

⁹⁵ Under U.S. law, customer name securities are not part of the insolvent intermediary's estate and are not subject to claims by the insolvent's creditors. Therefore, when an intermediary becomes insolvent, these customer name securities may be transferred to the customer or to another intermediary. The governing law, however, depends on the type of institution acting as intermediary. See the Securities Investor Protection Act (15 U.S.C. §§ 78fff-2) and the U.S. Bankruptcy Code (11 U.S.C. § 750 et seq.) as examples of insolvency frameworks that contemplate a trustee appointed for an insolvent securities intermediary transferring customer securities to the customer or, on behalf of the customer, to someone else, such as to a solvent intermediary.

2. How often do the entities holding securities in custody reconcile their records? Are the entities holding securities in custody subject to mandatory internal or external audit, or both, to determine if there are sufficient securities to satisfy customer claims?

As part of the account reconciliation process, daily activity reports or clearing summaries are available to participants and provide information on those Committee on Uniform Securities Identification Procedures (CUSIP) numbers that had transaction activity on the respective operating date. Participants may also elect to receive periodic account holdings reports providing detailed holdings information for each securities account. The reports list total par balances for each account, along with the number of CUSIP numbers, and participants may use the reports to reconcile total outstanding balances. The Reserve Banks will also respond to participants' requests for an audit confirmation that can be used by depository institutions and their regulators, internal audit departments, and external audit firms to verify a securities holdings statement as of a particular date.

The Reserve Banks also provide similar information to issuers to help reconcile activity in issuer accounts. The issuer accounts are affected by all new issuances, redemptions, and maturities. Reports are provided to all issuers and contain activity information and amounts representing the total par value of outstanding securities for each CUSIP number. In order to balance the issuer accounts with the participants' securities accounts, the total par value of outstanding securities for each CUSIP number is compared to the total par value of the participants' security holdings. For additional information on the internal and external audits of Reserve Banks, see the answers to key questions for Recommendation 18.

3. Are the entities holding securities in custody subject to prudential supervision or regulation? Do regulatory reviews examine the procedures and internal controls used in the safekeeping of securities?

Participants that maintain securities accounts for customers are subject to prudential supervision and regulation. Examinations of these entities include a review of the procedures and internal controls used in the safekeeping of securities.

For a discussion of the supervision and regulation of the Reserve Banks, see the answers to key questions for Recommendation 18.

Assessment

Recommendation 12 is observed.

Recommendation 13: Governance

Governance arrangements for CSDs and CCPs should be designed to fulfil public interest requirements and to promote the objectives of owners and users.

Answers to Key Questions

1. What are the governance arrangements of the CSD or CCP? What information is publicly available regarding the system, its ownership and its board and management structure, and the process by which major decisions are taken and management made accountable?

The Board exercises general supervision over the Reserve Banks and has broad policymaking powers, including the authority to issue regulations on certain topics. The Reserve Banks operate the Fedwire Securities Service in their role as fiscal agents for the Treasury, federal agencies, and GSEs. The Reserve Banks manage the Fedwire Securities Service operations on a consolidated basis through the WPO and various Reserve Bank management committees discussed below. In addition, the Treasury maintains general supervision over the activities of the Reserve Banks conducted as fiscal agents for the Treasury.

Board of Governors

The Board exercises general supervision over the Reserve Banks. The Board carries out its general supervision in two ways: (1) issuance of regulations and policies and (2) exams and other oversight activities, as discussed in the answers to key questions for Recommendation 18. For example, part II of the PSR policy governs the provision of intraday credit, or daylight overdrafts in accounts at the Reserve Banks, and sets out the general methods used by the Reserve Banks to control their intraday credit exposures. In addition, the Board reviews all changes to operating circulars before they are adopted.

Reserve Banks

The Reserve Banks are the operating arms of the central bank, providing a variety of services to depository institutions and managing the Fedwire Securities Service in accordance with all applicable laws, agreements, and Board policies. As discussed in the answers to key questions for Recommendation 1, the FRA outlines the authority of the Reserve Banks in providing securities and funds transfer services. The Reserve Banks are responsible for maintaining customer accounts and relationships, the operating circular agreements, and the operation of payment and settlement services, such as the Fedwire Securities Service. In addition, the FRA provides that the Reserve Banks will act as fiscal agents and depositories of the United States when required to do so by the Secretary of the Treasury. Other statutes allow various federal agencies, GSEs, and certain international organizations to use the Reserve Banks as fiscal agents.

Although member institutions hold stock in each Reserve Bank, the legal organization of the Reserve Banks includes elements of public and private accountability.⁹⁶ Each Reserve Bank has its own board of directors, representing public and private interests, including members appointed by the Board and representatives of the banking community in each Reserve District. Each Reserve Bank, in carrying out the powers specifically granted in the FRA and such incidental powers as necessary, are subject to the supervision and control of its board of directors. Although each Reserve Bank is a separate legal entity, the Reserve Banks generally agree to conduct operations on a uniform basis, creating consistent policies and services throughout the United States.

By agreement among the twelve Reserve Banks, the Federal Reserve Bank of New York, acting as the WPO, is responsible for the daily operational management of the Fedwire Securities Service. Its mission is to foster the integrity, efficiency, and accessibility of U.S. wholesale payment and settlement systems. The WPO plays a leadership role in the development and enhancement of these systems and may initiate changes to the Fedwire Securities Service.

Reserve Bank Management Committees

Conference of Presidents

Cooperation among Reserve Banks is typically facilitated through the Conference of Presidents (COP), which is composed of the twelve Reserve Bank presidents, and its committees. Under its by-laws, the COP may establish committees to coordinate activities among the Reserve Banks. Two major committees established by the COP are the Financial Services Policy Committee (FSPC) and the Information Technology Oversight Committee (ITOC).

Financial Services Policy Committee

The FSPC is responsible for the overall direction of financial services and related support functions for the Reserve Banks, as well as providing Reserve Bank leadership for the evolving U.S. payments system. The role of the FSPC is to provide strategic leadership for the Reserve Banks' provision of financial services and act as a policy review and senior decision-making body for the Reserve Banks on financial services issues.

Information Technology Oversight Committee

ITOC is responsible for setting the strategic direction and policy for Reserve Bank information technology activities. Most nationwide information technology activities are managed by the Federal Reserve Bank of Richmond, in its capacity as the Federal Reserve Information Technology (FRIT) office. Although the FSPC and WPO are responsible for the Fedwire Securities Service's business strategy and daily management, FRIT plays a significant role in Fedwire Securities Service operations, such as managing the processing infrastructure, maintaining network security, and providing the communications network.

⁹⁶ Information regarding the organization of the Reserve Banks can be found within *The Federal Reserve System: Purposes & Functions*. See www.federalreserve.gov/pf/pf.htm.

Department of the Treasury

As the Reserve Banks' fiscal principal, the Treasury has the right to exercise control over those activities undertaken on its behalf by the Reserve Banks.

2. Are the system's public interest, financial and other objectives clearly articulated and public? What are they? Do the system's objectives reflect the needs of users as well as owners? How is the public interest taken into account? Can the system's participants or the public influence the system's decision-making process? How are major decisions communicated to owners and users?

The Federal Reserve's role, objectives, and policies with respect to the payments system are publicly disclosed through a series of policies. One key policy, "The Federal Reserve in the Payments System," presents the Federal Reserve's objectives for participation in the payments system: to promote the integrity and efficiency of the payments mechanism, to ensure the provision of payment services to all depository institutions on an equitable basis, and to provide such services in an atmosphere of competitive fairness.⁹⁷ This paper also describes the Federal Reserve's financial objectives, providing background on the Federal Reserve's compliance with the Monetary Control Act of 1980 (MCA).⁹⁸

The Federal Reserve plays a dual role in the payments system; the Reserve Banks are a service provider and the Board is a regulator. The Congress reaffirmed its commitment to this dual role for the Federal Reserve in the MCA. The Federal Reserve exercises great care to avoid actual or apparent conflict between its role as a provider of payment services and its roles as a regulator, supervisor, and lender. The Congress, through the GAO, has periodically assessed the Federal Reserve's policies regarding conflicts between its dual roles and determined that reasonable safeguards exist to prevent conflicts of interest.⁹⁹

The Federal Reserve also addresses participants' concerns and interests through various formal and informal means. The Treasury and the Board may use, as appropriate, formal procedures to obtain information and analysis from the public regarding proposed rules, regulations, policies, and changes to the Fedwire Securities Service that would have a significant longer-run effect. Promulgation of Board rules is subject to a federal statutory requirement for public notice and comment.¹⁰⁰ Public notice is generally published in the Federal Register. In addition to the formal methods of consultation, the Reserve Banks use various informal methods as discussed in the answers to key questions for Recommendation 15.

⁹⁷ See www.federalreserve.gov/PaymentSystems/pricing/frpaysys.htm.

⁹⁸ See 12 U.S.C. § 248a.

⁹⁹ For additional information on the standards the Federal Reserve has adopted to avoid actual or apparent conflicts between its role as provider of services and its role as regulator, supervisor, and lender, see www.federalreserve.gov/paymentsystems/pricing/standards.htm.

¹⁰⁰ See 5 U.S.C. § 553.

3. What steps are taken to ensure that management has the incentives and skills needed to achieve the system's objectives and is accountable for its performance?

The WPO submits periodic reports to the FSPC regarding service performance and trends. Specifically, the WPO submits its annual goals and budget objectives, with subsequent status reports of the office's progress, to the FSPC for review and approval. For additional information on audit and oversight functions, see the answers to key questions for Recommendation 18.

4. How is the composition of the board determined? What steps are taken to ensure that board members have the necessary skills, and represent or take into account in their deliberations the full range of shareholder and user interests as well as the public interest?

The Fedwire Securities Service does not have a board of directors. The activities of each Reserve Bank, including the operation of the Fedwire Securities Service, are conducted under the control and supervision of that Reserve Bank's board of directors. By statute, each Reserve Bank's board of directors is composed of nine members representing a cross-section of banking, commercial, agricultural, industrial, and public interests within that Reserve District. Three of the nine directors are appointed by the Board. Daily operations and management of a Reserve Bank have been delegated by the board of directors to the president.

Cooperation among the Reserve Banks is facilitated through the COP and its committees. The FSPC, with delegated authority from the COP, provides senior leadership and oversight of the Fedwire Securities Service and related support functions. The FSPC is composed of three Reserve Bank presidents and two Reserve Bank first vice presidents, one of whom is the chairman of the Conference of First Vice Presidents. In addition, the director of the Board's Division of Reserve Bank Operations and Payment Systems, the chairman of the ITOC, the Federal Reserve's chief information officer, and the various product directors of the Reserve Banks' financial services serve as liaison members to the FSPC.

Assessment

Recommendation 13 is observed.

Recommendation 14: Access

CSDs and CCPs should have objective and publicly disclosed criteria for participation that permit fair and open access.

Answers to Key Questions

1. Are access rules/criteria objective and clearly disclosed to all potential applicants?

The access rules and criteria for the Fedwire Securities Service are objective and publicly disclosed. Applicants eligible to maintain a securities account with a Reserve Bank include the following:¹⁰¹

- depository institutions, as defined in section 19 (b)(1)(A) of the FRA (12 U.S.C. § 461(b)(1)(A));
- U.S. agencies and branches of foreign banks as defined in section 1(b) of the International Banking Act of 1978, as amended (12 U.S.C. § 3101(1) and (3));
- member banks of the Federal Reserve System pursuant to Regulation H issued by the Board (12 CFR Part 208);
- the Treasury and entities specifically authorized by federal statute to use the Reserve Banks as fiscal agents or depositories;¹⁰²
- entities designated by the Secretary of the Treasury in accordance with section 15 of the FRA (12 U.S.C. § 391);¹⁰³
- Edge or agreement corporations, as defined in section 25, paragraph 3 and section 25A of the FRA (12 U.S.C. § 601 (third), 611);¹⁰⁴

¹⁰¹ In addition to the entities enumerated, OC 7 states that participants also include “any other entity authorized by a Reserve Bank to use the Fedwire Securities Service.” The Reserve Banks have not authorized any entities under this provision.

¹⁰² See 12 U.S.C. § 391 (Treasury); 12 U.S.C. § 393 (Farm Credit System); 12 U.S.C. § 1435 (Federal Home Loan Banks); 12 U.S.C. § 1441 (Financing Corporation); 12 U.S.C. § 1441b (Resolution Funding Corporation); 12 U.S.C. § 1723a(g) (Government National Mortgage Association and Federal National Mortgage Association); 12 U.S.C. § 1452 (Federal Home Loan Mortgage Corporation); 12 U.S.C. § 2279aa-3(d) (Federal Agricultural Mortgage Corporation); 22 U.S.C. § 290i-5 (African Development Bank); 22 U.S.C. § 285d (Asian Development Bank); 22 U.S.C. § 283d (Inter-American Development Bank); 22 U.S.C. § 286d (Bank for Reconstruction and Development); and 22 U.S.C. § 282d (International Finance Corporation).

¹⁰³ The Treasury has used this authority to direct the Reserve Banks to open securities accounts for certain state treasurers.

¹⁰⁴ An Edge corporation is chartered by the Federal Reserve to engage in international banking. An agreement corporation is chartered by a state to engage in international banking but has entered into an agreement with the Board to limit its activities to those permitted for an Edge corporation.

- foreign central banks, foreign monetary authorities, foreign governments, and certain international organizations.

Certain key market participants, such as nonbank broker-dealers, are not eligible to maintain a securities account.¹⁰⁵

In order to send or receive securities against payment, a participant must also maintain a master account at the appropriate Reserve Bank. Additionally, participants with master accounts may be eligible for Reserve Bank credit. Any depository institution, Federal Reserve member bank, or otherwise eligible institution, including a U.S. branch or agency of a foreign bank, may maintain an account with a Reserve Bank; however, certain nonbank market participants such as nonbank broker-dealers are not eligible to maintain a master account.¹⁰⁶ Reserve Bank credit can be used to complete DVP transactions once all reserve and clearing balances have been extinguished. Eligibility for Reserve Bank credit is governed by Regulation A and the PSR policy.¹⁰⁷

2. Are the same rules applied regardless of the identity, type and location of the applicant? If not, what variations apply and why? Can differential restrictions on access to the system be justified in terms of the need to limit risks to the system operator or to other users?

The same eligibility rules apply to all applicants, but these rules limit the types and location of entities that can access to the Fedwire Securities Service.

With respect to types of entities, statutes and policies generally limit eligibility for a securities account, master account, and routine credit. The interaction of these statutes effectively precludes certain key market participants, such as nonbank broker-dealers, from directly accessing the Fedwire Securities Service. This type of distinction is consistent with a concept that is described in *The Role of Central Bank Money in Payment Systems*, which states:

Limits on access to banks can also reflect a conscious desire to maintain a balance of privileges and responsibilities between regulated and unregulated institutions. In such countries, access to central bank accounts is regarded as part of a “package” of privileges and burdens given to banks. The “privileges” – including access to accounts and to credit, and in some cases participation in deposit insurance schemes and the ability to

¹⁰⁵ Although not expressly provided by statute, the Treasury and the Reserve Banks could make broker-dealers eligible for a Fedwire Securities Service account as a fiscal agency service.

¹⁰⁶ To obtain an account, an applicant must execute an account agreement pursuant to OC 1, which outlines the terms and conditions for a master account.

¹⁰⁷ Regulation A broadly governs extensions of Reserve Bank credit and limits routine access to credit to depository institutions and U.S. branches and agencies of foreign banks that are subject to reserve requirements under the Board’s Regulation D. Regulation A also governs extensions of emergency credit to other entities. The PSR policy limits access to intraday credit to entities that have routine access to the discount window, in the event that overnight credit is needed to extinguish a daylight overdraft at the end of an operating day. This policy is designed to reduce and manage risk in the payments system, including risk to the Federal Reserve.

take part in monetary policy operations – are granted in part to give an incentive to institutions to undertake the “burdens” of banking regulation and supervision, including capital and reserve requirements.¹⁰⁸

Over the years, the Federal Reserve and the Treasury have studied the feasibility and appropriateness of allowing direct access to the Fedwire Securities Service to nonbank broker-dealers without granting them routine access to Reserve Bank credit. The analysis revealed that, without this routine access to credit, providing direct access to the Fedwire Securities Services is of nominal value to nonbank broker-dealers. Even if nonbank broker-dealers enjoyed routine access to Reserve Bank credit, direct access to the Fedwire Securities Service may offer nonbank broker-dealers less value than the wide range of services currently provided to them by the private-sector clearing banks.¹⁰⁹

In addition, current eligibility rules require applicants, other than official entities, to maintain a physical presence in the United States. Foreign banks without a U.S. banking presence are not permitted access to the Fedwire Securities Service because they are not subject to supervision by U.S. banking authorities or U.S. restrictions on their nonbanking activities. Granting direct access to a foreign bank under such circumstances would raise issues of risk to the Federal Reserve as well as consistency with the International Banking Act, which was intended to provide a level playing field in the United States between U.S. and foreign banking organizations. The extent to which these risks to the Federal Reserve can be mitigated is unclear. We believe, however, mitigating these risks would be costly and complex.

3. Under what conditions can participants terminate their membership? What arrangements does the system have in place to facilitate the exit of members who no longer meet the participation requirements? Are these arrangements publicly disclosed?

OC 1 section 2.8 details how a participant may terminate its master account with a Reserve Bank. A participant may terminate its master account by giving its Reserve Bank advance notice of not less than five business days. A Reserve Bank may terminate a master account agreement at any time by giving notice to the account holder, but generally will provide at least five business days advance notice.

Beyond the termination provision of OC 1, the PSR policy provides a mechanism for termination of service. As described in the PSR policy, Reserve Banks retain the right to limit their risk exposure, including exposures from intraday credit resulting from a securities transfer. If a participant presents undue risk to a Reserve Bank, a Reserve Bank may take the participant off line or prohibit it from using the Fedwire Securities Service. For additional information, see the answers to key questions for Recommendation 9.

¹⁰⁸ Committee on Payment and Settlement Systems, *The Role of Central Bank Money in Payment Systems*, Bank for International Settlements, August 2003. See www.bis.org/publ/cpss55.pdf.

¹⁰⁹ The clearing banks provide bundled service packages that include securities lending and triparty repo services.

Assessment

Recommendation 14 is partly observed.

Comments

In assigning an assessment rating, the *Assessment Methodology* lists three key issues to consider: (1) criteria should be objective, clearly stated, and publicly disclosed, (2) criteria that limit access on grounds other than risks to the CSD or CCP should be avoided, and (3) procedures facilitating the orderly exit of participants that no longer meet membership criteria should be clearly stated and publicly disclosed. The Fedwire Securities Service observes key issues 1 and 3.

As described in the answer to key question 2, the Federal Reserve prohibits direct access to the Fedwire Securities Service by nonbank broker-dealers. In the past, the Federal Reserve and the Treasury have considered providing nonbank broker-dealers direct access to the Fedwire Securities Service without routine access to Reserve Bank credit. During these reviews, it became clear that nonbank broker-dealers view the settlement process as a set of related services that include sophisticated account management and information, securities borrowing and lending, and substantial intraday and potentially overnight credit. The clearing banks offer these services to nonbank broker-dealers, while the Fedwire Securities Service does not. Absent the availability of such services, there has been no clear interest by nonbank broker-dealers in direct access to the Fedwire Securities Service. Based on the partial satisfaction of key question 2, in that the governing access rules employ some non-risk-related limiting criteria the Fedwire Securities Service partly observes Recommendation 14.

Recommendation 15: Efficiency

While maintaining safe and secure operations, securities settlement systems should be cost-effective in meeting the requirements of users.

Answers to Key Questions

1. Does the system operator have in place procedures to control costs (for example, by benchmarking its costs and charges against other systems that provide a similar service and to analyse the reasons for significant differences)? Does the system operator have in place procedures to regularly review its pricing levels against its costs of operation?

Cost Controls

The Federal Reserve has procedures in place to control the costs of the Fedwire Securities Service, such as the annual budget review and internal controls. The Board annually reviews and approves the Reserve Banks' budgets, which includes the cost of providing the Fedwire Securities Service. The Treasury-related costs for the service are also reviewed by the Treasury, as the Reserve Banks' fiscal principal. In addition, the Reserve Banks have internal controls to monitor and track costs.

The Reserve Banks assess fees to the users of the Fedwire Securities Service to cover the anticipated cost of providing the service over the long run. This cost recovery requirement imposes discipline on the Reserve Banks to control costs.

Pricing Procedures

Fees for the Fedwire Securities Service are reviewed annually by the Treasury and the Board. The Treasury sets fees associated with the transfer of Treasury securities. These fees reflect the cost to the Reserve Banks of providing the service. The Reserve Banks set fees, subject to the Board's approval, associated with non-Treasury securities services. Non-Treasury securities services are treated as a priced service, for which the Reserve Banks are expected to recover all direct and indirect costs of providing the service, as well as the imputed costs the Reserve Banks would have incurred and imputed profits they would have expected to earn if they were private-sector firms. Table 2 provides the basic fee schedule for the Fedwire Securities Service.¹¹⁰

¹¹⁰ Table 2 does not include the fees that participants incur for electronic access connections to the Fedwire Securities Service and other Reserve Bank services. For additional information on Reserve Bank fees, see www.frbservices.org/servicefees/index.html.

Table 2: Fedwire Securities Service fees <i>(effective July 1, 2009)</i>	
Description	Fee
Per-transfer fee for Treasury securities (origination fee and received fee)	\$ 0.35
Per-transfer fee for non-Treasury securities (origination fee and received fee)	\$ 0.35
Surcharge to originate or receive an off-line securities transfer (Treasury securities)	\$33.00
Surcharge to originate or receive an off-line securities transfer (non-Treasury securities)	\$60.00
Monthly account maintenance fees (for accounts holding non-Treasury securities):	
▪ Per securities account	\$36.00
▪ Per non-Treasury issue within each account	\$ 0.40

2. Does the system operator regularly review its service levels, including by regularly surveying its users? Does the system operator have in place procedures to regularly review operational reliability, including its capacity levels against projected demand?

The Reserve Banks, through the WPO, regularly review service levels and regularly seek to improve the efficiency and practicality of the Fedwire Securities Service.

Internal Stakeholders

The WPO works with a number of Federal Reserve groups to review service levels. The WPO reports regularly to the FSPC, which is the principal management body for Reserve Bank financial services. In addition, the WPO meets regularly with other groups that consist of members from Reserve Bank wholesale operation sites, the technical operations and testing staff responsible for monitoring the system, and liaisons from the Board, the Treasury, FRIT, the Federal Reserve's Customer Relations and Support Office, and Reserve Bank legal, audit, and systems development functions.

External Stakeholders

The Reserve Banks and the WPO periodically seek input on specific issues related to the Fedwire Securities Service from the Treasury and through industry workgroups and one-on-one interviews with external stakeholders. In addition, the WPO established a Fedwire Securities Customer Advisory Group in 2008 to provide a venue for open dialogue between the WPO and the most active Fedwire Securities Service participants.

Capacity Levels

The WPO and FRIT regularly review the transaction capacity of the Fedwire Securities Services to ensure adequate capacity and overall performance. The current transaction capacity of the

Fedwire Securities Service is more than two times the highest number of transactions processed in one day.¹¹¹

Assessment

Recommendation 15 is observed.

¹¹¹ In 2008, the highest daily volume of securities transfers processed was 482,443.

Recommendation 16: Communication Procedures and Standards

Securities settlement systems should use or accommodate the relevant international communication procedures and standards in order to facilitate efficient settlement of cross-border transactions.

Answers to Key Questions

1. Does the securities settlement system use international communication procedures or standards or is it able to easily convert domestic procedures and standards into the relevant international communication procedures and standards for cross-border securities transactions?

The Fedwire Securities Service uses a proprietary message format that can be translated to and from international message standards. Routing numbers, which are used for bank identification in the United States, can be converted to and from the global Bank Identification Code (BIC) standard through a simple lookup.¹¹² Similarly, CUSIP numbers, which are used to identify U.S. domestic fixed income securities and other securities, can be translated to and from International Securities Identification Numbers (ISINs). The WPO also participates in relevant securities industry standards groups, such as SWIFT user and steering groups, to maintain awareness about the development of future standards and changes to existing standards.

Assessment

Recommendation 16 is observed.

¹¹² Each depository institution or any other participant is assigned a routing number. The American Bankers Association governs the assignment, use, and retirement of routing numbers. Additional information is available at www.aba.com/Products/PS98_Routing.htm.

Recommendation 17: Transparency

CSDs and CCPs should provide market participants with sufficient information for them to identify and evaluate accurately the risks and costs associated with using the CSD or CCP services.

Answers to Key Questions

1. Does the CSD or CCP make clear disclosures to market participants about its rules, regulations, relevant laws, governance procedures, risks, steps taken to mitigate risks, the rights and obligations of participants and the cost of participating in the system?

The rules and procedures of the Fedwire Securities Service, including the operating circulars, are publicly available on the Federal Reserve's financial services and the Treasury's Bureau of Public Debt websites and define the rights and obligations of all involved parties.¹¹³ The rules and procedures provide participants with sufficient information to identify and evaluate the risks and costs associated with using the Fedwire Securities Service. The legal foundation and governance structure for the Fedwire Securities Service is publicly available and sound. For additional information, see the answers to key questions for Recommendation 1.

Key financial and operational risks associated with the Fedwire Securities Service are also publicly disclosed. Any financial risks, and the steps taken to mitigate such risks, are clearly identified and discussed in the answers to key questions for Recommendation 9 and the PSR policy. Operational risk related to security and contingency policies is outlined in the answers to key questions for Recommendation 11 and OC 7.¹¹⁴ In addition, intraday operational issues, such as extensions and connectivity problems, are broadcast through the Reserve Banks' communication network.¹¹⁵

Lastly, the participation costs for the Fedwire Securities Service are highlighted in table 2 in the answers to key questions for Recommendation 15 and are made public on the Federal Reserve's financial services website. Annual pricing announcements are also available on the Board's website.¹¹⁶

2. Has the system completed and disclosed the questionnaire set out in the CPSS/IOSCO disclosure framework or the answers to the key questions set out in this assessment methodology? Have the authorities responsible for regulation and oversight publicly

¹¹³ The Federal Reserve financial services website is at www.frbservices.org and the Treasury's Bureau of Public Debt website is at www.publicdebt.treas.gov.

¹¹⁴ The distribution of certain security policies and procedures, however, is limited to Fedwire Securities Service participants, with an expectation of non-disclosure.

¹¹⁵ For additional information on the Fedwire Securities Service operational status, see www.frbservices.org/Status/app/serviceStatus.jsp.

¹¹⁶ See www.federalreserve.gov/newsevents/press/other/20081030a.htm.

disclosed their answers to the key questions regarding implementation of the recommendations?

This assessment provides the answers to the key questions set out in the *Assessment Methodology* regarding the implementation of the *Recommendations*. The PSR policy describes the Board's expectation that systemically important systems demonstrate the extent to which they meet the applicable principles or minimum standards by completing self-assessments and publicly disclosing the results of their analyses.¹¹⁷

3. How is this information made available? In what language or languages? In what form?

This information is available electronically, in English, at www.federalreserve.gov.

4. What steps are taken by the CSD or CCP to ensure that the disclosures are complete and accurate? Are there regular reviews to ensure they remain current?

The Federal Reserve will review and update this assessment every two years at a minimum.

Assessment

Recommendation 17 is observed.

¹¹⁷ Part I of the PSR policy is available at www.federalreserve.gov/paymentsystems/psr/policy07.pdf.

Recommendation 18: Regulation and Oversight

Securities settlement systems should be subject to transparent and effective regulation and oversight. Central banks and securities regulators should cooperate with each other and with other relevant authorities.

Answers to Key Questions

1. How is the system regulated/overseen? Describe the laws that authorize and govern the system's operation, the applicable regulatory bodies and their respective authority concerning the system's operation.

Oversight of the Fedwire-eligible Securities Market

As mentioned in section 1.3 of the Introduction, a number of federal government entities, including the Board, the SEC, and the Treasury, regulate and oversee various components of the Fedwire-eligible securities market. The Board has general supervision of the Reserve Banks, which own and operate the Fedwire Securities Service.¹¹⁸ The SEC is responsible for regulating clearing agencies, including FICC, and the activities of certain market participants, including broker-dealers.¹¹⁹ The Treasury, as the issuer of Treasury securities, has the authority to promulgate regulations governing Treasury bonds, notes, and bills. As fiscal principal, the Treasury also has general oversight of those aspects of the Fedwire Securities Service that are performed as fiscal agent of the Treasury. In addition, the two clearing banks are supervised by the appropriate banking supervisor.

Oversight of the Fedwire Securities Service

The Fedwire Securities Service is subject to effective regulation and oversight. The Reserve Banks are supervised by the Board. The Fedwire Securities Service and other related fiscal agent activities provided to the Treasury are also subject to oversight by the Treasury and the GAO.

The Board is responsible for general supervision of the Reserve Banks.¹²⁰ Section 21 of the FRA requires that the Board order an annual examination of each Reserve Bank.¹²¹ The Board's Division of Reserve Bank Operations and Payment Systems devotes significant resources to providing general supervision of Reserve Bank operations in order to render an independent assessment of internal controls, compliance with policies and procedures, and efficiency and effectiveness of operations. The Board also uses the services of a major public accounting firm to perform an annual audit of the financial statements of each Reserve Bank as well as the combined financial statements of the Reserve Banks. The audited financial statements are published in the Board's *Annual Report*.

¹¹⁸ See 12 U.S.C. § 248(j).

¹¹⁹ See 15 U.S.C. § 78o.

¹²⁰ See 12 U.S.C. § 248(j).

¹²¹ See 12 U.S.C. § 485.

In addition, the Fedwire Securities Service is subject to oversight by the Treasury and the GAO. The Treasury and the GAO have the right to examine and audit certain fiscal agent activities, such as the provision of the Fedwire Securities Service. The Treasury's Bureau of the Public Debt and Inspector General have the right to examine the Fedwire Securities Service at their discretion. The GAO can review certain Reserve Bank activities at the direction of the Congress. A list of audits performed or under way by the GAO is available in the Board's *Annual Report*.¹²²

2. Are the responsibilities of the securities regulator, central bank and, where relevant, banking supervisor clearly defined with respect to securities settlement systems? Are their roles and major policies disclosed publicly? Are they written in plain language so that they can be fully understood by designers, operators and participants of securities settlement systems, and other relevant parties?

The responsibilities of the Board, the SEC, and the Treasury, as they relate to the regulation and oversight of the Fedwire-eligible securities market, are clearly defined by law and available to the public. In addition, the Board maintains policies, such as the PSR policy, that outline the types of oversight activities relevant parties employ to ensure the effectiveness and efficiency of the Fedwire-eligible securities market. These policies are also clearly defined and available to the public.

3. What is the regulatory and oversight framework based on? Is it a statute-based approach where specific tasks, responsibilities and powers are assigned to specific public authorities? Or a non-statute-based approach? Do the securities regulator and the central bank have experienced staff, proper resources and funding to carry out regulatory and oversight functions effectively?

The regulatory and oversight framework for the Fedwire-eligible securities market is primarily based on the FRA and the Securities Exchange Act. Key aspects of the framework are also set out in Board and SEC rules and policies. The regulatory and oversight framework for the Fedwire Securities Service is based on the FRA and Board policies. The regulation of FICC is based on the Securities Exchange Act and SEC rules and policies. In addition, the Treasury has regulatory authority over Treasury securities and general oversight of the Fedwire Securities Service. The Federal Reserve and either the OCC or the New York State Banking Department have supervisory authority for the two clearing banks. The Board has experienced staff, proper resources, and funding to carry out its regulatory and oversight functions effectively.

4. Is there a framework for cooperation between the securities regulator and the central bank, such as for the exchange of information and views on securities settlement systems? Is there such a framework for cooperation with relevant authorities both within and outside the country?

¹²² The *Annual Report* is available at www.federalreserve.gov/boarddocs/rptcongress.

The Board's framework for cooperation with other regulators is outlined in the PSR policy. In working with other financial system authorities, the Board is guided, as appropriate, by Responsibility D of the *CPSIPS*, Recommendation 18 of the *Recommendations*, Recommendation 15 of the *Recommendations for CCP*, the Principles for Cooperative Central Bank Oversight of Cross-border and Multi-currency Netting and Settlement Systems (Part D) of the *Report of the Committee on Interbank Netting Schemes of the Central Banks of the Group of Ten Countries* (Lamfalussy Report), and the Principles for International Cooperative Oversight (Part B) of the *Central Bank Oversight of Payment and Settlement Systems*.¹²³

Assessment

Recommendation 18 is observed.

¹²³ Committee on Payment and Settlement Systems and the Technical Committee of the International Organization of Securities Commissions, *Recommendations for Central Counterparties*, Bank for International Settlements, November 2004. See www.bis.org/publ/cpss64.htm.

Committee on Interbank Netting Schemes, *Report of the Committee on Interbank Netting Schemes of the Central Banks of the Group of Ten Countries* (Lamfalussy Report), Bank for International Settlements, November 1990. See www.bis.org/publ/cpss04.htm.

Committee on Payment and Settlement Systems, *Central Bank Oversight of Payment and Settlement Systems*, Bank for International Settlements, May 2005. See www.bis.org/publ/cpss68.htm.

Recommendation 19: Risks in Cross-border Links

CSDs that establish links to settle cross-border trades should design and operate such links to reduce effectively the risks associated with cross-border settlements.

Assessment

Recommendation 19 is not applicable to the Fedwire Securities Service.

Comments

The Fedwire Securities Service does not have direct, indirect, or relayed links to other CSDs or ICSDs to settle cross-border trades.¹²⁴ Settlement of any cross-border activity may occur through Fedwire Securities Service participants who provide global custodian services to their customers. Other CSDs or ICSDs may have indirect links to the Fedwire Securities Service through Fedwire Securities Service participants that act as their custodian bank.

¹²⁴ The *Assessment Methodology* contains a detailed description of direct, indirect, and relayed links. See www.bis.org/publ/cpss51.htm.

August 13, 2009

National Securities Clearing Corporation
Assessment of Compliance with the
CPSS/IOSCO Recommendations for Central Counterparties

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I. INTRODUCTION

The Committee on Payment and Settlement Systems and the Technical Committee of the International Organization of Securities Commissions (collectively, the “CPSS-IOSCO”) recognize that financial systems and their participants depend on safe and efficient payment and settlement systems. These international organizations have noted that central counterparties (“CCPs”) occupy an important place in securities settlement systems: A CCP interposes itself between counterparties to financial transactions, and a well-designed CCP with appropriate risk management arrangements reduces the risk faced by participants in securities settlement systems and over-the-counter markets, contributing to the goal of financial stability. The CPSS-IOSCO have noted that although a CCP has the potential to reduce risks to market participants significantly, it also concentrates risks and responsibilities for risk management. Therefore, it is important that a CCP have effective risk controls and adequate financial resources.

In November 2004, the CPSS-IOSCO issued their report on Recommendations for Central Counterparties. The report contains 15 headline recommendations covering the major types of risks faced by CCPs (the “CCP Recommendations”). In 2007, the Board of Governors of the Federal Reserve System adopted revisions to its Policy on Payment System Risk that establish an expectation that systemically important systems that are CCPs publicly disclose self-assessments against the CPSS-IOSCO Recommendations.

National Securities Clearing Corporation (“NSCC”) is a systemically important system for clearing and settling virtually all broker-to-broker equity and corporate and municipal debt securities transactions in the United States. On an average trading day, NSCC receives trade data from over 50 trading venues (including all U.S. securities exchanges and from automated trading systems) and from participants submitting transaction data directly, and it clears over 40 million securities transactions.¹ Therefore, NSCC has assessed itself against the CCP Recommendations. Overall, NSCC either fully or broadly observes each of the CCP Recommendations as more fully described herein.

The United States Congress requires clearing agencies, such as NSCC, to be registered with the U.S. Securities and Exchange Commission (the “SEC”) and subject to the SEC’s comprehensive oversight. The standards that NSCC is required to adhere to as a registered clearing agency mirror a number of the CCP Recommendations. Specifically, NSCC’s corporate governance structure is designed to fulfill the public interest requirements of the Securities Exchange Act of 1934 as amended (“Exchange Act”) and provides for fair representation of its participants. NSCC has a well-founded and transparent legal framework that is based upon the laws and regulations governing the settlement of securities transactions and the conduct of registered clearing agencies in the United States. NSCC’s rules (the “Rules”) are clear and enable its members to understand the financial risks associated with participation. NSCC measures and

¹ Based upon 2008 transaction data. With respect to fixed income securities (corporate and municipal bonds), virtually all transactions are effected in the over-the-counter markets and submitted to NSCC directly by Members on a bilateral basis. Average daily fixed income transaction volume is less than 1% of NSCC’s daily volume.

manages credit and market risk exposure through its assessment of daily Clearing Fund (margin) requirements on its Members, ongoing monitoring of their financial condition and by taking other actions permitted under its rules. Finally, NSCC provides its members with safe and secure operations, while maintaining cost-effectiveness.

Background

NSCC was established in 1976 as a New York business corporation. Since 1999, it has been a wholly-owned subsidiary of The Depository Trust & Clearing Corporation. NSCC is registered with the SEC as a clearing agency.

Core Services

Trade Capture

NSCC's core services are trade capture, and clearance and settlement through its Continuous Net Settlement ("CNS") System. Trade capture, the first step in the clearance and settlement process, involves the daily receipt of trade data from over 50 trading venues, including securities exchanges and automated trading facilities and from NSCC Members² submitting transaction data directly. That data is then compared or recorded. Trade comparison consists of validating and matching the buy and sell sides of a securities transaction, and results in a compared trade that is reported to members. As straight through processing measures have been adopted by the marketplaces, today over 99% of trade data is submitted to NSCC on a "locked-in" basis, meaning that it is already compared by the marketplace of execution. When submitted, locked-in trades are validated, recorded and reported to Members. The only trade comparison currently being done by NSCC is for some over-the-counter equity transactions and for fixed income (corporate and municipal) securities processing.

CNS

Compared and recorded transactions in CNS-eligible securities are processed in the CNS system. To be CNS-eligible, a security must be eligible for book-entry transfer on the books of DTC and must be capable of being processed in the CNS system; for example, securities may be ineligible for CNS processing due to certain transfer restrictions (e.g., 144A securities) or due to the pendency of certain corporate actions.³ Under the CNS system, all eligible compared and recorded transactions for a particular settlement date are netted by issue into one net long (buy) or net short (sell) position. As a continuous net system, those positions are further netted with positions of the same issue that remain

² Note: NSCC has several types of membership with different access levels to services. For ease of description when summarizing various services and NSCC Rules in this Assessment, the term "Member" is used throughout as denoting a full-service participant who has access to NSCC's CCP services.

³ Securities and/or transactions that are not processed in the CNS system may be processed as Balance Orders (described below), or on a trade-for-trade basis, depending on the security, the transaction and the nature of the participants party to the transaction. For example, 144A securities settle on a trade-for-trade basis. Similarly, same day settling equity trades that are received by NSCC after the applicable cutoff time would settle on a trade-for-trade basis. NSCC does not guarantee trade-for-trade settlement.

open after their originally scheduled settlement date (usually T+3), so that trades scheduled to settle on any day are netted with fail positions to result in a single deliver or receive obligation for each Member for each issue in which it has activity. NSCC becomes the contra-party for settlement purposes, assuming the obligation of its Members that are receiving securities to receive and pay for those securities, and the obligation of Members that are delivering securities to make the delivery. CNS netting thus reduces the costs associated with securities transfers by reducing the number of securities movements required to settle transactions. In 2008, NSCC reduced the total value of obligations requiring financial settlement by 99%--from \$315.1 trillion to \$2.89 trillion.

CNS relies on an interface with The Depository Trust Company (“DTC”) for the book-entry movement of securities to settle transactions. CNS short positions are compared against Members’ DTC accounts to determine availability of securities for delivery. If securities are available, they are transferred from the Member’s account at DTC to NSCC’s account at DTC to cover the Member’s short obligations to CNS. To control the automatic delivery of securities from their DTC accounts (for example, to prevent the automatic delivery of customer fully-paid securities), Members can use CNS exemption procedures. Partial settlements are permissible.

The allocation of CNS long positions to receiving Members is processed in an order determined by an algorithm built into the system. Securities are automatically allocated to Members’ long positions as the securities are received by NSCC. Members can request that they receive priority for some or all issues on a standing or override basis. Submission of buy-in notices and other specified activity will also affect the priority of a Member’s long position.

Daily money settlement for CNS activity is based on the value of all settled positions plus or minus mark-to-the-market amounts for all open CNS positions, and occurs through NSCC. The CNS deliveries made through DTC are made free of payment.

When DTC and NSCC moved to same day funds settlement in 1996, certain cross-guarantees and arrangements between NSCC and DTC were established to permit transactions to flow smoothly between DTC’s system and the CNS system in a collateralized environment. Under this arrangement, DTC provides a guarantee to NSCC of all CNS long allocations (deliveries from CNS), and NSCC provides a guarantee to DTC for all CNS short covers (*i.e.*, deliveries from the broker to CNS to satisfy a CNS delivery obligation) These guarantees ensure, among other things, that debits created in DTC’s system continue to be collateralized when the securities serving as collateral are delivered into the CNS system as short covers and reduce risk at NSCC by ensuring that long allocations, or the approximate value of long allocations, will be made available to NSCC to cover certain exposures. (These arrangements are described in more detail under Key Question 1 of Recommendation 6 below.)

Balance Order Processing

For securities that are ineligible for processing in CNS, NSCC provides a Balance Order Accounting system that produces netted and allotted receive and deliver instructions for NSCC members. NSCC does not become a counterparty to balance order transactions, but does provide a trade guaranty to the receive and deliver parties which remains effective through the close of business on the scheduled settlement date. The settlement of balance order transactions generally occurs outside of NSCC. As a result, NSCC's guaranty is effectuated as follows: In the event of the insolvency of a Member, Members are required to close-out the open guaranteed Balance Order transactions they had with the insolvent party and report gains or losses to NSCC. Any gains must be paid to NSCC, and NSCC will cover the losses on such closed-out transactions.

Money Settlement

Participants are obligated to designate a settling bank to effectuate daily money settlement on their behalf and may designate a bank of their own choosing, provided the bank meets certain financial criteria, is a Federal Reserve member, and agrees to settle through use of the Federal Reserve's National Settlement Service ("NSS"). Money settlement at NSCC occurs at the end of the day and, from an operational perspective, is centralized with DTC's end-of-day money settlement so as to provide common participants with consolidated reporting and a single point of access for all settlement information.

Throughout the day, debit and credit data generated by participant activities are recorded in the settlement system. At the end of the processing day, the data is summarized by NSCC product category (e.g., CNS, mutual funds, envelope services) and netted to produce an aggregate debit or credit for each participant. Similarly, DTC activity is also recorded and netted, separately. Following the determination of final net numbers for each participant for each clearing agency, these amounts are further netted to produce a consolidated net settlement obligation. (So, for example, a participant with a settlement debit at NSCC will have that debit netted against its settlement credit at DTC.)

Settling banks, who may settle on behalf of multiple NSCC members and/or DTC participants, must separately acknowledge the respective settlement balances of their customer participants at each clearing agency. The consolidated net balances of their respective participant customers are then further netted to produce a single net-net settling bank consolidated debit or credit. Settlement of these net-net balances occurs through use of the NSS, whereby DTC, on its own behalf and as NSCC's settlement agent, submits instructions to have the Federal Reserve accounts of the settling banks charged for their net-net debit balances and credited with their net-net credit balances.

Additional Services

In addition to the core services described above, NSCC offers a number of other services, developed over the years in response to industry requests and initiatives. These include:

Automated Customer Account Transfer Service (“ACATS”). ACATS provides NSCC Members with the ability to transfer customer accounts and assets from one firm to another. To accomplish this in an automated fashion, the service interfaces with CNS for the delivery and settlement of CNS-eligible securities, with Fund/SERV to expedite the re-registration of mutual fund positions, and with Insurance Services to facilitate the re-registration of annuity positions.

Wealth Management and Insurance Services

NSCC also provides a family of non-guaranteed services to support mutual funds, the growing interest in alternative investment products and the insurance industry. Mutual Fund Services is the industry standard for processing fund transactions, communicating account-related information, and linking fund companies with their network of distribution firms. Fund/SERV® automates purchases, registrations, redemptions and settlement of fund transactions. Other capabilities include coordinating account information between funds and firms; processing defined contribution transactions; settling commission payments; transferring accounts between firms, and assets in IRAs between fund companies; and, through the Mutual Fund Profile Service, providing a centralized repository for information contained in a fund’s prospectus.

Alternative investment products are primarily private vehicles that are purchased and redeemed periodically rather than being valued and processed on a daily basis. NSCC’s services with respect to these products include the automated processing of new accounts, purchases and redemptions, tender offers and commission payments.

NSCC’s Insurance Services include processing of annuity applications and premiums, licensing and appointments, commission payments, reporting of positions and valuations, asset pricing, financial activity reporting and annuity customer account transfers. The aim of these services is to automate and provide seamless end-to-end communication between insurance carriers, distributors and their solution providers for the sale, processing and money settlement of insurance products nationwide.

Envelope Services

Envelope Settlement Service (“ESS”) standardizes and controls Member-to-Member physical delivery of securities in the New York metropolitan area. Inter-city Envelope Settlement Service (“IESS”) standardizes and controls the physical delivery of securities among Members between N.Y. and Toronto.

Risk Management

Risk management is the foundation for NSCC’s ability to guarantee settlement, as well as the means by which it protects itself and its Members from the risks inherent in the settlement process. Procedures are in place to ensure that Members comply with NSCC’s rules. NSCC maintains strict membership standards, including minimum financial requirements, and Members are subject to ongoing review following admission. NSCC’s

Clearing Fund (which is its default fund) addresses potential exposure through a number of risk-based component charges calculated daily. In addition, NSCC maintains a committed liquidity facility. The Clearing Fund, together with NSCC's liquidity facility, ensures that NSCC has sufficient liquidity to complete end-of day money settlement. The Clearing Fund also provides the collateralization required to cover a Member's exposure. The Clearing Fund consists of deposits posted by Members in the form of cash and eligible securities.

NSCC's rules also contain procedures for closing out the open positions of a defaulting Member and satisfying any resulting losses. If a Member becomes insolvent, NSCC first uses the defaulting Member's deposit to the Clearing Fund (and any funds available from any applicable collateral sharing arrangements with other clearing agencies) to cover any losses resulting from liquidation of the defaulting Member's open obligations. If those funds are insufficient to cover the liquidation of all such positions, NSCC would next look to apply at least 25% of its retained earnings to cover the loss and, if that remained insufficient, it would satisfy the deficiency through a loss allocation to non-defaulting participants (referred to in this Assessment as a "participant loss allocation") - that is, by using the Clearing Fund and assessing participants in accordance with its Rules to make up the remaining deficiency. The Rules permit participants to cap their loss assessment liability by withdrawing from membership within certain time frames. To date, including through the recent well-publicized broker-dealer closeouts, NSCC has never invoked its participant loss allocation procedures.

II. ASSESSMENT OF OBSERVANCE

EXECUTIVE SUMMARY

Overall, NSCC complies with the CCP Recommendations. NSCC either fully or broadly observes all fifteen Recommendations.

Legal Risk

U.S. law provides an enforceable legal framework for NSCC's activities (Recommendation 1).

Credit Risk

NSCC establishes strict requirements for Members' financial resources and creditworthiness. These requirements are clearly set forth in NSCC's rules and NSCC monitors that these requirements are met on an on-going basis (Recommendation 2).

NSCC relies on margin requirements to limit its credit exposures to Members (Recommendation 4). NSCC measures Member exposure daily and requires settlement of deficiencies by 10:00 am (Recommendation 3).

Member Default Risk

NSCC's default procedures are clearly stated and ensure that NSCC can take timely action to contain losses and liquidity pressures and to continue meeting its obligations in the event of a Member default (Recommendation 6). NSCC limits its exposure to potential losses from defaults by its Members by establishing membership standards and performing continuous monitoring of Members to those standards and requiring Clearing Fund contributions. In addition, NSCC has entered into cross-guaranty arrangements which are designed to provide a mechanism for the sharing of excess collateral of a common defaulting Member held at one clearing organization to cover losses incurred at another clearing organization. Moreover, under its rules, NSCC may seek such assurances of financial responsibility and operational capability from a Member as it deems necessary or advisable to protect itself and its Members (Recommendation 3).

Custody and Investment Risks

NSCC's Clearing Fund cash is held in a bank account in NSCC'S name and, on an intraday basis, a portion may be held in a DTC subaccount (designated internally for NSCC use) at the New York Federal Reserve account of DTC. Any such banks are subject to a strict regulatory framework. In terms of investment risk, NSCC invests its cash generally in overnight tri-party reverse repurchase agreements in debt obligations of the U.S. Government or of U.S. Government Agencies guaranteed by the U.S. Government. NSCC counterparties are subject to both minimum credit and concentration requirements (Recommendation 7).

Operational Risk

NSCC maintains a high degree of security and operational reliability. NSCC has several ways in which it identifies and manages its operational risk. Moreover, NSCC has a formal business continuity plan in place that meets the standards set forth in the "Interagency Paper on Sound Practices to Strengthen the Resiliency of the U.S. Financial System" (Recommendation 8).

Settlement Risk

NSCC uses the central bank model with a tiered settlement arrangement for its money settlement process. Money settlement occurs via the Federal Reserve's National Settlement Service ("NSS") and funds transfers are final when effected on the NSS. Margin payments are currently paid by wire transfer via the Federal Reserve Fedwire System. Fedwire payments are final when made. NSCC confirms that fund transfers have been effected each business day (Recommendation 9).

With respect to securities settlement, NSCC's rules clearly set forth its obligations with respect to securities settlement. NSCC uses a modified delivery versus payment mechanism in that when a participant delivers securities to NSCC the participant receives a credit and when NSCC delivers securities to the long participant, securities deliveries/movements are not final until the "effective time"⁴ (Recommendation 10).

Financial Resources

NSCC maintains sufficient financial resources to withstand, at a minimum, a default by the participant to which it has the largest exposure. At the present time, however, NSCC performs stress testing quarterly (Recommendation 5).

The sufficiency of NSCC's liquidity resources to cover the failure of the largest "affiliated" family (including its committed liquidity facility) is evaluated and reported

⁴ Pursuant to NSCC Rule 12, the "effective time" generally occurs when it is clear that NSCC has either been paid, or is in a credit position with respect to a participant or its settling bank.

on.⁵ Recent studies show NSCC has sufficient liquidity to cover the failure of the largest affiliated family 99.98% of the time. Additional options are being pursued to address occasional spikes in liquidity needs, including entering into repurchase transactions using the underlying securities of the transactions of the defaulting firms being closed out.

Transparency

NSCC provides participants with information for them to identify and evaluate the risks and costs associated with using its services. At the present time, however, NSCC does not provide stress testing results to its Members (Recommendation 14).

Other Issues

Several other issues do not fit neatly into the aforementioned risk categories, including links with other CCPs and the governance structure. Risk is managed prudently on an on-going basis (Recommendation 11). NSCC maintains safe, secure and cost-effective operations by regularly reviewing service levels and improving the efficiency of its services (Recommendation 12). NSCC's governance arrangements are designed to fulfill public interest requirements and promote the objectives of its participants (Recommendation 13). NSCC is subject to transparent and effective regulation and oversight by the SEC, and (as a systematically important settlement system and due to its relationship with DTC) the Federal Reserve. These two regulators have a cooperative relationship aimed at assuring effective regulation over NSCC (Recommendation 15).

⁵ An "affiliated family" means collectively, each Member that controls or is controlled by another Member and each Member that is under the common control of any organization, entity or individual. "Control" for these purposes means the direct or indirect ownership of more than 50 percent of the voting securities or other voting interests of any organization, entity or person.

Table 1: summary of assessment results by category

Assessment category	Recommendations
Observed	1, 2, 3, 4, 6, 7, 8, 9, 10, 11, 12, 13, 15
Broadly Observed	5, 14
Partly Observed	
Non-observed	
Not applicable	

Recommendation 1: Legal risk: A CCP should have a well-founded, transparent and enforceable legal framework for each aspect of its activities in all relevant jurisdictions.

Answers to key questions

1. Are the laws and regulations governing the operation of a CCP and the rules, procedures, and contractual provisions for its participants, clearly stated, internally coherent, and readily accessible to participants and the public?

The laws and regulations governing the operations of NSCC and the Rules, procedures and contractual provisions for NSCC’s participants are clearly stated, internally coherent and readily accessible to participants and the public.

NSCC is a registered clearing agency with the SEC pursuant to the provisions of Section 17A of the Exchange Act and must adhere to all requirements applicable to registered clearing agencies that are contained in the Exchange Act and in the SEC regulations and rules that have been promulgated thereunder. NSCC is also a “clearing corporation” within the meaning of Article 8 of the New York Uniform Commercial Code. These laws, regulations and rules are readily accessible to participants and the general public via the Internet and through other public sources.

NSCC has been in business since 1976, and its Rules & Procedures (collectively the “Rules”) have been available to its participants since that time.

All NSCC participants are required to execute membership agreements under which they agree to be bound by NSCC’s Rules. NSCC’s Rules are public, and can readily be found on the website at NSCC’s parent company, The Depository Trust & Clearing Corporation (“DTCC”)⁶ at www.dtcc.com. In addition, all changes to NSCC’s Rules are filed with and reviewed by the SEC, and proposed rule changes are subject to public comment. NSCC’s rule filings and SEC approvals thereof are posted on the DTCC website as well as the SEC’s website, www.sec.gov.

2. Does the legal framework demonstrate a high degree of assurance that there is a clear and effective legal basis for:

(a) The CCP to act as counterparty, including the legal basis for novation or open offer.

The legal framework demonstrates a high degree of certainty that there is a clear and effective basis for NSCC to act as a CCP. The legal framework includes statutory provisions and clearing agency rules.

The New York law of contracts and provisions of the Uniform Commercial Code (the “UCC”) (*see e.g.*, NYUCC §8-111) support the enforceability of NSCC acting as a central CCP. Of particular note is Section 8-111 of the New York UCC which provides:

⁶ NSCC is a wholly owned subsidiary of DTCC.

“A rule adopted by a clearing corporation governing the rights and obligations among the clearing corporation and its participants in the clearing corporation is effective even if the rule conflicts with this article [8] and affects another party who does not consent to the rule.” In addition, each membership applicant is required to provide an opinion of counsel that provides that the membership agreement and the Rules (including those relating to NSCC’s role as a CCP) are enforceable against it.

(b) The timing of assumption of liability as CCP.

Yes. The timing of such assumption is clearly set forth in NSCC’s Rules which, generally, provide that CNS and Balance Order transactions are guaranteed as of the later of midnight of T+1 and midnight of the day the transaction is reported to Members as compared or recorded. For Balance Order transactions, this guaranty remains effective through the close of business on the scheduled settlement date. NSCC is currently in the process of seeking regulatory approval to move the trade guaranty forward to the point of trade validation (for locked-in trades) and comparison (for trades compared through NSCC). The New York law of contracts and provisions of the UCC (*See, e.g.*, NYUCC §8-111) discussed immediately above support the enforceability of the timing of assumption of liability as CCP by NSCC.

(c) Netting arrangements.

As a general matter, U.S. law supports netting arrangements relating to securities transactions. In particular, the U.S. Federal Deposit Insurance Corporation Improvement Act of 1991, as amended (“FDICIA”) supports “netting contracts” providing for the netting of payment obligations and payment entitlements between and among members of clearing organizations. Under FDICIA, netting under a netting contract is not prevented or subject to being unwound by the receiver or trustee in a subsequent insolvency proceeding. The netting provisions of FDICIA were designed to reduce systemic risk to the financial markets. In addition, New York law recognizes the validity of contractual netting arrangements generally (including transaction novation, payment and closeout netting).

In addition, recent amendments to both FDICIA and the U.S. Bankruptcy Code (the “Code”) contained in the Bankruptcy Abuse Prevention and Consumer Protection Act of 2005 (the “2005 Amendments”) include provisions that validate master netting agreements in respect of securities, commodities, forward, swap and repurchase transactions, and provide that the closeout and netting of transactions arising under such agreements may not be stayed or avoided in any bankruptcy proceeding brought under the Code, the Federal Deposit Insurance Act (“FDIA”), or the Securities Investor Protection Act (“SIPA”) (subject in the case of SIPA, to certain exceptions not relevant for clearing organizations).

(d) The CCP's interest in collateral (including margin) that a participant pledges or transfers to the CCP and prevents the defeat of such interest by the participant or a third party.

Legal comfort for the validity of NSCC's membership agreements and its Rules, including the validity of NSCC's lien and collateral protections, is found principally in the UCC (Articles 8 and 9) and general New York contract law. Additionally, the cross-guaranty arrangements are structured as "netting contracts" under FDICIA. Although relevant insolvency laws can limit a secured party's rights to access and liquidate its collateral, the FDICIA provision referred to above, the Code, FDIA, and SIPA contain specific provisions to protect clearing agency closeouts (including access to and retention of collateral).

To date NSCC has never been subject to any stay or disallowance of any of its collateral rights in any closeout of a Member.

(e) Default procedures.

NSCC's Rules provide that if a Member fails to meet its settlement obligations to NSCC, and NSCC ceases to act on behalf of the Member, that Member's positions would be closed out. As noted above, clearing agency closeout provisions are specifically permitted under both FDICIA and the Code.

(f) Finality of transfers of funds and financial instruments.

Yes. NSCC's Rules provide that if securities of a Member are delivered to NSCC in the CNS system, the Member will be paid. Pursuant to NSCC Rule 12 (Settlement), securities deliveries/movements to participants are final at the "effective time". Generally, the "effective time" occurs when it is clear that NSCC has either been paid, or is in a credit position with respect to a participant or its settling bank.

Funds transfers become final at the time of the funds' movements, per Federal Reserve requirements regarding NSS and Fedwire.

(g) Other significant aspects of the CCP's operations, risk management procedures and related rules.

See responses above.

3. Are the rules, procedures, and contracts of the CCP enforceable when a CCP participant defaults or becomes insolvent? Is there a high degree of assurance that actions taken under such rules and procedures may not later be stayed, avoided or reversed?

The enforceability of NSCC's Rules on operations, risk management and other related aspects are supported by the legal framework, in particular the relevant provisions of the Exchange Act (and the rules and regulations promulgated thereunder), the process by which the SEC reviews and approves the Rules and changes thereto, the UCC and general New York contract law. NSCC's netting and collateral Rules and procedures are enforceable under the FDICIA netting statute, the UCC and general New York contract law.

4. Is there a significant level of cross-border participation in the CCP? Has the CCP determined whether there are other jurisdictions relevant for determining the adequacy of the legal framework? Has the legal framework been evaluated for the other relevant jurisdictions? Do laws and rules support the design of any cross-border arrangement and provide adequate protection to both CCPs in the operation of the arrangement? Are there conflicts of laws issues and, if so, have they been addressed? Have cross-border collateral arrangements been evaluated?

The only meaningful cross-border activity at the present time involves NSCC's link with CDS Clearing and Depository Services Inc., the Canadian CSD and CCP, which is a full service Member of NSCC. All other full service Members are U.S.-regulated entities.

Historically, NSCC has reviewed conflicts of law issues for non-domestic applicants to evaluate the impact of foreign laws. This has been determined through opinions of counsel required of applicants, in which conflict of laws issues are addressed. However, we believe that the 2005 Amendments (discussed above) render consideration of foreign legal regimes less relevant because the new Chapter XV and other relevant amendments of the Code (part of the 2005 Amendments) make clear that should a foreign receiver on behalf of a defaulting foreign member seek recognition in the U.S. Bankruptcy Courts, the same protections available to NSCC under the Code with respect to a domestic participant should also be available to it in any domestic proceeding brought on behalf of a foreign participant.

ASSESSMENT: NSCC observes Recommendation 1.

Recommendation 2: Participation requirements: A CCP should require participants to have sufficient financial resources and robust operational capacity to meet obligations arising from participation in the CCP. A CCP should have procedures in place to monitor that participation requirements are met on an ongoing basis. A CCP’s participation requirements should be objective, publicly disclosed, and permit fair and open access.

Answers to Key questions

1. (a) Does the CCP establish requirements for participants' financial resources and creditworthiness? How? What factors are considered (for example, size, clearing for indirect participants, products cleared)?

NSCC establishes requirements for participants’ financial resources and creditworthiness. These membership requirements are clearly set forth in NSCC’s Rules. Generally, financial requirements are based upon entity type (*e.g.* broker/dealer, bank/trust company, etc.), the types of services that the entity will use (that is, whether the participant will utilize CNS, or will it limit its use of services to other (non-guaranteed) services) and whether the entity intends to clear transactions for others.

Currently, among other requirements, full-service Members must have excess net capital over the minimum net capital requirement imposed by the SEC or such higher minimum capital requirement imposed by the broker/dealer’s designated examining authority in the amount of (i) \$500,000, or (ii) \$100,000, if such applicant is a Municipal Securities Brokers’ Broker (as defined in Rule 15c3-1(a)(8) of the Exchange Act) or (iii) \$1,000,000 if such applicant clears for other broker/dealers.

In addition, NSCC’s rules (*see* Rule 4 (Clearing Fund)) provide that all Members are required to make a deposit to the Clearing Fund, with the amount of each participant’s required deposit being fixed by the Corporation in accordance with one or more formulas.

Complete membership requirements (including the requirements for other types of entities and participants) are set forth in NSCC’s Rules.

(b) Does the CCP assess participants’ operational capability? How? What factors are considered (for example, arrangements to meet payment obligations, risk management policies, staffing, internal audit of risk controls and IT systems)?

NSCC assesses participants’ operational capability. All applicants for membership must provide NSCC with certain financial and operational information. This information is reviewed by DTCC Risk Management⁷ to ensure that the applicant 1) has sufficient financial ability to make anticipated contributions to the Clearing Fund and to

⁷ The Depository Trust & Clearing Corporation (“DTCC”) is the parent company of NSCC and provides Risk Management (and other) services to NSCC.

meet obligations to NSCC, and 2) has an established business history of a minimum of six months or personnel with sufficient operational background and experience to ensure the ability of the firm to conduct such a business and 3) appropriate settling bank arrangements. In addition, NSCC Operations staff, in conjunction with Relationship Management, confirms that the applicant will be able to satisfactorily communicate with NSCC and to fulfill anticipated commitments to and to meet the operational requirements of NSCC with necessary promptness and accuracy, and establish appropriate arrangements to effect payment obligations to NSCC. NSCC Members must also be Participants of DTC, which has its own requirements, to effect settlement of CNS securities movements. The applicant must conform to any condition and requirement that NSCC reasonably deems necessary for its protection.

Prior to activating membership, NSCC applicants are required to conduct testing with NSCC (*e.g.* connectivity testing) to ensure that they are able to transmit files to, and receive files from, NSCC.

2. Does the CCP monitor that participation requirements are met on an ongoing basis? How? Through access to regulatory reports or directly? Are reports sufficiently timely to be useful for monitoring purposes? Under what conditions can the CCP suspend and terminate participants' membership? What arrangements does the system have in place to facilitate the suspension and orderly exit of participants that no longer meet the participation requirements?

NSCC monitors that participation requirements are met on an ongoing basis. Members are required to submit annual audited financial statements. In addition, DTCC's Risk Management receives monthly or quarterly regulatory reports (*e.g.*, FOCUS or CALL Reports), depending on the reporting frequency of the Members. As part of the ongoing monitoring of Member firms an internal credit risk rating matrix is utilized to risk rate bank and broker/dealer Members. This matrix is quantitatively driven and is produced systemically from data contained in the Members' regulatory reports. A rating scale of 1 to 7 is utilized with 1 being the strongest and 7 being the weakest. The key financial elements focus on a Member's capital, leverage, liquidity and profitability. Once this rating is generated it is then reviewed by an analyst for possible downgrade due to qualitative factors such as regulatory history or type of audit opinion issued and then a final rating is assigned. The resulting rating determines the level of financial review that will be performed on each Member and may impact the Member's Clearing Fund requirement. Members are required to provide these reports and other required financial information on a timely basis and are informed by Important Notice as to the due dates for providing this information. NSCC may fine Members that fail to timely provide such information; this is clearly stated in NSCC's Rules and the fine schedules are published. Such fines are reported to the SEC. Additionally, the Risk Management department monitors the market and news intra-day, so that action can be taken if warranted.

Through DTCC Risk Management, NSCC ensures that applicants and Members meet their minimum financial requirements, as applicable. Participants with a lower internal credit rating may be monitored more closely than those with a higher rating. In

addition, NSCC staff continuously monitors the Clearing Fund requirements and operations monitors the operational proficiency of participants, as applicable.

NSCC's Rules contain provisions that facilitate the suspension and orderly exit of firms that no longer meet the participation requirements:

- Under Rule 46 (Restrictions on Access to Services), NSCC has the right to restrict a Member's access to services, by limiting or excluding the Member's participation in one or more classes of transactions or services, or by ceasing to act for the Member generally. The circumstances under which NSCC may do so are clearly set forth in the Rule and include a determination by NSCC's Board of Directors or appropriate Board Committee that the Member is no longer in compliance with the membership requirements. If NSCC ceases to act for a Member, the Rules provide that NSCC must notify the affected Member, other Members (via important notice) and the SEC of NSCC's action.
- Under Rule 42 (Wind-Down of a Member, Fund Member or Insurance Carrier/Retirement Services Member), NSCC can facilitate the orderly wind-down of a Member's business when NSCC is notified by the Member that it intends to wind-down its business. Under this Rule, NSCC may impose conditions on, or take actions with respect to, the "Wind-Down Member" in order to mitigate risk, including (but not limited to) permitting the Wind-Down Member to submit only transactions that serve to support the wind-down, restricting or modifying the Wind-Down Member's use of any or all of NSCC's services, and requiring the Wind-Down Member to post increased Clearing Fund deposits. The Rule provides that if NSCC declares a Member to be a Wind-Down Member, NSCC will notify the Member, all other Members (via important notice) and the SEC of such determination.
- Under Section 5 of Rule 2B (On-going Membership Requirements and monitoring: Voluntary Retirement), a Member may voluntarily retire from membership by notifying NSCC in writing. Notwithstanding any such notification, a Member remains obligated to satisfy any open obligations and liabilities arising out of its membership existing at the time of such notification. NSCC issues an important notice to Members when a Member voluntarily retires from membership.
- All important notices referenced above are made available on NSCC's website at www.dtcc.com.

3. Do participation requirements limit access on grounds other than risks? Are they objective and do they permit fair and open access? Are participation requirements, including arrangements for orderly exit of participants, clearly stated and publicly disclosed?

See the response provided in 1(a) and (b) immediately above. Participation requirements of NSCC are objective and clearly stated, they permit fair and open access and they do not limit access on grounds other than risks. NSCC's participation

requirements address: credit risk, operational capability, compliance risk and legal risk.⁸ In order to qualify for membership an entity must be of a specified type (e.g. broker/dealer, bank, etc.). If an entity does not fit within any one of those categories, then it must demonstrate to NSCC's Board of Directors that its business and capabilities are such that it could reasonably expect material benefit from direct access to the corporation's services.

NSCC membership types differ in terms of their access to NSCC services, level of reporting requirements, admission and continuance standards and, in some instances, their Clearing Fund requirements. Generally, all participants within the same membership category (e.g., Member (an entity that may access all services offered by NSCC) versus Insurance Carrier/Retirement Services Member (a category of membership with limited access to services)) are subject to the same requirements.⁹

Under NSCC's Rules, before denying a membership application, NSCC must provide the applicant with a concise written statement setting forth the specific grounds under consideration upon which any such denial may be based, and notify the applicant of its right to request a hearing to determine whether the application should be denied.

Membership requirements, including the arrangements for orderly exit, are clearly stated in NSCC's Rules which are available to the public at NSCC's website, www.dtcc.com.

NSCC issues a weekly Important Notice ("Changes in the List of Participants") that, among other things, provides information regarding member retirements. Important Notices are available to the public at www.dtcc.com.

ASSESSMENT: NSCC observes Recommendation 2.

⁸ Adverse regulatory and compliance history is considered during the membership application process. For example, as a registered clearing agency, NSCC is required to consider whether an applicant or a member has become subject to a statutory disqualification, which would include a violation of the securities laws and suspension from a self-regulatory organization, among other violations.

⁹ Non-U.S. entities may be subject to additional requirements to compensate for legal risk and differences in accounting standards. These additional requirements are set forth in Addendum O to NSCC's Rules.

Recommendation 3: Measurement and management of credit exposures: A CCP should measure its credit exposures to its participants at least once a day. Through margin requirements, other risk control mechanisms or a combination of both, a CCP should limit its exposures to potential losses from defaults by its participants in normal market conditions so that the operations of the CCP would not be disrupted and non-defaulting participants would not be exposed to losses that they cannot anticipate or control.

NSCC uses a risk-based margin methodology to limit its credit exposures to Members. On a daily basis NSCC calculates a "Clearing Fund" requirement for each Member based upon their unsettled and pending transactions. The aggregate of all such deposits is referred to collectively as the Clearing Fund, which operates as NSCC's default fund. The formula used for calculating a Member's required Clearing Fund deposit includes a number of components. These currently include volatility charges, mark-to-market charges, market-maker domination charges, fail charges (for CNS transactions), "special charges" and a charge for certain activity that settles on a shortened process cycle. In addition, NSCC imposes a premium charge when a Member's required Clearing Fund deposit exceeds its capital. For volatility, a value at risk ("VaR") model is used based on historical price movements; for illiquid securities or those less amenable to statistical analysis, a haircut is applied in lieu of VaR. The mark-to-market component measures the unrealised profit or loss using the contract price versus the current market price (that is, the price for a security determined daily for purposes of the CNS System; generally that is the prior day's closing price on the principal market where the security is listed). Market maker domination charges are applied to a Member's position in securities in which that market maker so dominates activity that if the market maker were to become insolvent it would be difficult for NSCC to liquidate the position in those securities since there would no longer be as robust a market. CNS transactions that do not settle as scheduled are subject to a fail charge in the form of an additional haircut. Special charges can be assessed on Members in view of price fluctuations in or volatility or lack of liquidity of any security.¹⁰ These charges are generally calculated overnight and notified to Members early the following morning, for collection by 10 am.

NSCC also has the right, on an as-needed basis to impose intra-day charges. Significant intra-day price changes in securities are monitored, and additional Clearing Fund charges may be collected to cover the price movement from those Members with a significant exposure in the identified security. In addition, for select Members, a daily profit or loss is calculated on the simulated liquidation of the Member's portfolio and, depending on the results, additional Clearing Fund deposits may be required.

Answers to Key questions

1. How frequently does the CCP measure its exposures to its participants? Does the CCP have the capacity to measure exposures intra-day? How timely is the information on prices and positions that is used in these calculations?

¹⁰ The Clearing Fund formula will be revised in connection with the proposed acceleration of NSCC's trade guaranty (discussed under Recommendation 1).

As noted above, NSCC measures its exposures to Members daily and requires payment of any Clearing Fund deficiencies by 10:00 am. The daily calculation uses the prior day's closing market price. In addition, NSCC has the ability under its Rules to call for additional Clearing Fund deposits on an intraday basis, as needed. Security pricing is updated on an intraday basis and additional charges may be collected to cover significant price movements from those Members with a significant exposure in the identified security. Also, DTCC Risk Management systems include routines that permit Risk Management to monitor Members' overall trading activities throughout the trading day to determine whether exposures are building up that would require special actions to increase a Member's Clearing Fund deposit. At multiple times during the day, these routines run and generate reports identifying Members' then-current positions. Risk Management reviews these reports on an "as needed" basis, and, if they conclude a special action is warranted, may impose an intraday Clearing Fund charge against the Member's account. On an "as needed" basis, Risk Management may also run various closeout (profit/loss) scenarios on Members' then-current positions using then-current prices.

2. (a) How does the CCP limit its exposures to potential losses from defaults by its participants?

NSCC limits its exposure to potential losses from defaults by its participants as follows:

- By establishing membership standards and performing continuous monitoring of Members' adherence to those standards;
- By requiring contributions to NSCC's Clearing Fund (*i.e.* margin) (All Members are required to make deposits to the Clearing Fund. The amount of their Required Deposits are calculated daily and collected accordingly);
- By monitoring Members' daily trading activity; and
- Through the existing cross-guarantee arrangements with other clearing agencies (including DTC, Fixed Income Clearing Corporation ("FICC") and The Options Clearing Corporation ("OCC")). These arrangements are designed to provide a mechanism for the sharing of excess net collateral resources of a common defaulting participant held at one clearing agency to cover losses incurred at another clearing agency.
- In addition, under NSCC Rule 15, NSCC may seek such assurances of financial responsibility and operational capability from a participant as it deems necessary or advisable to protect it and its participants. This may include, *inter alia*, restrictions on use of NSCC's services, increased Clearing Fund deposits, or additional payments.

(b) If margin requirements are used, does the CCP observe Recommendation 4?

Yes.

(c) If not, how does the CCP ensure that closing out any participant's positions in normal market conditions would not disrupt the operations of the CCP or expose non-defaulting participants to losses that they cannot anticipate or control?

N/A

ASSESSMENT: NSCC observes Recommendation 3.

Recommendation 4: Margin requirements: If a CCP relies on margin requirements to limit its credit exposures to participants, those requirements should be sufficient to cover potential exposures in normal market conditions. The models and parameters used in setting margin requirements should be risk-based and reviewed regularly.

Answers to Key questions

1. What is the intended coverage of margin requirements? What is the time interval over which potential price movements are measured? Is the interval consistent with a reasonable assumption about how quickly a defaulting participant's positions could be closed out? How does the CCP validate the models and parameters used to determine the margin levels consistent with the intended coverage? How frequently does it review and validate the models?

NSCC calculates Clearing Fund requirements based upon most recently observed market conditions (*i.e.*, using historical data of the most recent 153 days for equities and 250 days for bonds).

NSCC calculates Clearing Fund requirements assuming a three-day liquidation period in normal market conditions. The Clearing Fund requirement is calculated to achieve a confidence level of 99 percent and this is evidenced with regular back-testing studies (which assume no positions are liquidated until the third day, and over the past two years have, on this basis, reflected actual overall coverage exceeding 99%). NSCC's Rules provide it with the flexibility to conduct a closeout over a longer liquidation period, should it deem appropriate. Based on recent experience with a close out of a significant Member, NSCC closed out the open positions over a period greater than three days, and was able to hedge or contain its risks during this time.

DTCC Risk Management has developed the model used for calculating Clearing Fund. This model is back-tested internally on a monthly basis. The model was submitted to and approved by the SEC. The model, as well as NSCC's general risk management procedures, are periodically examined by NSCC's regulators and by its internal and external auditors. The model is also periodically validated by outside experts.

2. Does the CCP have the authority and operational capacity to demand margin intraday to maintain the desired coverage? Under what circumstances?

NSCC has the legal authority to demand intraday margin should the corporation deem it necessary or appropriate. Intra-day margin calls can be effected operationally, as necessary. Risk Management has discretion to make such calls, based upon, for example, market events and their effect on internally maintained predetermined thresholds.

3. What types of assets does the CCP accept as margin? What types are actually held? How frequently are the assets revalued? Are haircuts applied that adequately reflect the potential for declines in asset values between the last revaluation and liquidation?

NSCC accepts cash and certain eligible securities as Clearing Fund collateral. Securities currently accepted to collateralize a Member's open account Clearing Fund indebtedness are U.S. Government Treasury securities, U.S. Agency securities guaranteed by the U.S. Government and certain U.S. Agency/Government Sponsored Enterprise pass-through securities. Not less than 40 percent of a member's required deposit must be in cash, and under normal circumstances the overwhelming majority of the Clearing Fund is comprised of cash.

Haircuts for all such securities pledged to the Clearing Fund are set forth in Procedure XV of NSCC's Rules. Assets (securities) are re-priced every night. NSCC applies haircuts that reflect the potential of the Clearing Fund assets' value to decline. Initial haircut rates were determined based on a ten-year historical return volatility analysis using a 5 sigma confidence level, as well as the application of additional concentration factors for certain security types if the amount deposited exceeds a certain percent of total collateral. On an ongoing basis, haircut rates are reviewed quarterly and in no case will the collateral value be greater than the value for such securities provided to NSCC by its lenders.

ASSESSMENT: NSCC observes Recommendation 4.

Recommendation 5: Financial resources: A CCP should maintain sufficient financial resources to withstand, at a minimum, a default by the participant to which it has the largest exposure in extreme but plausible market conditions.

NSCC maintains sufficient resources to cover the failure of the Member (including the Member's affiliated family) having the largest net debit in extreme but plausible market conditions.

The liquidity resources of NSCC include the following:

- the cash in the Clearing Fund; and
- the cash that would be obtained from NSCC's committed liquidity facility with a consortium of banks.

The sufficiency of NSCC's liquidity resources to cover the failure of the largest affiliated family is evaluated and reported on. Recent studies show NSCC has sufficient liquidity to cover the failure of the largest affiliated family 99.98% of the time. (See additional detail below.) In addition, NSCC is in the process of negotiating repurchase agreements, that could be used to provide an additional (uncommitted) source of liquidity, should the need arise, by reposing the CNS securities received by NSCC that would have been delivered on to the defaulting Member had it not defaulted.

If after closing out a defaulting Member's positions NSCC were to suffer a loss that was not satisfied from the defaulting Member's Clearing Fund deposit, such loss would be satisfied from resources available under applicable cross-guaranty agreements. If the loss was still not fully covered, NSCC could make use of retained earnings, and finally, if there remained any unsatisfied loss, NSCC could access and replenish the Clearing Fund (i.e., participant loss allocation).

These resources are described more fully below.

Answers to Key questions

1. Has the CCP established procedures to stress test its exposures in extreme but plausible market conditions? What scenarios are evaluated? Do the scenarios include the most volatile periods that have been experienced by the markets for which the CCP provides services? Does the CCP have sufficient resources in the event of default by the participant with the largest exposure? Has the potential for multiple simultaneous defaults been evaluated? Are stress tests performed at least monthly, with a comprehensive reconsideration of models, parameters and scenarios occurring at least annually? Does the CCP have a clear policy on actions to be taken in the event stress testing results indicate resources are not likely to be adequate to meet its obligations resulting from a default? Has it adhered to that policy? (i) Is the policy made available to participants and authorities?

NSCC currently performs quarterly stress testing, but will begin such testing monthly by the end of the third quarter 2009. The stress tests performed include 50 stress scenarios selected from the past 10 years of history as well as the special events such as 1987 that are not within the past 10 years of history. The 50 stress scenarios were selected by calculating the weighted average market move across different types of securities within the NSCC portfolio over the past 10 years. The largest 50 results identify the stressed days to be used in the stress test. On each day, the actual market moves on securities in the portfolio are used to calculate the stressed profit or loss on the portfolio. The calculated profit or loss is compared to the portfolio related Clearing Fund requirement. This process is repeated for all Members over a one year period. To date, the Member with the largest exposure identified in the stress tests has been adequately covered by NSCC's total required Clearing Fund deposit.

The steps that NSCC would follow should stress tests indicate a problematic deficiency (which has not occurred) would be as follows: Risk Management would bring the deficiency results to the attention of executive management and the Board's Credit and Market Risk Management Committee for consideration of options. Depending on the chosen course of action, the steps taken may not be made explicitly known to participants (unless they result in a proposed Rule change, for example by modifying the Clearing Fund formula). However, management believes that Members are informed via the Rules as to the flexibility that NSCC has to take risk management-related actions (such as increasing a Member's Clearing Fund requirements if management is concerned about a particular Member and determines a need to seek assurances of the Member's continuing financial responsibility) in order to protect NSCC and its Members.

In order to make stress testing a more useful tool, NSCC has engaged an outside expert to conduct a comprehensive review of its models, parameters and scenarios, as well as the frequency of testing. This comprehensive review will be completed by year-end 2009. Upon completion of the review, NSCC will enhance its testing policies and procedures to include actions to be taken. Going forward, NSCC will re-evaluate the model, parameters and scenarios annually.

NSCC evaluates and reports on the adequacy of its liquidity resources on a daily and monthly basis. This evaluation uses a back test of actual settlement obligations (with historical CNS prices) to determine liquidity sufficiency. Beginning in 2009, NSCC began evaluating the sufficiency of its liquidity to cover the failure of the largest affiliated family.

Liquidity resources are made up of the cash in the Clearing Fund and the committed liquidity facility in the current amount of \$3.1 billion.¹¹ If drawn, the line would be collateralized with Clearing Fund securities and the unpaid CNS long allocations (or collateral supporting those allocations) of the defaulting Member. As of December 31, 2008, the cash in the Clearing Fund totaled \$6,216,662,000. A back test study of family liquidity requirements covering the period from January through April 2009, showed that there was sufficient liquidity (using the current committed facility

¹¹ Reflects the recent renegotiated line effective as of May 18, 2009.

amount) to cover the needs of the failure of the largest affiliated family 99.98% of the time. Since net debits are not capped in NSCC, as noted above NSCC is also seeking to negotiate repurchase agreements to address occasional spikes in liquidity needs, that could be used for repurchase transactions using the CNS long allocations of the defaulting firms being closed out.

Back testing results demonstrate that NSCC's Clearing Fund would be able to cover closeout losses of multiple Members. Specifically, the most recent back test showed that the sum of all back test losses of NSCC Members is less than the sum of the required Clearing Fund deposits of Members.

2. What are the types and values of resources that the CCP has available to cover losses from participants' defaults? Is there a high degree of assurance that the CCP will be able to draw on those resources for the anticipated value in the event of a participant's default? Do the CCP's rules prohibit them from being used to cover operating losses or losses from other CCP activities?

At December 31, 2008, NSCC's total Clearing Fund deposits were \$6,620,361,000 (of which \$3,782,558,000 was required deposits), consisting of \$6,216,662,000 in cash and \$403,699,000 in U.S. Treasury and Agency securities. The legal enforceability of NSCC's collateral arrangements is supported by the UCC and generally New York contract law. Although relevant insolvency laws can limit a secured party's rights to access and liquidate its collateral, the FDICIA provisions, the Code, FDIA and SIPA contain specific provisions to protect the clearing agency close-outs (including access to and retention of collateral).

Additional financial resources to cover losses from participant defaults include NSCC's retained earnings, and funds that may be payable to NSCC under the cross-guaranty arrangements maintained with other clearing agencies. These are more fully described in the responses to Recommendations 3 (question 2(a)) and 11 (question 1). The order and manner in which these resources would be applied to satisfy a loss is described under Recommendation 6(1(d)).

3. Are any of the resources that the CCP is relying upon to cover losses from defaults not immediately available to meet the CCP's obligations? If so, has the CCP obtained committed credit lines subject only to presentment that allow it to borrow against those assets? If so, can those lines be drawn upon sufficiently quickly to ensure that the CCP can meet its obligations when due?

All of the resources that NSCC is relying upon to cover losses from default are liquid and readily available to meet our obligations.

For liquidity purposes, the Clearing Fund cash is held in a tri-party repurchase agreement overnight and returned to an NSCC bank account during the day for immediate access, if needed. Securities in the Clearing Fund and the collateral supporting the long allocations of the defaulting Member are held at DTC and immediate access is available, if the line needs to be drawn upon. NSCC has a \$3.1 billion

committed end-of-day line of credit with a consortium of banks. NSCC conducts tests with its liquidity provider banks to ensure drawings can be made timely.

In addition, as noted in item 2(a) of Recommendation 3, NSCC also has cross-guarantee arrangements with other clearing agencies to provide a mechanism for sharing excess net collateral of a common defaulting Member held at one clearing agency to cover losses incurred at another clearing agency.

ASSESSMENT: NSCC broadly observes Recommendation 5.

Additional Comments: NSCC believes that it has addressed, on a broadly observed basis, the safety objectives that underlie Recommendation 5. The intent of Recommendation 5 is to ensure that the CCP has planned for the possibility of a Member default, both from a liquidity perspective (i.e., the CCP can continue to settle with non-defaulting members) and a liquidation loss perspective. From a liquidity perspective, NSCC has evaluated and put in place those resources that it can reasonably and reliably draw on if necessary. From a loss perspective, in the worst possible scenario where the Clearing Fund deposits of more than one defaulting Member were not sufficient to cover losses incurred in the liquidation of their positions, NSCC has the authority to invoke its loss allocation process. Having closed out more than [20] defaulting firms from the time of NSCC's inception over 30 years ago to the present, NSCC has never needed to invoke its loss allocation process.

Recommendation 6: Default procedures: A CCP's default procedures should be clearly stated, and they should ensure that the CCP can take timely action to contain losses and liquidity pressures and to continue meeting its obligations. Key aspects of the default procedures should be publicly available.

Answers to Key questions:

1. (a) Do the CCP's default procedures state clearly what constitutes a default?

NSCC's default procedures clearly state what constitutes a default. Under Rule 46, the NSCC Board of Directors, or a Board Committee to which such authority is delegated, may suspend a participant or prohibit or limit such participant with respect to access to NSCC's services in enumerated circumstances, which do provide NSCC with some discretion in determining what constitutes adequate cause to cease to act. Enumerated circumstances include expulsion or suspension from a regulatory or self-regulatory organization, default in delivering funds or securities to the corporation, and a member's experiencing such financial or operational difficulties that the corporation determines, in its discretion, that such restriction to access is necessary for protection of the corporation and its participants.

(b) If a default occurs, do the CCP's default procedures provide it with authority to promptly close out or manage the positions of a defaulting participant and to apply the defaulting participant's collateral or other resources?

Yes. NSCC's Rules provide it with the authority to promptly close out and manage the positions of a defaulting participant and to apply the defaulting participant's collateral. NSCC's Rule 18, entitled "Procedures for When the Corporation Declines or Ceases to Act", provides that the close-out procedure shall be completed as promptly as possible after NSCC has given notice that it has ceased to act for a participant. The rule provides NSCC with the ability to apply the proceeds of the liquidation, as well as all other funds and assets of the defaulting participant, to meet the defaulting participant's obligations to NSCC. This rule provides NSCC with the necessary means and flexibility to manage the close-out in the manner it deems most appropriate.

Further, DTC and NSCC have entered into a netting contract and limited cross-guaranty agreement. When DTC and NSCC moved to same day funds settlement in 1996, certain cross-guarantees and arrangements between NSCC and DTC were established to permit transactions to flow smoothly between DTC's system and the CNS system in a collateralized environment. Under this arrangement, DTC provides a guarantee to NSCC of all CNS long allocations (deliveries from CNS), and NSCC provides a guarantee to DTC for all CNS short covers (*i.e.*, deliveries from the broker to CNS to satisfy a CNS delivery obligation) These guarantees ensure, among other things, that debits created in DTC's system continue to be collateralized when the securities serving as collateral are delivered into the CNS system as short covers and reduce risk at

NSCC by ensuring that long allocations, or the approximate value of long allocations, will be made available to NSCC to cover certain exposures.¹²

(c) Do the CCP's procedures, or mechanisms other than those of the CCP, permit the transfer or (as an alternative) liquidation of the positions and margin of customers of the defaulting participant?

Under NSCC's Rules, NSCC treats its participants as principals. In this regard, the UCC (Art. 8-111) permits us to enforce our rules, even if they conflict with another provision of Article 8. NSCC's Rules (including the procedures) for CNS provide a mechanism--by delivery exemptions—which enables Members to protect customer fully-paid for securities on deposit at DTC. In certain circumstances, a Member may also move CNS open long positions (*i.e.*, a right to receive securities) to a Fully-Paid For CNS subaccount, which positions would be available to a SIPC receiver.

(d) Do the procedures empower the CCP to draw promptly on any financial resources?

Yes. As noted above, NSCC maintains liquidity resources to assure its ability to meet daily settlement obligations, pending liquidation and closeout of the defaulting Member's obligations to NSCC.

If after closing out a defaulting Member's positions NSCC were to suffer a loss that was not satisfied from the defaulting Member's Clearing Fund deposit, such loss would be satisfied from:

(i) resources available under applicable cross-guaranty agreements

NSCC has entered into a multilateral netting contract and limited cross-guaranty agreement with DTC, FICC and OCC, under which these clearing agencies have agreed to make payments to each other for any remaining unsatisfied obligations of a common defaulting participant to the extent that these clearing agencies have excess resources belonging to the defaulting participant.

NSCC and OCC also have entered into an agreement providing for payments to each other relating to the settlement of certain option exercises and assignments in the event of a mutual participant's failure.

¹² When securities received versus payment in DTC's system by a participant are on-delivered to CNS as CNS short covers, NSCC provides guarantees to DTC an amount equal to the prior day's closing price of such securities. If CNS short covers are satisfied from securities that were not received versus payment in DTC's system, NSCC guarantees to DTC an amount equal to the prior day's closing market value less an applicable haircut. DTC takes this guarantee into account for collateral monitor purposes. Conversely, when CNS long allocations to participants are onward delivered by the receiving participant in DTC's system, DTC provides a guarantee to NSCC equal to the prior day's closing price of the long allocations less an applicable haircut. The guarantee serves as a collateral substitute for CNS long allocations. DTC applies collateralization controls to the value of its guarantee to NSCC to ensure that it has sufficient collateral to cover potential guarantee obligations to NSCC as the result of a participant redelivering CNS long allocations in DTC's system.

(ii) use of retained earnings

Addendum E to NSCC's Rules (Statement of Policy, Application of Retained Earnings – Member Impairments) states that pursuant to Rule 4, Section 4 NSCC will apply no less than twenty-five percent (25%) of its retained earnings, existing at the time of a Member impairment which gives rise to a loss or liability not satisfied by the impaired Member's Clearing Fund deposit, to such loss or liability. Nothing prevents NSCC from applying more than twenty-five percent (25%) of its then existing retained earnings, if the Board of Directors, in its sole discretion, believes it appropriate under the factual situation existing at the time of the Member impairment.

(iii) access and replenish Clearing Fund (*i.e.*, participant loss allocation)

Finally, if a deficiency still remains, NSCC would satisfy the deficiency by utilizing the Clearing Fund and assessing its Members as provided in its Rules. The process, in general, allocates any remaining liabilities pro rata among Members based upon the Member's usage of the service to which the loss relates. (Members may cap their exposure to future allocations by electing to withdraw from membership within certain timeframes.)

As stated in the Introduction to this Self-Assessment, to date – including through several recent well-publicized broker-dealer closeouts – NSCC has never invoked its participant loss allocation process.

2. (a) Does the legal framework provide a high degree of assurance that the decisions to liquidate or transfer a position, to apply margin or to draw down liquidity resources in the event of the insolvency of a participant would not be stayed or reversed?

As noted above, the legal framework supports these actions with a high degree of assurance (see response to key question 2(c) of Recommendation 1 above). Amendments to FDICIA and the Code contained in the 2005 Amendments provide that the close-out and netting of transactions arising under the protected transactions may not be stayed or avoided in any bankruptcy proceeding brought under the Code, the FDIA, or SIPA (subject in the case of the SIPA, to certain exceptions not relevant for clearing organizations). In addition, legal comfort for the validity of NSCC's lien and collateral protections is found principally in the UCC (Articles 8 and 9), and general New York contract law. Although relevant insolvency laws can limit a secured party's rights to access and liquidate its collateral, the FDICIA provision referred to above, the Code, FDIA, and SIPA contain specific provisions to protect clearing agency close-outs (including access to and retention of collateral). Finally, the cross-guaranty agreements were reviewed and approved by NSCC's regulators under the Rules approval process after publication for public comment.

(b) Does national insolvency law permit identification and separate treatment of customer and proprietary assets?

U.S. insolvency law permits the identification and separate treatment of customer and proprietary assets. For example, the insolvency of a U.S. broker-dealer with customer accounts will be handled by the Securities Investor Protection Corporation under the SIPA.

3. Does the CCP's management have internal plans for implementing its default procedures? Does the plan maintain a measure of flexibility for the CCP in deciding how best to implement its default procedures? Does the plan address the need for coordination in cases where more than one CCP, authority or a separate market operator is involved? How frequently is the plan reviewed?

NSCC maintains a comprehensive closeout management framework that guides relevant departments in managing the insolvency and closeout of a participant. In addition, the appropriate departments also maintain internal procedures in the event that NSCC determines to cease to act on behalf of a participant. Periodic tests are conducted both for closing out a test broker's account, as well as testing borrowing under the company's liquidity arrangements.

Each instance where NSCC determines to cease to act is unique, and both NSCC's Rules and internal procedures take this into consideration.

The need for coordination in cases where more than one CCP, authority or a separate market operator is involved is addressed. For example, the multilateral cross-guaranty agreement among NSCC, OCC, and NSCC's affiliates FICC and DTC contemplates coordination in the event of the default of a common participant. NSCC and OCC also have entered into an agreement providing for coordination of payments to each other relating to the settlement of certain option exercises and assignments in the event of a mutual participant's failure. Further, DTC and NSCC have entered into a netting contract and limited cross-guaranty agreement, which includes certain arrangements and financial guarantees to ensure that securities delivered by NSCC members through DTC are fully collateralized. NSCC's rules and procedures address the need to coordinate with applicable regulatory authorities.

The NSCC closeout procedures are subject to ongoing review and development, including incorporating knowledge gained from actual closeouts and internal tests, which occur at least once per year.

4. Are the key aspects of the default procedures (specified in paragraph 4.6.9) publicly available?

The key aspects of the close out procedures are in NSCC's rules which are available to members and to the public generally at www.dtcc.com. In addition, when NSCC determines to cease to act on behalf of a participant, NSCC provides notice of that action to participants via Important Notice and also communicates relevant details as to the resolution of open transactions to participants in the same manner. Important Notices are posted by NSCC on its website, and are available to the public.

ASSESSMENT: NSCC observes Recommendation 6.

Recommendation 7: Custody and investment risks: A CCP should hold assets in a manner whereby risk of loss or of delay in its access to them is minimised. Assets invested by a CCP should be held in instruments with minimal credit, market and liquidity risks.

Answers to Key questions

1. At what types of entities is collateral held? Does the CCP verify that these entities' procedures and practices conform to Recommendation 12 of the RSSS? How? Does the CCP confirm that its interest in the securities can be enforced and that it can have prompt access to the securities in the event of a participant's default, even if these securities are held in another time zone or jurisdiction? Does it monitor the financial condition of its custodians on an ongoing basis?

NSCC's Clearing Fund cash is held in NSCC's account at a private commercial bank, while securities that participants deposit as Clearing Fund collateral are held at DTC and pledged to NSCC. On an intraday basis and to facilitate participants' management of their Clearing Fund deposits in an automated manner, a portion of the Clearing Fund cash may be held in a DTC subaccount (designated internally for NSCC use) at the Federal Reserve Bank of New York.

NSCC relies on the strict regulatory framework in which these entities and DTC operate (which includes oversight and examination by the U.S. Federal banking regulators) to ensure the safety and accessibility of its clearing fund deposits. This includes regulation regarding the protection of customer securities from theft, loss, or misuse, and in the event of insolvency.

DTC (NSCC's affiliate) is regulated by the SEC, the Board of Governors of the Federal Reserve System, and the New York State Banking Department. These regulators and DTC's internal and external auditors regularly review the adequacy of DTC's internal controls, procedures, and records.

All securities are held locally. As to enforceability of collateral and/or ownership rights *see* responses to questions under Recommendation 1 above.

Risk Management monitors the financial condition of the custodian banks on an ongoing basis, and would notify Treasury Operations if a significant change in any custodian's financial condition occurred.

2. How is cash invested? Are investments secured? What standard does the CCP use to ensure that obligors are highly creditworthy? What standard does the CCP use to ensure that investments have minimal market and liquidity risks?

Permitted cash investments are authorized under the Investment Policy, approved by the Audit Committee of the Board of Directors.

Funds are generally invested in debt obligations of the U.S. Government or those U.S. Government Agencies guaranteed by the U.S. Government subject to reverse repurchase agreements ("repos"). Investments may also include direct purchase of debt obligations of the U.S. Government. (Any such direct investments can be readily

accessed for liquidity, should the need arise, as pledged securities under NSCC's committed liquidity facility, by repoing them for cash or through sale.)

When repos are not available, funds may be invested in bank sweep accounts. This agreement provides for an overnight sweep investment of available clearing fund cash balances at the end of the day. These cash balances are generally limited to \$20 million but can increase when repo investments are not available. The cash is invested in the bank's overnight commercial paper.

Clearing Fund and general corporate cash that is invested in overnight repo are collateralized by debt obligations of the U.S. Government or those U.S. Government Agencies guaranteed by the U.S. Government ("Governments") with a maturity of no more than thirty years from the date of purchase. The funds which are invested in the overnight domestic commercial paper sweep are unsecured.

The risk of loss of invested funds is minimized in a number of ways. Repo investments are generally placed with financial institutions acting as principal rather than as agent, and with maturity limited to the next business day (with return of funds being required well before settlement) and are held under tri-party custodial agreements. NSCC invests only with those repo counterparties assigned a long term debt rating of A- or better from one of the rating agencies, and does so under custodial undertaking arrangements. Reverse repo investments are secured; collateral must have a market value greater than or equal to 102 percent of the cash invested (an industry standard) and investment limits are placed on counterparties.

The Investment Policy provides that when repos are not available, funds may be invested in bank sweep accounts. To the extent that funds are invested in overnight commercial paper sweep accounts, the deposit bank will be a bank as approved by Risk Management.

A thorough financial review is performed on the custodian banks. This review includes the analysis of the custodians' quarterly regulatory reports, the application of certain financial parameters on a quarterly basis and the review of the custodians' annual reports. Depending upon the results of these financial reviews, discussions will be held with appropriate staff of the custodian firms.

3. Does the CCP consider its overall exposure to an obligor in choosing investments? Are investments limited to avoid concentration of credit risk exposures? How?

The overall exposure to a counterparty is considered when placing an investment. The Investment Policy establishes the credit limits by counterparty. The credit limits have been established to ensure that investments do not exceed an acceptable level of concentration with any single counterparty.

ASSESSMENT: NSCC observes Recommendation 7.

Recommendation 8: Operational risk: A CCP should identify sources of operational risk and minimise them through the development of appropriate systems, controls and procedures. Systems should be reliable and secure, and have adequate, scalable capacity. Business continuity plans should allow for timely recovery of operations and fulfilment of a CCP’s obligations.

Rather than maintain resilient and business continuity capabilities in standby, DTCC treats all sites, networks, control centers and business sites as a unified complex that is always accessible and where feasible, actively operating across multiple sites and environments.

In support of NSCC’s business, DTCC has multiple data center locations, including in-region and out-of-region sites. In-region sites utilize synchronous data replication between them, maintaining multiple exact copies of all production data in separate locations. Production processing is spread across the in-region data centers. The out-of-region site contains additional asynchronously replicated copies of in-region production data. (The asynchronous nature of the replication to this site is due to the limits inherent in current-day technology; the technology currently permits asynchronous replication sufficiently timely to ensure that there is no more than a two-minute variance in the data stored at the in-region sites and the data stored out-of-region.)

All data centers have emergency monitoring and backup systems including: fire detection and suppression systems, uninterruptible power supply and standby generators, and dual path, redundant telecommunications from multiple carriers. All sites are operational and have sufficient capacity to process the entire production workload so any data center can function as the sole recovery site within two hours in case one or more data centers experience an outage.

Similarly, to provide continuous operation from multiple sites, DTCC decentralized its Information Technology and key business operations staff among in-region and out-of-region sites. Daily data processing operations and monitoring of emergency systems is conducted continuously from both in-region and out-of-region data center “Command Centers.”

DTCC’s “SMART” (Securely Managed and Reliable Technology) Network provides connectivity between DTCC and its customers and trading platforms. All critical clearance and settlement transactions utilize SMART. SMART is a seamless, end-to-end, secure managed private communications system encompassing a geographically dispersed complex of processing centers, communications networks and control facilities. Each element of SMART is highly secure, engineered with multiple independent levels of redundancy, and capable of handling DTCC’s entire clearance and settlement workload. SMART connects to both in-region and out-of-region data centers. External traffic is split between these connections, which are always active with each having sufficient capacity for the entire traffic volume.

Answers to Key questions

1. Does the CCP have a process for actively identifying, analysing and addressing its operational risk, including risks arising from its outsourced operations and its other activities?

NSCC has several ways in which it identifies and manages its operational risks. First, an Operational Risk Group is responsible for developing and overseeing an operational risk management program for the company using qualitative and quantitative tools to identify, measure, monitor, manage, and report on the organization's operational risk profile. More specifically, the program includes assessments at a business unit level and at an enterprise level, identification and reporting of risk metrics, collection and analysis of risk incidents, and Board level reporting on major risks to the enterprise.

Second, the Internal Risk Management Committee, comprised of officers from various disciplines, evaluates and coordinates the risk management activities within the company.

Third, a high-level Security Committee, made up of business, risk, audit, and technology officers, addresses key areas of risk associated with information services and directs that appropriate actions be taken to minimize risk.

Fourth, the Internal Audit Department reviews the adequacy of internal controls, procedures, and records of the company with respect to operational risks. Finally, the company engages independent accountants to perform an annual study and evaluation of the internal controls relating to its operations.

2. Does the CCP have a business continuity plan that addresses events posing a significant risk of disrupting operations? Do plans ensure that critical information can be recovered in a timely manner? Do plans provide, at a minimum, for the recovery of all transactions at the time of the disruption to allow systems to continue to operate with certainty? Is the business continuity plan regularly reviewed and tested with participants? Have appropriate adjustments to operations been made based on the results of such exercises?

NSCC has a formal business continuity plan in place that addresses events posing a significant risk of disrupting operations. In support of NSCC's business, DTCC operates data centers and staff in multiple locations, within the New York region (in-region) as well as outside the New York region (out-of-region). All data centers are operational. The regional data centers operate synchronously for data replication, while asynchronous replication is used out-of-region. Failover can occur between the in-region and out-of-region data centers to restore production processing.

NSCC is expected to meet and does meet the standards set forth in the

“Interagency Paper on Sound Practices to Strengthen the Resiliency of the U.S. Financial System” (the “Interagency Paper”) that was published by the Board of Governors of the Federal Reserve System, the Office of the Comptroller of the Currency and the SEC in 2003. The Interagency Paper requires core clearing and settlement organizations, such as NSCC, to determine appropriate recovery and resumption objectives for clearing and settlement activities in support of critical markets, to maintain sufficient geographically dispersed resources to meet recovery and resumption objectives and to routinely use or test recovery and resumption arrangements.

Consistent with the higher standards of the Interagency Paper, Information Technology equipment, data center operations and staff, which support NSCC’s business, are dispersed among DTCC’s multiple data centers and office locations. All data centers have sufficient computer capacity to run NSCC’s entire production workload. As expected by the Interagency Report, in-region data centers, which are operational 24 hours per day, 7 days per week (“24 x 7”), utilize synchronous data replication, maintaining current copies of the entire production data and preserving all transaction data. This capability provides for full recovery of NSCC’s entire system within 2 hours of DTCC’s declaration of the loss of a data center without any loss of data. Additionally, in-region production data is continuously replicated in an asynchronous manner to an out-of-region data center, from which NSCC business systems can be recovered within 2 hours of the loss of the in-region data centers with the potential data loss limited to less than 2 minutes of transaction data.

Each data center is staffed 24 x 7 and there are two active production 24 x 7 Command Centers, one in-region and one out-of-region, capable of operating and monitoring the workloads running at any data center. The production workload responsibilities are rotated between the in-region and out-of-region Command Centers to maintain expertise of all workloads. The other in-region data center has a 24 x 7 staffed Command Center which operates and monitors the test workloads and is capable of operating and monitoring production workloads. Command centers also monitor key environmental control systems, particularly fire detection/suppression systems.

DTCC’s SMART network, which provides NSCC customer connectivity, has sufficient bandwidth to handle the entire traffic load and routes customer traffic on a rotating basis between the in-region and out-of-region data centers, which continuously tests their availability. A redundant wide area network connects all locations allowing external traffic to be routed to the appropriate processing data center. The level of redundancy extends also to the network equipment and provides automated failover. A telecommunications line failure, once automatically rerouted across the redundant network component, only requires the affected customer to re-establish their session.

The in-region synchronous data centers maintain exact copies of production data allowing recovery, or failover, from the loss of one synchronous data center to another synchronous data center without the loss of data or transactions from the point of failure. In the unlikely event that the synchronous data centers fail simultaneously, up to 2 minutes of transaction data could be lost due to the physical limitation of asynchronous

data replication to an out-of-region facility. Additionally, DTCC has produced an out-of-region recovery guide for NSCC's Members to ensure that they understand how to go about identifying transactions that were lost due to the physical limitation of asynchronous data replication to an out-of-region facility and therefore can be prepared to retransmit transactions in the unlikely event it becomes necessary.

Business continuity plans are tested several times per year on the technology side. Operational recovery is also tested several times per year with some tests involving several hundred employees working from their alternate work locations. In these tests, employees from operational departments simulate the involvement of Members. Communications tests are conducted each year with major Members to ensure their backup site(s) can communicate to all company processing locations.

NSCC conforms to the DTCC BCP Validation Strategy, which is specifically constructed to meet the higher standards of the Interagency Paper. Business Impact Analysis validates the criticality of various systems and business areas to ensure appropriate backup and recovery testing. For those functions and facilities identified as critical that rely on contingency facilities which are not exercised in the normal course of daily business, NSCC tests and rehearses recovery capabilities to keep the staff and facilities in a state of readiness and demonstrate our capability to meet all regulatory requirements for recovery time objectives and recovery point objectives inclusive of those specified in the Interagency Report. NSCC tests various recovery scenarios throughout the year. At least annually scenarios simulating a failure at any one and at multiple facilities are performed. These tests include network recovery. NSCC departments involve staff, including Internal Audit, to verify the transaction data integrity and recovery of the NSCC applications. NSCC participates in industry-wide business continuity tests, which involve the major financial institutions.

In addition, NSCC's Rules require Members that are deemed "critical" (based upon revenues, clearing fund contributions, settlement amounts, and trading volumes) to test that they are able to communicate with NSCC from their primary and alternate locations for business continuity purposes. NSCC's Rules provide that it may impose a fine of \$10,000.00 per year on any "critical" Member who fails to conduct the required annual connectivity testing for business continuity purposes.

Each data center contains an active 24 x 7 staffed command center capable of operating and monitoring the workload running at any data center. Datacenter Operations participates in each of the technology recovery tests, and has adjusted internal processes where the exercises have shown a need to do so. These included introducing plans for continuous cross-training of operations personnel among the various sites, as well as introducing a schedule for rotating control of DTCC's production environment among the various data centers on a regular basis to give all operations personnel real-time experience in operating the systems.

3. Are there adequate management controls and sufficient (and sufficiently well qualified) personnel to ensure that procedures are implemented appropriately? Are operational reliability issues reviewed regularly by senior management, including review by persons not responsible for the relevant operations? Is there an internal audit function and does it review operational risk controls?

Management controls including monitoring, reporting and oversight are adequate. Key personnel assigned to the area are knowledgeable and possess several years of cumulative institutional experience/knowledge.

Operational reliability issues are reviewed regularly by senior management, including review by persons not responsible for the relevant operation. Operational reliability is monitored continuously and reported to senior management on a monthly basis. Management uses numerous metrics to measure operational reliability.

Mechanisms are also in place to report/escalate operational incidences, such as reporting of major production outages to senior management and to investigate/assess the root cause of the incidences and ensure appropriate and timely corrective actions are taken.

An independent Internal Audit function is in place at NSCC which regularly reviews the adequacy of NSCC's operational controls, among other areas. NSCC is also subject to an annual audit by its certified public accountants, which includes a review and evaluation of internal controls.

4. (a) How many times during the last year has a key system failed? What is the most common cause of failures? How long did it take to resume processing? How much transaction data, if any, was lost?

No NSCC key system has failed (nor any data lost) during the last year.

(b) How does the CCP ensure the integrity of messages?

DTCC provides authenticating services by assuring that the originator is known to our secure, private network and that business applications provide counterparty confirmation(s) through a variety of application-appropriate mechanisms. DTCC has built SMART network into a seamless, end-to-end, managed communications network. Each element of SMART is highly secure, engineered with multiple independent levels of redundancy, and capable of handling DTCC's entire clearance and settlement workload.

(c) Does the CCP have capacity plans for key systems and are key systems tested periodically to determine if they can handle stress volume?

Capacity plans are reviewed annually with the Infrastructure Department and the Board. The clearing systems, including CNS, have a 2008 maximum capacity validated at 500 million trade sides, nearly double the single day peak trade side volume of 314 million trade sides. The trade side capacity in 2006 was 160 million trade sides with a single day peak of 63 million and in 2007 NSCC increased the daily capacity to 283 million trade sides. In each year NSCC performed a stress test to determine the daily capacity.

DTCC has dedicated capacity planning staff and ensures that the company, and in particular NSCC, has sufficient capacity to meet operational needs in all data centers. Daily, weekly and monthly capacity/utilization reports are generated and reviewed by the Infrastructure Department to track growth against projections. Each year an annual Capacity Planning Report is produced and presented to the Board of Directors, as well as to NSCC's regulators.

New systems are stress tested prior to being placed into production. Existing systems are not routinely stress tested except as described above.

ASSESSMENT: NSCC observes Recommendation 8.

Recommendation 9: Money settlements: A CCP should employ money settlement arrangements that eliminate or strictly limit its settlement bank risks, that is, its credit and liquidity risks from the use of banks to effect money settlements with its participants. Funds transfers to a CCP should be final when effected.

Answers to Key questions

1. Does the CCP use the central bank model or the private settlement bank model?

NSCC uses the central bank model with a tiered settlement arrangement for its money settlement process.

NSCC money settlement takes place once per day, at end-of-day. The settlement for this end-of-day settlement process occurs on the Federal Reserve's National Settlement Service ("NSS"). Because NSCC does not have direct access to the Federal Reserve, payments are made to and from NSCC on the NSS through the Federal Reserve Bank of New York sub-account of NSCC's affiliate, DTC. Similarly, NSCC participants are required to engage a settling bank (of their choosing) that meets NSCC's settling bank criteria to effect money settlement on the central bank's NSS on behalf of the participants.

2. Do the CCP's legal agreements with its settlement bank or banks provide that funds transfers to its accounts are final when effected? Do the laws of the relevant jurisdictions support these provisions? Do the payment systems for the currencies used support intraday finality? Does the CCP routinely confirm that funds transfers have been effected as and when required by those agreements?

The funds transfers for NSCC end-of-day money settlement occur at the Federal Reserve. Funds transfers are immediately final when payment is effected on the Federal Reserve's NSS. The arrangement with the central bank is supported by applicable laws and rules, including the applicable Federal Reserve circular (Federal Reserve Operating Circular 12). NSCC confirms that funds transfers have been effected on each business day.

Margin payments are currently paid by wire transfer via the Federal Reserve Fedwire System. Fedwire payments are final when made.

3. If the private settlement bank model is used, does the CCP establish and monitor strict criteria for the banks used that address their creditworthiness, access to liquidity, and operational reliability?

As stated above, NSCC uses the tiered settlement arrangement of the central bank model. As a tiered arrangement, NSCC has established certain settling bank eligibility criteria which includes a Tier 1 Risk-Based Capital Ratio for regulatory purposes of at least 6 percent.

4. If the private settlement bank model is used, does the CCP actively monitor the concentration of exposures among the settlement banks, and routinely assess its potential losses and liquidity pressures from a settlement bank's failure?

As stated above, NSCC uses the tiered settlement arrangement of the central bank model.

ASSESSMENT: NSCC observes Recommendation 9.

Recommendation 10: Physical deliveries A CCP should clearly state its obligations with respect to physical deliveries. The risks from these obligations should be identified and managed.

Answers to Key questions

1. Does the CCP have rules that clearly state its obligations with respect to deliveries of physical instruments?

Yes. Under NSCC's CNS rules, NSCC becomes the contra-party for settlement purposes at the point NSCC's trade guaranty attaches, thereby assuming the obligation of its Members that are receiving securities to receive and pay for those securities, and the obligation of Members that are delivering securities to make the delivery. Unless NSCC has invoked its default Rules, NSCC is not obligated to make those deliveries until it receives from Members with delivery obligations deliveries of such securities. In this regard, NSCC does not "build a box" during the day; rather, deliveries that come into CNS ordinarily are promptly redelivered to parties that are entitled to receive them through an allocation algorithm. Members are obligated to take and pay for securities allocated to them in the CNS process. The Rules also provide mechanisms allowing receivers a right to receive high priority in the allocation of deliveries, and also permit a Member to buy-in long positions that have not been delivered to it by the close of business on the scheduled settlement date.

For CNS securities, NSCC uses a modified delivery versus payment mechanism in that when a Member delivers securities to CNS the Member gets a credit and when NSCC delivers to the long side (a long allocation), securities deliveries/movements are not final until the "effective time." Pursuant to NSCC Rule 12 (Settlement), the "effective time" generally occurs when it is clear that NSCC has either been paid, or is in a credit position with respect to a Member or its settling bank.

For those securities that are ineligible for processing in CNS, NSCC provides a Balance Order Accounting system that produces netted and allotted receive and deliver instructions for NSCC participants. NSCC does not become a counterparty to balance order transactions, but does provide a trade guaranty to the receive and deliver parties which remains effective through the close of business on the scheduled settlement date. The settlement of balance order transactions generally occurs outside of NSCC. In the event of the insolvency of a Member, Members are required to close-out the open guaranteed Balance Order transactions they had with the insolvent party and report gains or losses to NSCC. Any gains must be paid to NSCC, and NSCC will cover the losses on such closed out transactions.

In addition, NSCC provides a service facilitating physical deliveries. Rule 9 (Delivery and Receipt of Securities) sets forth the rules for NSCC's Envelope Settlement Service ("ESS") (including intercity security deliveries ("IESS") between New York and Toronto). Under this service, NSCC's obligations as to physical deliveries are specified, including providing that when NSCC accepts an envelope delivered by a Member and stamps the required accompanying "credit list," then (subject to NSCC's rights under

Rule 12 until the “effective time”) the envelope is deemed for all purposes to have been delivered to the receiving Member. (If the envelope delivery is an intercity delivery, a separate loss risk rule is provided.)

2. Does the CCP have obligations to make or receive deliveries of physical instruments? If yes, does the CCP use DVP mechanisms that eliminate principal risk? If no DVP mechanism is available, does the CCP take other steps to mitigate principal risk?

Deliveries through CNS (which are accomplished through book-entry account movements at DTC) utilize the modified delivery versus payment mechanism described above, which mitigates principal risk. In addition, NSCC collects daily Clearing Fund (margin) on open positions, including Balance Order transactions.

As for the ESS/IESS Service, until the “effective time” under NSCC’s Rules, NSCC retains rights in the securities subject to envelope deliveries to mitigate principal risk. For all of 2008, NSCC received a total of 107,087 ESS/IESS envelopes.

3. Has the CCP identified the liquidity, storage and delivery (other than principal) risks to which it is exposed because of the delivery obligations that it assumes? Does the CCP take steps to mitigate these risks? What steps does it take?

Storage and delivery risks for physical certificates (such as warehousing and transportation of instruments) do not arise for CNS security movements (which are made via book-entry). NSCC has identified its liquidity risks in the event of an insolvency of a Member and has taken steps to mitigate such risks, which include the maintenance of a committed liquidity facility. Such liquidity risk is further mitigated by the fact that NSCC: (i) has an end-of-day settlement process in which money settlements are made on a net-net basis that accounts for settling banks’/Members’ obligations to DTC, and (ii) will not make payments out until all payments due in are received.

With respect to the ESS/IESS Service:

- DTCC has comprehensive security systems in place at its facilities. With respect to the ESS and IESS services, this includes a bar code tracking system that tracks all envelope receipts and deliveries.
- DTCC also maintains comprehensive insurance covering its subsidiaries, including Blanket Bond coverage and All Risk Excess coverage for securities on premises and in transit.
- Finally, in addition to the loss risk rules set forth in Rule 9, NSCC Rule 58 (Limitations on Liability) sets forth NSCC’s standard of care and provides limits on NSCC’s liability.

ASSESSMENT: NSCC observes Recommendation 10.

Recommendation 11: Risks in links between CCPs: CCPs that establish links either cross-border or domestically to clear trades should evaluate the potential sources of risks that can arise, and ensure that the risks are managed prudently on an ongoing basis. There should be a framework for co-operation and co-ordination between the relevant regulators and overseers.

Answers to Key Questions

1. What kinds of link are in operation? Has the CCP carried out a risk analysis of the potential sources of risks arising from the link? Are the resultant risk management arrangements designed to minimise or contain these risks, such that the CCP remains able to observe the other recommendations contained in this report?

Arrangements with OCC. As indicated in item 1(d)(i) of Recommendation 6, NSCC has an arrangement with OCC (the “Accord”) providing for the settlement of exercises and assignments of options on securities which are cleared and settled through NSCC. The arrangement is designed to facilitate the settlement of the underlying securities upon the exercise or assignment of such options by mitigating duplicative margin requirements. The Accord provides for a two-way guaranty between OCC and NSCC of the mark-to-market amounts for which NSCC has guaranteed settlement in the event of a mutual participants’ failure: OCC guarantees to NSCC the performance by NSCC Members of settlement obligations resulting from the exercise and assignment of options (“E&A positions”) in an amount equal to the smaller of the “Net Member Debit to NSCC” (generally, the remaining net amount due to NSCC from a defaulting Member following the closeout of its open positions and application of its Clearing Fund deposit to satisfy any losses) and the “Calculated Margin Requirement” in respect of the NSCC Member; and NSCC guarantees to OCC the smaller of the “Net Member Debit to OCC” (similarly, the remaining closeout loss to OCC after application of the defaulting member’s OCC margin) and the “Calculated Margin Credit”. OCC can make this guarantee to NSCC because it continues to margin E&A activity through the settlement date, including collecting mark-to market amounts. As a result, NSCC does not mark E&A positions to the market. NSCC can make its guarantee to OCC because it collects risk-based margin on the Member’s entire portfolio of E&A activity, including VAR margin.

Arrangements with CDS. In addition, CDS Clearing and Depository Services Inc. (“CDS”) is a Member of NSCC. This relationship has been in place and operated successfully for approximately two decades; it was established after approval by with the SEC. The corporation has analyzed the risks arising from CDS’s membership and such risks are reviewed periodically.

- As a full service Member, CDS was reviewed through the membership process. It provided a legal opinion addressing legal issues, including conflict of laws.
- NSCC collects Clearing Fund from CDS.
- Risk Management staff (a) has conducted discussions with their CDS counterparts regarding the methods that CDS utilizes to collateralize risk from transactions of its participants (including from use of NSCC’s link), so as to be aware of CDS’ risk

mitigation procedures; (b) subscribes to reports and information from third party analysts/rating organizations that rate securities' depositories - - which currently rates CDS as low risk; and (c) reviews CDS's financial condition annually.

Under a service agreement, NSCC has a non-money settlement, free-of-payment deliver link with Central Depository (PTE), Ltd. ("CDP") of Singapore. That entity cannot access NSCC's CCP services.

2. Which laws and contractual rules govern the link? What steps have the CCPs taken to satisfy themselves that these laws and rules support the design of the link and provide adequate protection to both CCPs in the operation of the link?

OCC – the Accord is governed by New York law. It was reviewed and approved by the SEC under the Rules approval process.

CDS – it is subject to NSCC's Rules, which are governed by New York law.

CDP – the service agreement set forth the parties' obligations and is governed by New York law. See discussion above and under Recommendation 1.

3. What are the potential sources of operational, credit and liquidity risks arising from the link? Are effective mechanisms in place, including arrangements between the linked CCPs, to monitor and manage the risks identified?

See above. Yes.

4. For the purposes of regulation and oversight of the link, is there a framework for co-operation and co-ordination between the relevant regulatory and oversight authorities, including provisions on information sharing and the division of responsibilities in the event of any need for co-ordinated regulatory action?

The legal framework supports cooperation. There is a Memorandum of Understanding between the United States and Canada that provides such a framework with respect to CDS. OCC is a self-regulatory organization and, like NSCC, is a registered clearing agency subject to oversight by the SEC.

ASSESSMENT: NSCC observes Recommendation 11.

Recommendation 12: Efficiency while maintaining safe and secure operations, CCPs should be cost-effective in meeting the requirements of participants.

Answers to Key questions

1. Does the CCP have in place procedures to control costs (for example, by benchmarking its costs and charges against other CCPs that provide a similar service and by analysing the reasons for significant differences)? Does the CCP have in place procedures to regularly review its pricing levels against its costs of operation?

NSCC has in place procedures to control costs and to regularly review pricing levels against costs of operation. NSCC uses a formal budgeting process to control its expenditures. It reviews pricing levels against its costs of operation typically during the annual budget process, providing guidance to the Board of Directors of the price impact. The budget is approved annually by the Board, as is any material change in service fees. Furthermore, to help ensure ongoing efficiency, DTCC (NSCC's parent company) has a Quality and Business Reengineering Department, which employs Six Sigma techniques to analyze workflows and make appropriate recommendations for improvement.

NSCC periodically performs benchmarking studies to assess cost effectiveness in the market place. These studies cover the cost effectiveness of the organization, and also take into account implementing best practices. NSCC's fees are cost-based. NSCC returns to its users, via rebate or refund, excess revenues not needed to fund its operations. NSCC fees are widely recognized to be among the very lowest charged by service providers of its type.

2. Does the CCP regularly review its service levels, (for example, by surveying its participants)? Does the CCP have in place procedures to regularly review operational reliability, including its capacity levels against projected demand?

NSCC regularly reviews its service levels and has in place procedures to regularly review operational reliability, including its capacity levels against projected demand. On an annual basis, NSCC formally surveys its members to test and help ensure adherence to service levels. In addition, several committees of the Board of Directors, made up of members of the user community, are responsible for overseeing various aspects of the operation.

The DTCC IT Infrastructure Department has dedicated capacity planning staffing and ensures that the company has sufficient capacity to meet operational needs. Daily, weekly and monthly capacity reports are generated and reviewed by the IT Infrastructure Department to track growth against projections. Operational reliability is monitored continuously and reported to senior management on a monthly basis. Each year an annual Capacity Planning Report is produced and presented to the Board of Directors, as well as to the company's regulators.

ASSESSMENT: NSCC observes Recommendation 12.

Recommendation 13: Governance: Governance arrangements for a CCP should be clear, and transparent to fulfil public interest requirements and to support the objectives of owners and participants. In particular, they should promote the effectiveness of a CCP’s risk management procedures.

Answers to Key questions

1. What are the governance arrangements for the CCP? What information is publicly available about the CCP, its ownership and its board and management structure?

DTCC is the parent holding company of NSCC. The DTCC common shareholders include approximately 362 banks, broker-dealers, mutual funds, and other companies in the financial services industry that are participants of one or more of DTCC’s clearing agency subsidiaries, including NSCC.

Individuals elected to the DTCC Board of Directors are also elected to the Boards of Directors of NSCC and its affiliates, DTC and FICC. Board members also serve on specific Board Committees, some of which also include members who are not on the Board. The Board Committees include an Audit Committee, a Credit and Market Risk Management Committee (with responsibility for credit determinations on members and applicants and market risk issues, including Clearing Fund components and formulas), a Compliance and Operational Risk Management Committee (with responsibility for compliance and operational risk issues, including liquidity management issues), a Core Services Operations and Planning Committee (with responsibility for service development and oversight, including budgetary and fee matters) and other committees. The Audit Committee is composed only of Board members; the other committees named include non-Board representation.

Since DTCC’s formation in 1999, the corporate governance practices of DTCC and its registered clearing agencies have been the subject of significant focus by the Boards and management of the clearing agencies. The clearing agencies continually review corporate governance standards as they evolve and adopt best practices for public companies where appropriate. This year DTCC is conducting an extensive review of its governance practices to ensure that they meet applicable requirements and provide for coordinated and comprehensive oversight of DTCC’s operations and risk management; recommendations from this review are expected to be reviewed by the Board and other involved parties and implementation plans put in motion by year-end 2009.

Fair Representation

Section 17A of the Exchange Act requires that the rules of a registered clearing agency “assure a fair representation of its shareholders (or members) and participants in the selection of directors and administration of its affairs” (the “Fair Representation Requirement”). The clearing agencies’ corporate governance practices (including the requirement for certain classes of participants of each clearing agency to acquire DTCC

common shares and thereby have the right to vote in the election of clearing agency directors), the process for nominating directors, and the responsibilities and composition of Board committees are all intended to help assure satisfaction of the Fair Representation Requirement.

Acquisition of DTCC Common Shares, and
Voting in the Election of Clearing Agency Directors

Certain participants of each DTCC registered clearing agency subsidiary (other than certain classes of limited participants) are required to purchase and own DTCC common shares in amounts proportionate to their use of the services and facilities of all DTCC clearing agency subsidiaries. Share allocations are reviewed on a periodic basis, not less frequently than once every three years.

All of the above information is publicly available both through the NSCC website, www.dtcc.com and through annual reports and other publications and notices.

2. Is there a clear separation in the reporting lines between risk management and other operations of the CCP? How is this separation achieved? Is there an independent risk management committee?

There is a clear separation in the reporting lines between risk management and other operations of NSCC. The Chief Risk Officer reports directly to the Chairman and Chief Executive Officer. The Board of Directors has appointed a number of standing committees, including a Credit and Market Risk Management Committee, whose responsibilities include overseeing membership and risk management issues, including determinations to cease to act for members. The Compliance and Operational Risk Management Committee oversees compliance with legal and regulatory requirements and oversees operational risk issues for the organization. There is a separate Board Committee, the Core Services Operations and Planning Committee, that oversees product services and operations, including the approval of fees.

In addition, liquidity arrangements are subject to the approval by the Board of Directors and liquidity studies are reviewed by the Compliance and Operational Risk Management Committee.

3. What steps are taken to ensure that management and the Board have the adequate skills and incentives to achieve the CCP's objectives of delivering sound and effective services and to meet related public interest requirements? What are the mechanisms the Board has in place to ensure the objectives include delivering sound risk management and meeting related public interest requirements? How are management and the Board made accountable for their performance? How is the composition of the Board determined? Are there mechanisms to ensure that the Board contains suitable expertise and takes account of all relevant interests? Are reporting lines between management and the Board clear and direct? Is the Board responsible for selecting, evaluating, and if necessary removing senior management?

Management and the Board establish formal corporate goals yearly based on consultation with individual participants, members of the Board, Board Committees, advisory committees, industry associations, regulators and others. The Board measures management's performance against these goals periodically throughout each year by reviewing status reports from management and from Board committees that have oversight responsibilities for particular activities with respect to which goals have been established. In addition, the Board's Compensation Committee receives periodic reports throughout the year on the achievement by management of corporate goals. At the December Board meeting, the Board makes its final evaluation of management's performance against goals for the year.

Through evaluation of management performance, and by linking compensation to performance, the Board seeks to ensure that management has the incentives and skills needed to achieve the clearing agency's objectives, and that management is accountable for its performance.

Compensation

The Board's Compensation Committee, which is composed of non-management directors, is responsible for approving compensation actions (merit increases, incentive compensation, and other benefits, including deferred compensation and medical) for the members of management that report directly to the Chief Executive Officer, and for recommending to the Board compensation actions for the Chief Executive Officer. An independent compensation consultant makes recommendations to the Compensation Committee on these actions. The Board meets in executive session to consider the Committee's recommendations respecting the Chief Executive Officer.

The General Auditor reports functionally to the Audit Committee, which is responsible for approving the General Auditor's salary and performance appraisal.

Board Composition and Nominating Process

The Boards of each clearing agency may have between 15 and 25 directors, as determined by the Board each year. Only two members of management, DTCC's Chairman and Chief Executive Officer and its Chief Operating Officer, are also directors – the other directors are independent of management. Individuals elected to the DTCC Board by the common shareholders are also elected to the Boards of DTC, NSCC and FICC. Two members of the Board represent DTCC's preferred shareholders, the NYSE and FINRA. DTCC preferred shareholders have no right to vote on any matters submitted to a vote of DTCC shareholders, although each of the two DTCC preferred shareholders are entitled to elect one director.

Each year, the Board appoints members of the Governance Committee. They, in turn, recommend nominees for directors to the Board. They do this after soliciting from participants of each clearing agency suggested nominees for election by common shareholders. The Committee standards in recommending nominees are designed to satisfy the Fair Representation Requirement, and reflect other governance best practices.

Under its charter, the Governance Committee has the responsibility to nominate persons for election as directors based upon the following factors: ability to represent users of the services of each of DTCC's clearing and depository subsidiaries; ownership of DTCC common stock; expertise; with respect to current directors, their length of service, attendance at Board and Committee meetings, and effectiveness; and adequate diversity on the Board.

Finally, as discussed in the response to key question 1 above, the requirements of the Exchange Act, coupled with the facts that the clearing agency is owned by its users and that the members of the Board of Directors are predominantly individuals whose companies are users of the system, serve to ensure that shareholders, users, and public interests will be taken into account in the Board's deliberations and that the Board's objectives include delivering sound risk management and meeting related public interest requirements.

The foregoing response represents DTCC's and the NSCC's current practices with respect to the subjects covered. As stated above in response to key question 1, DTCC is conducting a review of its corporate governance practices generally in 2009, which review will consider all of the subjects covered by the key questions in this Recommendation 13. Any changes on the subjects covered herein will be reflected in subsequent revisions to this self-assessment.

4. Are the CCP's objectives, those responsible for meeting them and the extent to which they have been met disclosed to owners, participants, and public authorities? What are they?

NSCC's public interest objectives are necessarily based upon Section 17A of the Exchange Act which reflects the finding of the U.S. Congress that:

The prompt and accurate clearance and settlement of securities transactions, including the transfer of record ownership and the safeguarding of securities and funds related thereto, are necessary for the protection of investors and persons facilitating transactions by and acting on behalf of investors.

In Section 17A, Congress directed the SEC, "having due regard for the public interest," to facilitate the establishment of a national system for the prompt and accurate clearance and settlement of securities transactions by, among other things, the registration of clearing agencies that have been determined by the SEC to meet the statutory standards included in Section 17A(b)(3) of the Exchange Act. One of these standards is that the rules of the clearing agency must be

designed to promote the prompt and accurate clearance and settlement of securities transactions . . . and, in general, to protect investors and the public interest.

Under §19 of the Exchange Act and SEC rules promulgated thereunder, NSCC, as a registered clearing agency, must submit proposed changes to its Rules, including changes that affect the rights and obligations of NSCC and its participants, to the SEC for approval before they can be implemented.¹³ The form by which a proposed rules change is filed with the SEC requires that NSCC justify its proposal by reference to the statutory objectives set forth in Section 17A of the Exchange Act.

These proposed rules changes are published by the SEC for comment by participants and members of the public. NSCC includes on its website proposed rules changes and the SEC notices inviting comments as well as SEC orders approving proposed rules changes.

Section 19 of the Exchange Act provides for SEC approval of proposed rules changes submitted for approval only upon the SEC's determination that the proposal is consistent with the requirements of the Exchange Act and related SEC rules and in the public interest.

NSCC's financial objectives, to continue to provide services to its participants at cost and to return to participants revenues in excess of its costs and amounts needed to be retained, are clearly articulated in a variety of publications, including DTCC's annual reports.

The regulatory process described above as well as the fact that NSCC is user-owned and user-governed assure that NSCC's public interest and financial objectives are satisfied.

ASSESSMENT: NSCC observes Recommendation 13.

¹³ Certain proposed rules changes of lesser significance submitted to the SEC may be implemented without formal SEC approval. However, the SEC may summarily abrogate such rules changes "if necessary or appropriate in the public interest."

Recommendation 14: Transparency: A CCP should provide market participants with sufficient information for them to identify and evaluate accurately the risks and costs associated with using its services.

Answers to Key questions

1. Does the CCP disclose to market participants its rules, regulations, relevant laws, governance procedures, risks, steps taken to mitigate risks, the rights and obligations of participants and the costs of using the CCP services? Does the CCP make clear when and in what circumstances it assumes counterparty exposure and any restriction or limitations on its fulfilment of its obligations? Does the CCP disclose appropriate quantitative information on its clearing, netting, and settlement activities? Does the CCP provide market participants with sufficient information on default procedures and stress testing?

NSCC's rules provide information on the subjects noted in the question. In addition, NSCC often issues explanatory service bulletins and guidelines on risk management measures via Important Notices to members. All of the foregoing information is published on NSCC's website. The website also contains general information about products and services as well as contact information.

NSCC's rules are explicit as to when NSCC assumes counterparty exposure. The rules also provide information on default procedures.

In addition, unaudited quarterly and audited annual financial statements are made available to members. Consolidated financial statements of DTCC are available on the DTCC website, www.dtcc.com.

Information on stress testing is not currently provided to members.

2. How is information made available? In what language or languages? In what form?

Information is provided in English. *See* the response to Question 1 immediately above as to how and in what form information is provided.

In addition to information provided on DTCC's website, management responds to inquiries from participants and meets with them as may be requested, to assist them in their understanding of the Rules and the risk implications thereof.

ASSESSMENT: NSCC broadly observes Recommendation 14.

Additional Comments: NSCC believes that it has addressed, on a broadly observed basis, the objectives that underlie Recommendation 14. The intent of Recommendation 14 is for the CCP to provide information publicly so that the CCP's participants are able to identify and evaluate the risks and costs to which they could be exposed as a result of participation in the CCP. The way in which participants determine their risks of participation in NSCC is through analyzing the Rules, which are publicly available, and fee implications thereof. Changes to the Rules which could affect the risks to which participants may become subject by virtue of their participation are accompanied with a narrative that is part of the rule filing form and that explains each Rule change. Participants (and the public generally) have the right to submit comments on Rule changes that will be considered by the SEC prior to its making a determination on the filing. Moreover, participants have the right to voluntarily terminate their membership if they do not wish to comply with a Rule change prior to such change's effectiveness.

Recommendation 15: Regulation and oversight: A CCP should be subject to transparent and effective regulation and oversight. In both a domestic and international context, central banks and securities regulators should cooperate with each other and with other relevant authorities.

Answers to Key questions

1. How is the CCP regulated/overseen? Describe the laws that authorize and govern the CCP's operation, the applicable regulatory bodies and their respective authority for the CCP's operation. Do the securities regulator and central bank have sufficient legal capacity and resources (including experienced staff and funding) to carry out effective regulation and oversight?

In the United States, the SEC is statutorily responsible for overseeing the activities of clearing agencies. As a registered clearing agency, NSCC is regulated and examined by the SEC pursuant to the provisions of Section 17A of the Exchange Act.

NSCC does not perform banking functions, and therefore is not supervised by the central bank. However, pursuant to the Federal Reserve Act, the Federal Reserve has the authority to examine NSCC as an affiliate of DTC, a member of the Federal Reserve System. Additionally, the Federal Reserve is interested in NSCC's observance of the RCCPs given the importance of NSCC for the liquidity of financial institutions and the stability of the overall financial system. The Federal Reserve coordinates with the SEC to conduct oversight, but the U.S. currently does not have a statute providing formal oversight authority to the central bank for payment, clearing, and settlement services.

The SEC and the Federal Reserve have sufficient legal capacity and resources to carry out effective regulation and oversight.

2. Are the objectives, responsibilities and main policies of the securities regulator, central bank and, where relevant, banking supervisor, clearly defined and publicly disclosed? Are the regulations, roles and policies written in plain language so that they may be fully understood by CCPs and their participants?

The SEC's regulatory objectives, responsibilities, and main policies are defined and publicly disclosed. For example, the scope of the SEC's regulation of clearing agencies is defined by the Exchange Act, namely Sections 17A and 19. The SEC has adopted rules to carry out these statutory responsibilities. In order to assist registrants in meeting their statutory responsibilities, the SEC has published guidance on how a clearing agency applicant can meet the objectives set forth in Section 17A. In addition to publishing proposing and adopting releases for its own rules, the SEC also publishes concept releases and policy statements to educate industry participants as to the Commission's positions on different issues, such as straight-through processing, confirmation of trades, operational outages, and business continuity. These materials are publicly available from several sources, including the SEC's website www.sec.gov. The SEC has adopted a plain English standard for filings by registrants and NSCC seems to

meet the same standard. In addition to publications, SEC staff maintains an active dialogue with NSCC management.

The Federal Reserve also publishes policy statements which are readily available to the public. For example, the Federal Reserve's Policy on Payments System Risk is available at www.federalreserve.gov. Operating Circulars governing Reserve Bank services are available online at the Federal Reserve's Financial Services website at <http://www.frb.services.org/>. Other service related information, such as services offered, forms, agreements, schedules, and fees, can be obtained on this site.

3. What information is the CCP required to provide, including information on operations that have been outsourced? How frequently is this information provided? Are there specific information requirements for participants' defaults and CCP financial difficulties? Is the CCP required to report significant events, such as rule changes, outages, and changes in risk management procedures?

NSCC is statutorily required to comply with several recordkeeping requirements set forth in the Exchange Act (Section 17) and SEC rules (Rule 17a-1 et. seq.). For example, NSCC must maintain business records related to its self-regulatory activities. These materials must be held for a period of not less than five years, with the first two years in an "easily accessible place". SEC Rule 17a-6 sets forth the manner by which NSCC may destroy/dispose of such documentation. All of this information may be provided to the SEC either during a specific supervisory examination or upon request.

In certain instances, NSCC also may be asked to furnish copies of materials upon request from its participants, other self-regulatory organizations, or other regulators. In addition, during examinations, NSCC is required to provide examiners with documentation relevant to the examination scope.

NSCC is required to notify the SEC if it ceases to act for a participant and indicate the actions taken by NSCC to resolve outstanding obligations.

In addition, NSCC is required to submit all rule changes to the SEC for review, comment, and in some cases approval. Section 19 of the Exchange Act and the rules thereunder define the circumstances under and means by which SROs must file proposed rule changes. Depending on the proposal, some rule changes are "effective upon filing," where others are subject to review, public comment, and final approval by the SEC's Division of Market Regulation, pursuant to delegated authority.

The SEC has established an Automation Review Policy ("ARP") applicable to SROs, including NSCC. Under the policy, SROs voluntarily establish comprehensive planning and assessment programs to determine systems capacity and vulnerability. ARP also requests that SROs provide SEC staff with real-time notifications of significant system outages. ARP staff at the SEC also conducts IT-specific onsite examinations of NSCC, separate from other reviews conducted by SEC examination staff.

4. Is there a framework for cooperation between relevant authorities for the CCP, including domestic and non-domestic? If so, describe the principles underlying this/these framework(s) and their main contents, including any information-sharing arrangements and decision-making procedures.

The legal framework supports cooperation and coordination among the authorities. For example, the SEC has entered into memoranda of understanding with regulators in various non-domestic jurisdictions for the exchange of information. In addition, the SEC and the Federal Reserve have signed information-sharing arrangements regarding the oversight of NSCC. The main principle underlying this framework is to provide for consolidated supervision and to stem systemic risk.

ASSESSMENT: NSCC observes Recommendation 15.

August 13, 2009

THE DEPOSITORY TRUST COMPANY

**Assessment of Compliance with the
CPSS/IOSCO Recommendations for Securities Settlement Systems**

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I. INTRODUCTION

The Committee on Payment and Settlement Systems and the Technical Committee of the International Organization of Securities Commissions (collectively, “CPSS-IOSCO”) recognize that financial systems and their participants depend on safe and efficient payment systems. These international organizations have noted that Securities Settlement Systems (“SSS”) occupy an important place in such systems.

In November 2001, the CPSS-IOSCO issued the Recommendations for Securities Settlement Systems (“SSS Recommendations”). The SSS Recommendations identified nineteen minimum standards that all securities settlement systems worldwide should meet to enhance international financial stability, reduce risk, increase efficiency, and provide adequate safeguards for investors. Following on this effort, in November 2002, the CPSS-IOSCO developed an assessment methodology to facilitate evaluation of SSSs against the minimum standards.

In support of the international risk-management standards for SSSs the Board of Governors of the Federal Reserve System (“Board”) incorporated the SSSs Recommendations into the Federal Reserve Policy on Payment System Risk (“PSR Policy”), which addresses risk-management in U.S. payments and settlement systems. The PSR Policy was revised in January 2007 to set the expectation that systemically important SSSs conduct self-assessments against the SSS Recommendations and disclose publicly the results.

The Depository Trust Company (“DTC”) is a systemically important system for custodial and settlement services. Therefore, DTC has assessed itself against the SSS Recommendations. Sixteen of the nineteen SSS Recommendations are applicable to DTC. DTC observes each of the applicable sixteen SSS Recommendations as more fully described herein.

The United States Congress requires clearing agencies, such as DTC, to be registered with the U.S. Securities and Exchange Commission (the “SEC”) and subject to the SEC’s comprehensive oversight. The clearing agency standards that DTC is required to adhere to as a clearing agency mirror some of the SSS Recommendations. DTC has well-founded and transparent legal framework that is based upon the laws and regulations governing the settlement of securities transactions and the conduct of securities clearing agencies in the United States. DTC’s corporate governance structure is designed to fulfill the public interest requirements of the Securities Exchange Act of 1934 as amended (“Exchange Act”) and provides for fair representation of users. DTC’s rules are clear and enable its Participants to understand the financial risks associated with participation in DTC. DTC provides DTC Participants with safe and secure operations while maintaining cost-effectiveness.

Background

DTC is a wholly-owned subsidiary of The Depository Trust & Clearing Corporation. DTC is a limited purpose trust company organized under the New York Banking Law, a

clearing agency registered under the Exchange Act, a clearing organization as defined in the Federal Deposit Insurance Corporation Improvement Act (“FDICIA”), a clearing corporation as defined in the Uniform Commercial Code (“UCC”) and a member bank of the Federal Reserve System. DTC is subject to supervision or regulation by the SEC, the New York State Banking Department and the Federal Reserve Bank of New York.

Established in 1973, DTC was created to reduce costs and provide clearing and settlement efficiencies by immobilizing securities and making “book-entry” changes to ownership of the securities. DTC is the world’s largest securities depository and a clearing house for the settlement of securities trading activity.

DTC is engaged in the business of effecting the transfer and pledge by computerized book-entry of securities deposited with it by its Participants. In order to facilitate subsequent transfers, all securities deposited by Participants with DTC are registered in the name of its partnership nominee, Cede & Co. When the certificates are registered in the name of Cede & Co., they become fungible. Participants do not have an interest in any particular certificate; they have a proportionate interest in the total inventory of certificates of an issue. The deposit of securities with DTC and their registration in the name of Cede & Co. effect no change in beneficial ownership.

DTC provides DTC Participants with a variety of Settlement Services to facilitate the end-of-day net settlement of obligations resulting from their trading activity in multiple markets. As described more fully below, DTC processes the movement of securities for trades that are cleared and settled in the Continuous Net Settlement (“CNS”) system operated by National Securities Clearing Corporation (“NSCC”), processes transactions settled in Canadian dollars through its interface with CDS Clearing and Depository Services, Inc., provides settlement services for institutional trades (which typically involve money and securities transfers between custodian banks and broker/dealers) that are affirmed/matched by Omgeo, and provides for the settlement of issuances and maturities of money market instruments.

DTC Interface with NSCC

NSCC is a systemically important system for clearing and settling virtually all broker-to-broker equity and corporate and municipal debt securities transactions in the United States. On an average trading day, NSCC clears over 40 million securities transactions.¹

NSCC was established in 1976 as a New York business corporation. Since 1999, it has been a wholly-owned subsidiary of The Depository Trust & Clearing Corporation. NSCC is registered with the SEC as a clearing agency.

NSCC’s core services are trade capture, and clearance and settlement through its CNS system. Trade capture, the first step in the clearance and settlement process, involves the daily receipt of trade data from over 50 trading venues, including national and regional securities exchanges, automated trading facilities and electronic communication networks

¹ Based upon 2008 transaction data.

and from NSCC Members submitting transaction data directly. That data is then compared or recorded. Trade comparison consists of validating and matching the buy and sell sides of a securities transaction, and results in a compared trade that is reported to its Members. As straight through processing measures have been adopted by the marketplaces, today over 99% of trade data is submitted to NSCC on a “locked-in” basis, meaning that it is already compared by the marketplace of execution, and when submitted it is validated, recorded and reported to NSCC Members. The only trade comparison currently being done by NSCC is for some over-the-counter equity product and fixed income (corporate and municipal) securities processing.

Under the CNS system, all compared and recorded transactions are netted by issue into one net long (buy) or net short (sell) position. As a continuous net system, those positions are further netted with positions of the same issue that remain open after their originally scheduled settlement date (usually T+3), so that trades scheduled to settle on any day are netted with fail positions to result in a single deliver or receive obligation for each Member for each issue in which it has activity. NSCC becomes the contra-party for settlement purposes, assuming the obligation of its Members that are receiving securities to receive and pay for those securities, and the obligation of Members that are delivering securities to make the delivery. CNS netting thus reduces the costs associated with securities transfers by reducing the number of securities movements required to settle transactions. In 2008, NSCC reduced the total value of obligations requiring financial settlement by 99%--from \$315.1 trillion to \$2.89 trillion.

CNS relies on an interface with DTC for the book-entry movement of securities to settle obligations. CNS short positions (i.e., obligations to deliver) are compared against Members’ DTC accounts to determine issue availability. If securities are available, they are transferred from the NSCC Member’s account at DTC to NSCC’s account at DTC to cover the NSCC Member’s short obligations to CNS. To control the automatic delivery of securities from their DTC accounts, NSCC Members can use CNS exemption procedures (partial settlements are permissible).

The allocation of CNS long positions (i.e., obligations to receive) to receiving NSCC Members is processed in an order determined by an algorithm built into the system. Securities are automatically allocated to NSCC Members’ long positions as the securities are received by NSCC. NSCC Members can request that they receive priority for some or all issues on a standing or override basis. Submission of buy-in notices and other specified activity will also affect the priority of a NSCC Member’s long position.

NSCC Daily money settlement for CNS activity is based on the value of all settled positions plus or minus mark-to-the-market amounts for all open CNS positions, and occurs through NSCC. The CNS deliveries made through DTC are made free of payment.

NSCC’s self-assessment of compliance with the CPSS-IOSCO Recommendations for Central Counterparties can be found at <http://www.dtcc.com/legal/compliance>.

DTC Interface with CDS Clearing and Depository Services Inc.

In 2006, DTC established with CDS Clearing and Depository Services Inc. (“CDS”) a “northbound” Canadian-Link Service that supports valued transactions settled in Canadian dollars. This Canadian-Link Service enables DTC Participants to clear and settle two categories of securities transactions – cross-border Canadian dollar securities transactions with participants of CDS (“CDS Participants”) and intra-DTC Canadian dollar securities transactions with other DTC Participants. The Canadian-Link Service also enables DTC Participants to transfer Canadian dollar funds to CDS Participants (through the facilities of CDS) and to other DTC Participants (through Canadian settlement banks acting for DTC and such DTC Participants). As with U.S. dollar transactions, Participants’ security positions received versus Canadian dollars are immediately available for redelivery in DTC as long as sufficient collateral and debit cap controls exist.

The Canadian-Link provides Participants with a single depository interface for U.S. and Canadian dollar transactions and reduces cross-border processing costs and inefficiencies. The link also eliminates the problems associated with maintaining split inventories by permitting Participants to concentrate all U.S. and Canadian security positions in their DTC accounts. This eliminates the need for Participants to maintain some portion of a position in a dually-listed issue in CDS for Canadian dollar settlements and the remainder in DTC for U.S. dollar settlements. It also eliminates the need for Participants to reposition inventory in preparation for corporate action events and or transaction processing.

DTC Interface with Omgeo

For institutional trades, DTC accepts electronic transmission of affirmed/matched trades from any service provider that has SEC approval to provide such services in the U.S. market. Currently, Omgeo, a joint venture between DTCC and Thomson Reuters, is the only such approved provider.

Omgeo provides global trade confirmation and trade matching systems. Institutional investors’ trades affirmed in Omgeo’s trade confirmation and trade matching systems are passed to DTC’s settlement system electronically for automated settlement on a trade-for-trade basis. As a result of this automated process, the DTC Participants who settle such trades are not required to affirm/match the trade a second time. Rather, DTC Participants that are to deliver traded securities give electronic authorization to DTC to attempt the deliveries on their behalf and if they have a sufficient quantity of such securities in their accounts, the deliveries are completed.

Issuances and Maturities of Money Markets Instruments (“MMIs”)

Prior to 1990, most U.S. money market instruments were issued and traded in physical form. This started to change in 1987 when DTC expanded its services to include a mechanism for the settlement of transactions against same-day funds in certain types of securities which customarily settle on that basis. Initially, the service was made available for municipal notes with a maturity of one year or less; municipal bonds issued with demand options; zero coupon bonds backed by U.S. Government securities; collateralized mortgage obligations and other asset-backed securities; auction-rate and tender-rate preferred stocks and notes; and medium term notes. Beginning in 1990, commercial paper, as well as money-market certificates of deposit and bankers acceptances were made eligible for DTC services. Today, approximately 99% of all U.S. commercial paper is distributed and settled through DTC. MMIs represent approximately 42% of DTC’s total settlement value and 3% of the total number of transactions processed. DTC also offers full asset services for the various eligible types of MMI. The operating procedures followed by Participants for MMI’s are the same as for other DTC eligible securities with the exception of the processing of maturity presentments (“MPs”).

As part of the MMI program, DTC provides Participants and Issuing/Paying Agents (“IPAs”) with an automated book-entry system for settling issuances and maturity presentments of money market instruments. The IPA must be a DTC bank Participant with a Participant account established for its issuing agent or paying agent activity.

The MMI issuer’s Issuing Agent sends issuance instructions to DTC electronically, identifying the MMI issue(s) by CUSIP number. The MMI securities are credited to the account of the receiver designated by the MMI Issuing Agent and, simultaneously, a memo entry is made to the Issuing Agent Account reflecting that the MMI securities have been delivered as instructed.

The instruction of an MMI Issuing Agent to DTC to deliver MMI securities in connection with their issuance constitutes a representation that such MMI securities are issued in accordance with applicable law. MMI securities may be subject of a free delivery or a delivery versus payment.

If, in connection with their issuance, MMI securities are subject of a delivery versus payment, such delivery is subject to DTC’s risk management controls applicable to money settlement described more fully below.

Under DTC’s procedures for the processing of MPs, early on the maturity date (generally around 2:00 a.m.) DTC initiates deliveries of the maturing paper from the accounts of Participants having position in the maturing paper to the MMI Participant account of the IPA. These MPs are processed as the equivalent of book-entry deliveries versus payment. (Similar procedures are used to process other payments, such as periodic interest payments, periodic principal and interest payments, or reorganization payments.) As such, MPs may “pend” just as any delivery would if the net debit cap or collateralization controls applicable to the IPA’s account prevent the delivery from updating. Pending MPs would update once additional funds (e.g., from intra-day

Settlement Progress Payments (“SPPs”) or new issuances) are credited to the IPA’s account.

The processing system seeks to “align” settlement credits from an issuer’s new issuances to settlement debits from that issuer’s MPs (although, if no such MPs are pending, the netting process may cause these credits to offset the processing of other MPs). Further, IPAs can target settlement credits from an SPP to a specific issuer’s maturity presentments. IPAs also have the option to prioritize the order and manner in which MPs are processed, and to take other steps to control their risk in connection with this process. (For example, IPAs also have the option to designate issuer processing priority, meaning that a selected issuer’s MPs are last in the priority queue to have access to the IPA’s net debit cap or settlement credits.)

Money Settlement at DTC

In addition to a securities account at DTC, each Participant has a settlement account. During the day, debits and credits are entered into the Participant’s settlement account. The debits and credits arise from securities transfers against payment made and received by the Participant and from other transactions such as principal and income payments received in respect of securities credited to the Participant’s securities account. At the end of each day, the debits and credits in the Participant’s settlement account are netted. Then, DTC and NSCC net the settlement balances of each DTC Participant that is also a member of NSCC. After netting with NSCC, DTC pays any net credit balance in the account to the Participant, and the Participant pays any net debit balance to DTC. Payments are made to and from DTC’s account at the Federal Reserve Bank of New York through the Federal Reserve NSS System. (See Recommendation 2). Each Participant must choose a bank that is a DTC Participant bank with access to the Fedwire system and NSS, to act on the Participant’s behalf in settling with DTC (“Settling Bank”). A Participant which qualifies as a Settling Bank may act as its own Settling Bank. A Settling Bank is not required to pay DTC a debit balance on behalf of a Participant and is not required to advance funds to a Participant. Settling Banks, however, are required to both acknowledge their balance with DTC and to fund their master account at the Federal Reserve on a daily basis. Failure to do either by the time specified in DTC’s Failure to Settle Procedures, may result in a fine.

A Settling Bank may refuse to settle for one or more of the Participants it represents. If a Participant’s Settling Bank refuses to settle for it, then that Participant has until 10 A.M. the next business day to settle its obligation with DTC.

Risk Management Controls Applicable to Money Settlement

Risk management controls play a major role in the design of DTC’s settlement system. Intended to protect DTC Participants against the inability of one or more Participants to pay for their settlement obligations, DTC’s risk management controls are based on guidelines established by the Federal Reserve for book-entry securities systems that settle over Fedwire. DTC currently employs three primary risk management controls for

securities processing, i.e., collateralization, net debit caps, and for money market instruments exclusively, the Largest Provisional Net Credit (“LPNC”) control.

Collateralization is meant to assure that a Participant that fails to pay for its settlement obligation will have collateral in its account sufficient to cover that obligation and available to be liquidated in the event it were insolvent. DTC’s collateralization monitoring procedures prevent the completion of transactions that would cause a Participant’s net debit to exceed the total available collateral in its account. Similarly, the application of net debit cap controls helps assure that DTC will have sufficient liquidity to cover the failure of any single Participant, or of a financial family of affiliated DTC Participants (“Affiliated Family”).² DTC’s system prevents the completion of transactions that would cause a Participant’s net debit to rise above a specific amount – its net debit cap. Participants’ net debit caps are limited by DTC’s established maximum net debit cap, the value of which is always set lower than DTC’s total available liquidity.

Although the vast majority of transactions will be subject to DTC’s risk management controls, there are certain types of activity that will be allowed to override collateralization and net debit cap controls. They are: validated reclaims with a settlement value less than \$15 million, payment orders valued less than \$1 million and DTC-generated activity (e.g., monthly billing charges). A validated reclaim is the return of delivery of the same securities (and, if against payment, against the same payment) or a payment order initiated by the original receiver to the original deliverer on the same day that the original delivery is received. A payment order is a method for settling amounts of money related to securities transactions that are effected separately through DTC earlier on the same day. Payment orders can be used to collect premiums and marks-to-market on open contracts such as stock loans.

In addition to requiring Participants to have sufficient collateral to support their net debits and ensuring that their net debits do not exceed their net debit caps, an additional procedure – LPNC, has been established to ensure that the occurrence of a combined Money Market Instrument (MMI) issuer’s default and a Participant’s failure to settle does not expose DTC to loss and liquidity risks.

If by 3:00 PM (ET), DTC is informed by an MMI Paying Agent of its refusal to pay for the maturity presentments of an MMI issuer, or if DTC learns of the insolvency of an MMI issuer, DTC would invoke Issuer Failure procedures. These procedures entail the unwinding (reversal) of that issuer’s maturity presentments, valued issuances, and valued deliveries and pledges originating from new issuances of the failed issuer. LPNC procedures help ensure that unwinding transactions in any failed MMI issue does not cause any Participant’s net debit to become under-collateralized or exceed its net debit cap.

² Affiliated Family means each Participant that controls or is controlled by another Participant and each Participant that is under the common control of any Person. For purposes of this definition, “control” means the direct or indirect ownership of more than 50% of the voting securities or other voting interests of any Person.

LPNC procedures provisionally “withhold” from Participants the benefit of the largest net settlement credit they would have received in any MMI program during most of the processing day. To support this process, DTC’s system tracks all of a Participant’s MMI activity and continuously monitors the MMI program in which the Participant has the largest net credit. This net credit is the Participant’s LPNC, or largest provisional net credit (referred to as “provisional” because of its reversible nature). It is the largest net credit that is “withheld” to assure protection regardless of which MMI issuer fails. The provisional net credit is not made available to the Participant as collateral to support its net debit, nor is it deemed a credit in the calculation of the Participants’ net debit.

Because transactions in a failing MMI issue would be reversed only if DTC is informed of the default by 3:00 PM (ET), LPNC procedures remain in effect only until approximately 3:05 PM (ET) at which time, assuming no issuer default, the credit becomes final (i.e., it is no longer “withheld”) and is applied to calculate the Participant’s collateral and net debit.

DTC maintains a Participants Fund. While the minimum deposit is \$10,000, each Participant is required to make a deposit to the Participants Fund based upon a sixty business-day rolling average of the Participant’s intra-day net debit peaks. In the event that DTC becomes concerned with a Participant’s operational or financial soundness, DTC may require an additional deposit to the Participants Fund. A Participant may make a voluntary deposit to the Participants Fund in excess of the amount required. In addition to being a liquidity resource, the Participants Fund is available to satisfy any uninsured loss incurred by DTC, including a loss resulting from a Participant’s failure to settle. In the event of such loss, DTC would first charge the loss to that Participant’s deposit to the Participants Fund (including its voluntary deposit, if any). If the loss exceeded the failing Participant’s deposit DTC could charge the excess to its retained earnings or pro rata to the required Participants Fund deposits of all other Participants. Should DTC make a charge against a Participant’s required deposit to the Participants Fund (pro rata or otherwise), the Participant must make an additional deposit to the Participants Fund in an amount equal to the charge. To date, DTC has never had to use the Participants Fund (other than a failing Participant’s own deposit) to satisfy a loss.

Other Services

DTC also provides a wide range of settlement, custody and related tax services for its member banks, broker-dealers and clearing agencies. Its network links broker-dealers, custodian banks and institutional investors, as well as transfer, paying, exchange and redemption agents for securities issuers. Its relationships with other clearing agencies and its strategic partnerships with industry service providers contribute to efficient global trading and settlement.

The principal Settlement Services also include:

- **Underwriting Service:** In general, DTC-eligible securities are securities that are registered with the SEC pursuant to the Securities Act of 1933, as amended (the

“Securities Act”), or are exempt from such registration under an exemption that does not involve transfer restrictions or are eligible for resale under Rule 144A (“Rule 144A”) of the Securities Act or Regulation S (“Regulation S”) of the Securities Act. Securities eligible for all DTC services include corporate equities and bonds, municipal bonds, money market instruments, mortgage bonds and Treasury and Agency securities and others. DTC provides services for most asset-backed securities, collateralized mortgage obligations, Rule 144A securities exempt from registration under the Investment Company Act of 1940 pursuant to section 3(c)(7) and Regulation S securities, as well as American depository receipts and global issues.

- **Prospectus Repository System:** An electronic repository for prospectuses and offering memoranda for issues that are DTC-eligible.

DTC provides DTC Participants with a variety of Asset Services to facilitate efficient and effective centralization, simplification and automation in the handling of physical securities and the processing of principal and income payments and corporate actions for securities that are DTC-eligible. The principal Asset Services that DTC provides include:

- **Deposit Service:** Allows DTC Participants to deposit DTC-eligible securities for a full range of safekeeping and book-entry processing services.
- **Custody Service:** Allows DTC Participants to deposit for custody-only securities that are not eligible for book-entry processing, such as customer-registered securities, restricted securities, certificated money market instruments, private placements and limited partnerships.
- **Direct Registration System (“DRS”):** Provides for the electronic direct registration of securities in the names of investors on the books of securities issuers or their transfer agents, and allows such securities to be transferred electronically between transfer agents and broker-dealers by DTC book-entry delivery to facilitate purchases and sales.
- **Dividends Service:** Facilitates the announcement, collection, allocation and reporting of dividend, interest and certain principal payments for securities held in custody by DTC.
- **Reorganization Service:** Provides DTC Participants with information about various issuer reorganization activities (e.g., mergers, stock dividends, redemptions), and processes such actions on behalf of Participants having those issuers’ securities credited to their DTC accounts.
- **Restricted Deposit Service:** Allows DTC Participants to use DTC to intermediate in the removal of transfer restrictions on securities, including negotiability and documentation reviews and the registration of transfer of securities into unrestricted form.

DTC provides DTC Participants with a variety of Global Tax Services to facilitate compliance with their tax obligations, including international tax regulations, tax treaty provisions and withholding tax reporting requirements. The principal Global Tax Services that DTC provides include:

- **Domestic Tax Reporting Service:** Accumulates year-end tax reporting information on various types of U.S. securities to permit timely and accurate reporting.
- **US Tax Withholding Service:** An automated service that enables non-U.S. financial institutions holding U.S. securities at DTC to comply with U.S. non-resident alien withholding tax rules.
- **DTC Tax Relief:** A technology-based communications facility that enables DTC Participants to withhold international tax for themselves or their customers at the time a non-U.S. dividend payment is made or, subsequently, through an accelerated refund.
- **DTC Tax Info:** A tax information database on withholding rates and tax relief opportunities related to international securities held at DTC. “G”

II. ASSESSMENT OF OBSERVANCE

EXECUTIVE SUMMARY

Overall, DTC complies with the applicable SSS Recommendations. DTC fully observes the sixteen Recommendations that are applicable.

Legal Risk

U.S. law provides an enforceable legal framework for DTC’s activities (Recommendation 1).

Credit Risk

DTC establishes strict requirements for Participants’ financial resources and creditworthiness. These requirements are clearly set forth in DTC’s rules and DTC monitors that these requirements are met on an on-going basis. Participant requirements are objective and publicly disclosed. (Recommendation 14)

DTC’s risk controls address Participants’ failure to settle. (Recommendation 9).

Operational Risk

DTC maintains a high degree of security and operational reliability. DTC has several ways in which it identifies and manages its operational risk. Moreover, DTC has a formal business continuity plan in place that meets the standards set forth in the

“Interagency Paper on Sound Practices to Strengthen the Resiliency of the U.S. Financial System” (Recommendation 11).

Settlement Risk

Virtually all corporate and municipal securities issued to the public in the U.S. are distributed through DTC and are represented by one or more physical certificates that are immobilized at DTC (Recommendation 6). DTC provides a DVP mechanism that is DVP Model 2 described in the CPSS Report entitled, “Delivery Versus Payment in Securities Settlement Systems.” (Recommendation 7). The Federal Reserve Bank of New York is the settlement agent for DTC (Recommendation 10).

Custody Risk

DTC employs accounting practices and safekeeping procedures that fully protect Participants’ securities (Recommendation 12).

Trade Confirmation

DTC operates as a central securities depository and does not offer trade confirmation services. Trade confirmation is completed in a timely manner outside of DTC (Recommendation 2).

Timing of Settlement Finality

Final settlement on DTC’s system occurs no later than the end of the settlement day. A Participant receiving a delivery of securities intra-day is able to redeliver those securities the same day so long as DTC’s collateral, net debit cap and Largest Provision Net Credit (“LPNC”) controls applicable to both the redelivering Participant and the counterparty to the redelivery are satisfied. (Recommendation 8).

Other Issues

DTC’s governance arrangements are designed to fulfill public interest requirements and promote the objectives of its users (Recommendation 13). DTC maintains safe, secure and cost-effective operations by regularly reviewing service levels and improving the efficiency of its services (Recommendation 15). DTC uses standard messaging formats that are used by the international community (Recommendation 16). DTC provides market participants with information for them to identify and evaluate the risks and costs associated with using DTC (Recommendation 17). DTC is also subject to transparent oversight and regulation (Recommendation 18). Finally, DTC’s cross-border links have

been designed to reduce risks associated with cross-border settlements (Recommendation 19).

Table 1: summary of assessment results by category

Assessment category	Recommendations
Observed	1, 2, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19
Broadly Observed	
Partly Observed	
Non-observed	
Non-applicable	3, 4, 5

Recommendation by Recommendation Assessment of Observance

Recommendation 1: Legal Risk: *Securities settlement systems should have a well-founded, clear and transparent legal basis in the relevant jurisdictions.*

Answers to Key Questions

1. Are the laws, regulations, rules and procedures, and contractual provisions governing securities settlement arrangements public and readily accessible to system participants?

The laws, regulations, rules, and procedures governing the settlement of DTC-eligible securities include the Securities Exchange Act of 1934 (Exchange Act), Securities and Exchange Commission (SEC) rules and regulations, Federal Reserve Act, Federal Reserve Bank Operating Circulars, self-regulatory organization (SRO) rules and procedures, and state laws, as well as DTC's own rules and procedures. Each of these laws, rules, and regulations is readily accessible to DTC's Participants and the general public through a number of public sources.³ DTC's rules, bylaws, organization certificate and additional information also can be found on its website www.dtc.org.

2. (i) Does the legal framework demonstrate a high degree of legal assurance that:

(a) transactions are enforceable?

DTC Participants each enter into a membership agreement that is enforceable under New York State law. The agreements incorporate DTC's rules and procedures, respectively, by reference. Each DTC applicant is required to provide an opinion of counsel that the DTC Participant Agreement it enters into and DTC's rules and procedures are enforceable against it. Transactions processed by DTC are enforceable under applicable U.S. federal and New York State laws.

(b) customers' assets are adequately protected (particularly against the insolvency of custodians and intermediaries)?

DTC, as a central securities depository, holds customer securities on behalf of its Participants. Any judicial proceeding concerning DTC's insolvency will be administered under either the New York Banking Law or the U. S. Federal Bankruptcy Code. DTC's creditors should not succeed with respect to any claim made against deposited securities under either insolvency regime.

Further, Article 8 of the Uniform Commercial Code, which has been adopted by the State of New York, sets out rules regarding the rights and obligations of securities

³ The federal securities laws and SEC rules are available at www.sec.gov and Federal Reserve Bank Operating Circulars are available at <http://www.frbservices.org/>.

intermediaries (like DTC and DTC's Participants). Under Article 8, a person that deposits securities with a securities intermediary obtains a "securities entitlement." A "security entitlement" is a property right that a person obtains in the contents of a security account with a "securities intermediary." That term encompasses investor accounts with brokers and brokerage accounts with depository institutions. In general, a "security entitlement" guarantees an entitlement holder a priority in the financial assets held in that account over the securities intermediary or the security intermediary's creditors. The securities intermediary must follow the entitlement holder's directions with respect to the contents of the account. In particular, the securities intermediary must honor an "entitlement order" which is a communication from the entitlement holder directing transfer or redemption of a financial asset in the account.

(ii) Does the legal framework demonstrate a high degree of assurance that there is a clear and effective legal basis for:

(a) arrangements for the immobilization or dematerialisation of securities and the transfer of securities by book entry?

Article 8 of the Uniform Commercial Code sets out rules regarding the rights and obligations of entitlement holders, securities intermediaries, and other parties in both direct and indirect holding systems. The State of New York, domiciliary for DTC, has adopted revised Article 8 which sets forth the legal framework for the book-entry movements of securities at the depository. The Exchange Act also supports book-entry movement of securities.

(b) netting arrangements?

As a general matter, U.S. law supports netting arrangements relating to securities transactions. In particular, the U.S. Federal Deposit Insurance Corporation Improvement Act of 1991, as amended (the "FDICIA"), supports "netting contracts" providing for the netting of payment obligations and payment entitlements between and among clearing organizations and their members. Under the FDICIA, a payment under a netting contract is not subject to disaffirmance by the receiver or trustee in a subsequent insolvency proceeding. The netting provisions of FDICIA were designed to reduce systemic risk to the financial markets.

In addition, recent amendments to both FDICIA and the U.S. Bankruptcy Code contained in the Bankruptcy Abuse Prevention and Consumer Protection Act of 2005 (the "2005 Amendments") include provisions that validate master netting agreements in respect of securities, commodities, forward, swap and repurchase transactions, and provide that the close-out and netting of transactions arising under such agreements may not be stayed or avoided in any bankruptcy proceeding brought under the Code, the Federal Deposit Insurance Act ("FDIA"), or the Securities Investor Protection Act ("SIPA") (subject in the case of SIPA, to certain exceptions not relevant for clearing organizations).

(c) securities lending arrangements (particularly the ability to obtain a security interest in assets)?

Although U.S. law supports securities lending arrangements, DTC does not provide securities lending services to its Participants. DTC facilitates the delivery of securities to effect transactions between market participants, including deliveries made in connection with their securities lending activities, but DTC does not itself operate a securities lending service.

(d) finality of settlement?

DTC utilizes the payment system operated by the Federal Reserve Bank of New York to effect end-of-day cash settlement. In addition to completing settlement of transactions in DTC, DTC serves as the Settlement Agent for certain funds settlement obligations for its affiliated registered clearing agencies, Fixed Income Clearing Corporation (“FICC”) and National Securities Clearing Corporation (“NSCC”). On each settlement day, net debits are collected from settling members and net credits are distributed to settling members (via designated settling banks) over the National Settlement Service (“NSS”).

The NSS is governed by Reserve Bank Operating Circular 12 “Multilateral Settlement” (“OC 12”). At the end of each settlement day, DTC, as “Settlement Agent,” sends an NSS file to the Federal Reserve Bank of New York.⁴ This file lists debit or credit entries for particular depository institutions (referred to as “settlers” in OC 12) that are acting as settling banks under DTC’s rules. The Reserve Bank will debit or credit each settling bank’s master account at the Federal Reserve and credit or debit the same amount to DTC’s settlement account at the Federal Reserve. Each credit or debit to DTC’s settlement account is final under the Operating Circular when made.

Funds transfers through the Fedwire[®] Funds Service are governed by Subpart B of Regulation J which incorporates the provisions of Article 4A of the Uniform Commercial Code, and Reserve Bank Operating Circular 6 “Funds Transfer Through the Fedwire[®] Funds Service.” Regulation J provides the legal foundation for settlement finality: Payment to the receiving Participant over Fedwire Funds is final and irrevocable upon the crediting of the receiving Participant’s account, or when the payment order is sent to the receiving Participant, whichever is earlier. Payment orders generally are processed immediately following the Reserve Bank’s receipt of a transfer message.

⁴ The “Settlement Agent” is the entity authorized to act on behalf of the Settlers under OC 12. For further information on NSS, please see http://wpo.ny.frb.org:8080/National_Settlement_Service/settlement_service_menu.cfm.

(e) arrangements for achieving delivery versus payment?

Under DTC's rules, a delivery versus payment ("DVP") transaction is irrevocable as to the delivering party once the securities are credited to the receiving party's securities account. A DVP transaction is irrevocable as to the receiving party at the earliest of the following events: (i) when DTC makes a final determination that the balance in the settlement account of the receiving party for the business day is not negative; (ii) when the receiving party pays the amount of the negative balance in its settlement accounts, as determined by DTC for that business day; or (iii) during the business day, when (so long as DTC's risk management controls are satisfied) the receiving party instructs DTC to effect a delivery, pledge, or withdrawal of the securities received. *See* DTC Rule 9(B) (Transactions in Eligible Securities) for additional information.

DTC Rule 10, Section 2 provides that DTC may not at any time cease to deliver to a Participant the Participant's deposited securities, which include: (i) securities delivered into the Participant's account on a given day upon the effectiveness of the delivery as provided in DTC Rule 9; and (ii) securities deposited by a Participant, when the deposit complies with the Rules.

(iii) Has a court in the jurisdiction ever failed to uphold the legal basis of these activities/arrangements? And if so, for what reasons?

No.

3. Are the rules of the system and contracts between system participants enforceable notwithstanding the insolvency of a participant?

DTC's rules and procedures and contracts between Participants are enforceable notwithstanding the insolvency of a Participant. U.S. insolvency law does not include a zero-hour rule that allows the unwinding of securities transfers. Moreover, both the Bankruptcy Code and the FDIA generally uphold the enforceability of contracts to deliver securities that involve a financial intermediary, notwithstanding the insolvency of one of the parties to the contract.

Each DTC applicant is required to provide an opinion of counsel that the DTC Participant Agreement it enters into and DTC's rules are enforceable against it.

4. (i) Is there a significant level of cross-border participation in the SSS? If so, please describe and answer Question 4(ii).

Several non-US central securities depositories ("CSDs") are Participants of DTC. Transfers of DTC-eligible securities to and from the DTC accounts of those CSDs may be made free of payment and, in the case of three CSDs against payment. DTC has opened securities accounts at several CSDs as well.

(ii) Are other jurisdictions relevant for determining the adequacy of the legal framework? How has this been determined? Has the legal framework been evaluated for the other relevant jurisdictions? Are there conflict of laws issues and, if so, have they been addressed?

DTC's account agreements with its Participants are governed by New York law. For non-domestic members, additional jurisdictions may be relevant for determining the adequacy of the legal framework. DTC requires applicants to submit an acceptable opinion of foreign counsel so that DTC can evaluate conflicts of laws and other relevant legal issues stemming from the fact that the applicant is from a non-U.S. jurisdiction. However, we believe that the 2005 Amendments (discussed above) render consideration of foreign legal regimes less relevant because the new Chapter XV and other relevant amendments of the Code (part of the 2005 Amendments) make clear that should a foreign receiver on behalf of a defaulting foreign member seek recognition in the U.S. Bankruptcy Courts, the same protections available to DTC under the Code with respect to a domestic Participant should also be available to it in any domestic proceeding brought on behalf of a foreign Participant.

Assessment: DTC observes Recommendation 1.

Recommendation 2: Trade Confirmation: *Confirmation of trades between direct market participants should occur as soon as possible after trade execution, but no later than trade date (T+0). Where confirmation of trades by indirect market participants (such as institutional investors) is required, it should occur as soon as possible after trade execution, preferably on T+0, but no later than T+1.*

Answers to Key questions

1. What percentage of trades between direct market participants is submitted to a trade confirmation system on the trade date (T+0)? How soon after submission are problems communicated to the appropriate parties?

DTC operates as a CSD; it does not offer trade confirmation services. Trade confirmation functions in the market segments that are served by DTC are performed by NSCC and Omgeo LLC (“Omgeo”), affiliates of DTC. NSCC primarily provides trade comparison services for broker-to-broker transactions executed on securities exchanges or over-the-counter (“OTC”). As straight through processing measures have been adopted by the marketplaces, today over 99% of trade data is submitted to NSCC on a “locked-in” basis, meaning that the trade is already compared by the marketplace of execution, and when submitted it is validated, recorded and reported by NSCC to participants. The only trade comparison currently being done by NSCC is for some OTC equity product and fixed income (corporate and municipal) transactions. Omgeo provides confirmation/affirmation and matching services for transactions between brokers and their institutional clients (“institutional trades”). For further information on NSCC and Omgeo, see www.nsc.com and www.omgeo.com.

For institutional trades, DTC accepts electronic transmission of affirmed/matched trades from any service provider that has SEC approval to provide such services in the U.S. market. Currently, Omgeo, a joint venture between DTCC and Thomson Reuters, is the only such approved provider.

Omgeo provides global trade confirmation and trade matching systems. Institutional investors’ trades affirmed in Omgeo’s trade confirmation and trade matching systems are passed to DTC’s settlement system electronically for automated settlement on T+3. As a result of this automated process, the DTC Participants who settle such trades are not required to affirm/match the trade a second time. Rather, DTC Participants that are to deliver traded securities give electronic authorization to DTC to attempt the deliveries on their behalf and if they have a sufficient quantity of such securities in their accounts, the deliveries are completed.

2. Does the CSD require settlement instructions to be matched prior to settlement?

DTC does not require settlement instructions to be matched prior to settlement in the depository.

DTC permits its receiving Participants to set individual bilateral limits against each possible contra-Participant so that the Receiving Participant can review transactions exceeding a specified settlement amount. This allows a Participant to review and either approve or cancel incoming deliveries before they are processed to avoid reclaims. The minimum bilateral Receiver Authorized Delivery Limit⁵ (“RAD”) limits that can be set against contra-parties is \$15 million for securities transactions and \$1 million for payment orders. A bilateral limit of \$15 million or a payment order of \$1 million, will require a Receiving Participant to review deliveries with a settlement value equal to or greater than those amounts.

3. Are there trade confirmation procedures that are capable of comparing trade information between direct and indirect market participants by T+1? Is use of the system mandatory? For what types of indirect market participants? Of those trades involving indirect market participants for which confirmation is required, what percentage is confirmed by T+0, by T+1, by the contractual settlement date?

Trade confirmation procedures capable of comparing trade information between direct and indirect market participants by T+1 are available. For transactions in corporate and municipal securities, broker-dealers are required by SEC Rule 10b-10 and by Municipal Securities Rulemaking Board (“MSRB”) Rule G-15, respectively, to provide written confirmations to their customers. Under SRO rules (e.g., New York Stock Exchange Rule 387), a broker-dealer extending DVP privileges to a customer (usually, an institutional investor) is required to use, and obtain the customer’s agreement that it will use, the facilities of a registered clearing agency, a service provider that has obtained an exemption from SEC registration (e.g., Omgeo) or a Qualified Vendor for the electronic confirmation and affirmation of all transactions in depository-eligible securities.

For institutional trades, the institutions place the trade order with the broker/dealer. The institution is generally an investment manager, mutual fund, investment department of an insurance company, or trust department of a bank that has been granted discretionary trading authority by the institution’s customer (for example, a pension plan, corporation or endowment fund) or a prime broker acting on behalf of a hedge fund. The industry timeliness in which a broker submits trade input to Omgeo for the generation of confirms is: on Trade date = 88%; by T + 1 = 96.7%. The industry affirmation percentage which is the timeliness of the affirmation of confirmations by institutions or their agents is as follows: on trade date = 33.8%, by T + 1 = 86.2%, by noon on T + 2 = 88.8%.

Assessment: Recommendation 2 is observed.

⁵ When the bilateral limit set for a specific delivering Participant is \$15 million, deliveries from that Participant with a settlement value equal to or greater than \$15 million will require the receiving Participant’s approval. For limits other than \$15 million, only deliveries with a settlement value exceeding the specified amount will be subject to the receiver’s RAD approval.

Comments

In assigning an assessment rating, the *Assessment Methodology* lists three key issues to consider: (1) confirmation of trades between direct market Participants should occur no later than trade date; (2) settlement instructions should be matched prior to settlement; and (3) where confirmation of trades by indirect market Participants is required by regulators, clearing systems, or market operators, it should occur as soon as possible after trade execution, preferably on trade date, but no later than T+1.

The guidance in the *Assessment Methodology* indicates that in some cases, a securities settlement system may not strictly meet the assessment criteria for observance but may successfully address the safety or efficiency objectives that underlie the recommendation and the key issues and key questions. The intent of Recommendation 2 is to ensure that settlement failures are avoided and risks and costs are managed effectively.

While DTC does not require settlement instructions to be matched prior to settlement in the depository. DTC does permit Receiving Participants to set individual bilateral limits against each possible contra-Participant so that the Receiving Participant can review transactions exceeding a specified settlement amount. This allows a Participant to review and either approve or cancel incoming deliveries before they are processed to avoid reclaims. The minimum bilateral Receiver Authorized Delivery Limit (“RAD”) limits that can be set against contra-parties is \$15 million for securities transactions and \$1 million for payment orders. A bilateral limit of \$15 million or a payment order of \$1 million, will require a Receiving Participant to review deliveries with a settlement value equal to or greater than those amounts. RAD also allows a receiving Participant to add and delete Participants, change bilateral limits, and instruct DTC to turn off or turn on RAD processing.

Regardless of whether a Participant’s account is activated for bilateral RAD processing, certain deliveries will be directed to RAD and therefore will be subject to the receiving Participant’s approval. Such deliveries include the following:

- 1) Substantially overvalued deliveries with a settlement value equal to or greater than \$15 million.
- 2) Free (non-valued) or substantially undervalued deliveries of Money Market Instruments (MMIs).
- 3) Deliveries submitted to DTC during the “Late Delivery” period when all valued transactions are subject to RAD. The late delivery period begins at 3:00 PM and end at 3:20 PM E.T. During this period, all valued transactions, will be forced to RAD. MMI are forced to RAD beginning at 2:30 PM.

Although DTC does not pre-match settlement instructions, the existence of “locked in” trades and prompt pre-settlement comparison services provided by NSCC and confirmation/affirmation and matching services by Omgeo, achieve the goal of Recommendation 2 in practice.

Based on the compensating controls in the market, the existing pre-settlement capabilities and the overall objective of providing efficient services to the market for DTC eligible securities, DTC believes Recommendation 2 is observed.

Recommendation 3: Settlement Cycles: *Rolling settlement should be adopted in all securities markets. Final settlement should occur no later than T+3. The benefits and costs of a settlement cycle shorter than T+3 should be evaluated.*

Answers to Key Questions

1. Are trades settled on a rolling basis of T+3 or shorter?
2. What percentage of trades (by number and value) fails to settle on the contractual date?

What is the average duration of fails (by number and value)?

3. Do market practices, regulations or SSS rules provide incentives for counterparties to settle their obligations on the contractual date?

What forms do these incentives take, for example are penalties assessed for failing to settle?

What steps, if any, are taken to mitigate the risks of fails?

Are fails required to be marked to market?

Are open positions required to be closed out at market prices if the duration of the fail exceeds a specified number of business days?

What entity or entities establish, monitor and enforce these requirements?

4. If settlement is on an account period basis or on a rolling basis at T+3 or longer, have the benefits and costs of a rolling cycle or a shorter settlement cycle been evaluated? If so, by whom? Has the evaluation been documented? What was the conclusion? Did the conclusion differ depending on the type of security?

Assessment: **Recommendation 3 is not applicable to DTC.** DTC does not have the authority to set the settlement cycle or establish parameters for fails. Those parameters are established under various SEC and SRO rules.

Comments

Rolling settlement is not applicable to DTC. Current laws ensure settlement of all relevant trades by T+3. Broker-to-broker trades are netted and settled through NSCC.⁶ Institutional trades are confirmed/affirmed or matched through Omgeo, before final settlement. DTC provides for same-day settlement of the book-entry deliveries (e.g., MMI's, stock loans) that are initiated by one Participant to another. Transfer of securities at DTC can be effected on instructions to DTC from the delivering Participant only. In addition to a securities account at DTC, each Participant has a settlement account. During the day, debits and credits are entered into the Participant's settlement account. The debits and credits arise from securities transfers against payment made and received by the Participant and from other transactions such as principal and income payments received in respect of securities credited to the Participant's securities account. At the end of each day, the debits and credits in the Participant's settlement account are netted. Then, DTC and NSCC net the settlement balances of each DTC Participant that is also a member of NSCC. After netting with NSCC, DTC pays any net credit balance in the account to the Participant, and the Participant pays any net debit balance to DTC. Payments are made to and from DTC's account at the Federal Reserve Bank of New York through the Federal Reserve NSS System. (See Recommendation 2). Each Participant must engage a Settling Bank, which is a DTC Participant bank with access to the Fedwire system, to act on the Participant's behalf in settling with DTC. A Participant bank which qualifies as a Settling Bank may act as its own Settling Bank. A Settling Bank is not required to pay DTC a debit balance on behalf of a Participant and is not required to advance funds to a Participant. Settling Banks, however, are required to both acknowledge their balance with DTC and to fund their master account at the Federal Reserve on a daily basis. Failure to do either by the time specified in DTC's Procedures, may result in a fine.

A Settling Bank may refuse to settle for one or more of the Participants it represents. If a Participant's Settling Bank refuses to settle for it, then that Participant has until 10 A.M. the next business day to settle its obligation with DTC.

⁶ The NSCC self-assessment of compliance with the CPSS-IOSCO Recommendations for Central Counterparties can be found at <http://www.dtcc.com/legal/compliance/> (see the introduction of that self-assessment for a description of NSCC's settlement process). See pages 2-3 and 19 of the NSCC self-assessment for a discussion of CNS processing including fails and fails charges.

Recommendation 4: Central Counterparties (CCPs): *The benefits and costs of a CCP should be evaluated. Where such a mechanism is introduced, the CCP should rigorously control the risks it assumes.*

Answers to Key Questions

1. Has a CCP mechanism (or an indemnification arrangement) been introduced?

If so, what types of securities and market participants are covered?

If no such mechanism has been introduced, have the benefits and costs of such a mechanism been evaluated? If so, by whom? Has the assessment been documented? What was the conclusion?

2. What are the netting arrangements for a CCP (by novation or otherwise)?

Do the netting arrangements have a sound and transparent legal basis?

Is netting enforceable against the participants in insolvency?

3. Does the CCP impose financial and operational standards for participation?

How does the CCP manage its credit risk vis-à-vis participants? Does it require participants to collateralize their exposures? How often are collateral requirements recomputed and collateral collected? How does the CCP manage its liquidity risk? Does the CCP have in place agreements permitting it to borrow against collateral? In assessing its credit and liquidity risk, does the CCP evaluate its ability to withstand the default of more than one of its participants?

4. Has a participant ever defaulted?

If so, how did the CCP handle the default?

What are the financial resources of the CCP?

How does the CCP assess the adequacy of the size and liquidity of its financial resources?

Does it require participants to contribute to a clearing or guarantee fund?

Does the CCP have legally enforceable interests in or claims on the assets in the fund?

Does the CCP have transparent and enforceable loss allocation rules?

Assessment: Recommendation 4 is not applicable to DTC.

Comments: DTC is not organized as a CCP. Its affiliate, NSCC, is the CCP for broker-to-broker equity and corporate and municipal bond trades in the United States. The NSCC self-assessment of compliance with the CPSS-IOSCO Recommendations for Central Counterparties can be found at <http://www.dtcc.com/legal/compliance/>.

Recommendation 5: Securities Lending: *Securities lending and borrowing (or repurchase agreements and other economically equivalent transactions) should be encouraged as a method for expediting the settlement of securities transaction. Barriers that inhibit the practice of lending securities for this purpose should be removed.*

Answers to Key Questions

- 1. Are markets or facilities for securities lending (or repurchase agreements and other economically equivalent transactions) clearly supported by legal, regulatory, accounting and tax systems?**
 - a. Legal and regulatory framework**

 - b. Accounting treatment**

 - c. Tax treatment**

- 2. Are there markets or facilities for securities lending (or repurchase agreements and other economically equivalent transactions)? If any, are they used as a method to expedite securities settlement? How wide is the range of securities and participants involved in the markets?**

- 3. Do supervisors and overseers review risk management procedures for securities lending? Do they have policies with respect to these activities?**

Assessment: Recommendation 5 is not applicable to DTC.

Comments:

DTC facilitates the delivery of securities to effect transactions between market participants, as described above, including deliveries made in connection with their securities lending activities, but DTC does not itself operate a securities lending service.

Recommendation 6: Central securities depositories (CSDs): *Securities should be immobilised or dematerialized and transferred by book entry in CSDs to the greatest extent possible.*

Answers to Key Questions

- 1. Are securities issued on a dematerialised basis or as a physical certificate? If the latter, are they immobilised in a CSD to facilitate settlement? What percentage of securities issued domestically is either immobilised or dematerialised, and what is the trend? Is the transfer of securities carried out by book entry or does it require any form of physical delivery?**

In the United States, although some securities (e.g., mutual fund shares, U.S. Treasury bills) are issued on a completely dematerialized basis, most securities issued to the public are in the form of one or more physical certificates.

We estimate that in excess of 90% of the corporate and municipal securities issued to the public in the U.S. are distributed through DTC and are represented by one or more physical certificates that are immobilized at the depository.

At this time, almost all municipal and corporate debt issues, distributed through DTC are in book-entry-only (“BEO”) form. For these issues, there are one or more “global” certificates, (certificates representing the entire outstanding quantity of securities in an issue or specific part of an issue (e.g., a particular maturity of a debt issue), registered in DTC’s nominee name, Cede & Co., and the issuer does not generally make securities certificates available to Participants or their customers. All transfers in these issues are effected by book-entry delivery on DTC’s books.

For non-BEO issues, a Participant with securities on deposit in its DTC account can withdraw the securities physically and have them reregistered in the name of the Participant, its customer, or another party. On the instructions of the withdrawing Participant, DTC debits the securities from the Participant’s account and instructs the transfer agent to register the transfer of the securities into the name designated by the Participant. The reregistered securities are then sent to the Participant or its customer. The number of such withdrawals has declined significantly in recent years, due in part to disincentive fees charged by DTC and its Participants.

Securities ownership can also be transferred electronically from one holder to another through a service offered by DTC called the Direct Registration System (“DRS”). DRS provides for the processing of transactions in securities registered directly in the beneficial owner’s name on the books of the transfer agent. Through DRS, purchase and sales of securities can be accommodated by book-entry deliveries between the DTC

account of the beneficial owner's broker-dealer and the DTC account of the transfer agent.

2. Is there a lag between settlement and registration and what are the implications of the time lag for finality? If the CSD is not the official registrar, does the transfer of securities in the CSD result in the transfer of securities in the official register?

While DTC is not the official registrar and the transfer on DTC's books does not affect the official register, under applicable commercial law, book-entry transfers by DTC and, in turn by DTC Participants are legally sufficient to transfer beneficial ownership.

Article 8 of the Uniform Commercial Code, which has been adopted by the State of New York, sets out rules regarding the rights and obligations of securities intermediaries (like DTC and DTC's Participants). Under Article 8, a person that deposits securities with a securities intermediary obtains a "security entitlement." A "security entitlement" is a property right that a person obtains in the contents of a security account with a "securities intermediary." That term encompasses investor accounts with brokers and brokerage accounts with depository institutions. In general, a "security entitlement" guarantees an entitlement holder a priority in the financial assets held in that account over the securities intermediary or the security intermediary's creditors. The securities intermediary must follow the entitlement holder's directions with respect to the contents of the account. In particular, the securities intermediary must honor an "entitlement order" which is a communication from the entitlement holder directing transfer or redemption of a financial asset in the account.

Generally, a domestic Participant depositing a securities certificate in DTC is given immediate credit for the deposit in the Participant's DTC account, and can use that credit to effect book-entry transactions including transactions that settle before the certificate is re-registered into the name of DTC's nominee. Such transactions will be final despite the time lag between settlement and re-registration.

Assessment: DTC observes Recommendation 6.

Recommendation 7: Delivery versus payment (DVP): *CSDs should eliminate principal risk by linking securities transfers to funds transfers in a way that achieves delivery versus payment.*

Answer to Key Questions

1. Does the technical, legal and contractual framework ensure that delivery of securities takes place if, and only if, payment is received? If so, how?

Yes. Under DTC's rules, in a DVP transaction the delivery party is assured that it will be paid for the securities once they are credited to the receiving party's securities account.

Under DTC's rules, a delivery versus payment ("DVP") transaction is irrevocable as to the receiving party at the earliest of the following events: (i) when DTC makes a final determination that the balance in the settlement account of the receiving party for the business day is not negative; (ii) when the receiving party pays the amount of the negative balance in its settlement accounts, as determined by DTC for that business day; or (iii) during the business day, when (so long as DTC's risk management controls are satisfied) the receiving party instructs DTC to effect a delivery, pledge, or withdrawal of the securities received. *See* DTC Rule 9(B) (Transactions in Eligible Securities) for additional information.

As mentioned in the introduction, risk management controls play a major role in the design of DTC's settlement system. Intended to protect DTC Participants against the inability of one or more Participants to pay for their settlement obligations, DTC's risk management controls are based on guidelines established by the Board of Governors of the Federal Reserve Systems for book-entry securities systems that settle over Fedwire. DTC currently employs primary risk management controls for securities processing, including collateralization and net debit caps.

Collateralization is meant to assure that a Participant that fails to pay for its settlement obligation will have collateral in its account sufficient to cover that obligation and available to be liquidated in the event it were insolvent. DTC's collateralization monitoring procedures prevent the completion of transactions that would cause a Participant's net debit to exceed the total available collateral in its account. Similarly, the application of net debit cap controls helps assure that DTC will have sufficient liquidity to cover the failure of any single Participant, or of a financial family of affiliated DTC Participants ("Affiliated Family"). DTC's system prevents the completion of transactions that would cause a Participant's net debit to rise above a specific amount – its net debit cap. Participants' net debit caps are limited by DTC's established maximum net debit cap, the value of which is always set lower than DTC's total available liquidity.

As described in the Introduction, for CNS transactions the transfer of securities occurs at DTC and the related money settlement occurs at NSCC.

All deliveries at DTC that are free of payment, such as CNS deliveries,⁷ are irrevocable. The money settlement arrangements at NSCC for CNS deliveries are DVP.

2. What proportion of trades between direct participants of the CSD (by value) is settled on a DVP basis?

All Valued Transactions in DTC's system are settled on a DVP basis.

The DTC system provides a DVP mechanism that is DVP Model 2 described in the CPSS Report entitled, "Delivery Versus Payment in Securities Settlement Systems" (1992). DVP Model 2 is a system which provides for gross settlements of securities transfers followed by net settlement of funds transfers.

Assessment: DTC observes Recommendation 7.

⁷ NSCC self-assessment of compliance with the CPSS-IOSCO Recommendations for Central Counterparties can be found at <http://www.dtcc.com/legal/compliance/>. See Recommendation 6 of that self-assessment for a description of cross-guaranty arrangements between DTC and NSCC that establish obligations to one another in the event of a Participant non-payment.

Recommendation 8: Timing of settlement finality: *Final settlement should occur no later than the end of the settlement day. Intraday or real-time finality should be provided where necessary to reduce risks.*

Answers to Key Questions

1. Does the CSD permit final settlement of securities transfers by the end of the settlement day? Is the timing of settlement finality clearly defined for transactions within the CSD and for transactions over a link to another CSD?

Yes. DTC provides for final settlement of securities transfers no later than the end of the day and the timing of finality is clearly defined, for transactions within DTC and for transactions submitted via the CDS Link Service.

Transactions processed through DTC's CDS Link⁸ are final for the delivering Participant when made and for the receiving Participant when DTC has received payment. At the end of each processing day, DTC performs a single net Canadian dollar settlement with CDS. In order to complete the end of day CDS settlement, DTC has engaged a cash correspondent bank in Canada, which acts as DTC's settlement agent for Canadian dollars. The cash correspondent bank collects Participants' settlement debit balances due DTC in connection with transactions and, in turn, pays cash settlement credit balances. Participants that elect to participate in the Canadian dollar settlement service are required to make payment, in Canadian dollars, to DTC's Canadian dollar settlement account at its cash correspondent bank, by 4:30 p.m., ET. That is 30 minutes before DTC's U.S. settlement process ends.

Final cash settlement occurs at the end of the processing day at DTC. Funds transfers over NSS between DTC and a Settling Bank acting on behalf of a Participant are final when made.

⁸ The risk management controls applicable to DTC's CDS Link Service are the same as those described in the response to Recommendation 7. Each Participant has a single Canadian dollar net debit cap regardless of how many accounts the Participant maintains with DTC. The Canadian dollar net debit cap is calculated by multiplying a Participant's three highest intra-day Canadian dollar net debit peaks over a rolling 70-day period by a factor of .75. In no case may the Canadian dollar net debit cap of any Participant exceed the limit imposed by CDS on transactions in the DTC omnibus account. Transactions that would cause a Participant to incur a net Canadian dollar debit that exceeds its net debit cap are pended by DTC. Participants can resolve net debit cap recycling transactions by pre-paying their Canadian dollar debit.

2. Does the CSD permit final settlement of DVP transfers on a continuous basis throughout the day or at certain designated times during the day? If the latter, at what times do transfers become final? Is there a need for intraday or real-time finality to reduce risks?

Finality of settlement occurs at the end of each business day.

A Participant delivering securities is able to use the money credit associated with that delivery intra-day to accommodate additional DVP transactions.

A Participant receiving a delivery of securities is able to redeliver those securities the same-day, so long as DTC's collateral, net debit cap and Largest Provision Net Credit ("LPNC") controls applicable to both the redelivering Participant and the counterparty to the redelivery are satisfied.⁹ LPNC controls are released at 3:05 PM. Thus, a receiving Participant is permitted to dispose of securities prior to money settlement with DTC subject to the application of DTC's risk management controls. See DTC Rule 9(B).

Do central banks use the SSS in monetary policy operations or to collateralise intraday credit extensions in a payment system?

DTC Participants may pledge securities to pledgee accounts maintained by DTC for various Federal Reserve Banks as collateral for intraday overdrafts on the books of the Reserve Bank, collateral for advances under the Federal Reserve Board's Regulation A, collateral for Treasury Tax and Loan account balances (under 31 Code of Federal Regulations Part 203), and collateral for deposits of public money (under 31 C.F.R. Part 202).

Do active trading parties or CCPs have a need for intraday or real-time finality to manage their risks effectively? Is there a need for intraday or real-time finality to facilitate settlement through links to other CSDs? Is there a need for intraday finality to facilitate the smooth functioning of some markets (for example, repurchase agreement markets)?

No. There is no need for intra day or real time finality because, as described above, most DVP transactions are irrevocable intraday. All deliveries that are free of payment, such as CNS deliveries, are irrevocable.

While CNS deliveries are irrevocable, the cross-guaranty arrangements between DTC and NSCC establish DTC's obligations to NSCC for the value of securities onward

⁹ As described more fully in the Introduction, finality of settlement of MMI transactions could be affected by the application of MMI Issuer Failure procedures which entail the unwinding (reversal) of that issuer's maturity presentments, valued issuances, and valued deliveries and pledges originating from new issuances of the failed issuer. LPNC procedures help ensure that unwinding transactions in any failed MMI issue does not cause any Participant's net debit to become under-collateralized or exceed its net debit cap.

delivered by the DTC Participant receiving the securities from CNS.

3. Does the CSD prohibit the unilateral revocation of unsettled transfer instructions late in the settlement day?

Generally, securities transfers at DTC are final from the standpoint of the delivering Participant once the securities have been credited to the receiving party's securities account. However, under certain circumstances the receiving Participant can "reclaim" the securities. A reclaim is the return of a deliver order or payment order that a Participant has received. Participants are not required to inform DTC of the reasons for reclaiming a deliver order or payment order. DTC's automated reclamation procedures may be used to reclaim a delivery only if the reclaim is submitted to DTC for processing on the same day as the original delivery. DTC allows the return of the securities subject to DTC's risk management controls¹⁰ and the re-credit of the debit made to the receiver. Participants can reclaim a transaction up until 3:30 pm.

As mentioned in the response to Recommendation 2, DTC permits Receiving Participants to set individual bilateral limits against each possible contra-Participant so that the Receiving Participant can review transactions exceeding a specified settlement amount. This allows a Participant to review and either approve or cancel incoming deliveries before they are processed to avoid reclaims.

In addition, for deliveries submitted to DTC during the "Late Delivery" period, all valued transactions are subject to the Receiver Authorized Delivery control ("RAD"). The late delivery period begins at 3:00 PM and end at 3:20 PM E.T. During this period, all valued transaction will be forced to RAD. MMI are forced to RAD beginning at 2:30 PM.

Reclaims represent less than 2% of the aggregate dollar amount of delivery orders and payment orders processed on an average day.

Does the CSD receive provisional transfers of securities from any other CSDs? If so, does it prohibit retransfer of these securities until they become final? If not, what would be the consequences of an unwind of such provisional transfers for the CSD's participants?

DTC does not receive provisional transfers of securities from other CSDs. CSD accounts are subject to the same risk management controls as any other DTC Participant. As noted above, their delivery transactions are irrevocable for both transactions that are delivery versus payment or free of payment, e.g., CNS.

Assessment: DTC observes Recommendation 8.

¹⁰ Reclaims for securities that have a settlement value of less than \$15 million and payment orders valued at less than \$1 million will bypass risk management controls.

Recommendation 9: CSD risk controls to address participants' failures to settle: CSDs that extend intraday credit to participants, including CSDs that operate net settlement systems, should institute risk controls that, at a minimum, ensure timely settlement in the event that the participant with the largest payment obligation is unable to settle. The most reliable set of controls is the combination of collateral requirements and limits.

Answers to Key Questions

1. Does the CSD ensure that timely settlement can be completed in the event of an inability to settle by the participant with the largest obligation? If so, how?

DTC ensures that timely settlement can be completed in the event of an inability to settle by any single Participant with the largest settlement obligation, by setting limits (called net debit caps) for each Participant. The net debit cap, which is one of DTC's risk management controls, ensures that a Participant's net debit balance throughout the business day will not exceed the net debit cap limit established by DTC. The net debit cap is generally set in relation to a Participant's normal activity volumes (as discussed below), with the maximum net debit cap for an individual Participant currently set at \$1.8 billion.¹¹

As an added measure DTC has also established limits on the maximum settlement obligation that a financial family of affiliated DTC Participants¹² can incur. The aggregate net debit cap for the Participants comprising the Affiliated Family is set at \$3 billion.

To ensure that DTC is able to complete its settlement obligations each day in the event of a Participant's inability to settle with DTC, DTC currently maintains liquidity resources of \$3.2 billion,¹³ including a \$1.3 billion Participants Fund¹⁴ and a committed line of credit in the amount of \$1.9 billion with a consortium of banks. The line of credit agreement requires the banks to meet their lending obligations to DTC no later than the end of the day so long as sufficient collateral is available to be pledged.

¹¹ DTC records a Participant's three highest intraday net debit peaks over a rolling 70 business day period, using simulated net debit peaks instead of actual net debit peaks. The system multiplies the Participant's average simulated net debit peak by a factor to determine the Participant's net debit cap, which cannot exceed DTC's established maximum of \$1.8 billion.

¹² As mentioned in the introduction, an Affiliated Family means each Participant that controls or is controlled by another Participant and each Participant that is under the common control of any Person. For purposes of this definition, "control" means the direct or indirect ownership of more than 50% of the voting securities or other voting interests of any Person.

¹³ In accordance with its practice, DTC maintains a liquidity cushion of \$200 million to allow for the possible failure or unavailability of funds from a bank Participant that as a member of the committed line of credit consortium has the largest commitment.

¹⁴ The Participants Fund consists of \$1.3 billion in cash of which \$1.150 billion represents Participants' Required Deposits to the Participants Fund and \$150 million represents Participants' mandatory investment in DTC Preferred Stock (which is treated substantially the same as the Required Deposits to the Participants Fund).

In the event of a Participant's failure to settle, DTC will first use the defaulting Participant's contribution to the Participants Fund¹⁵ in satisfaction of the defaulting Participant's settlement obligation. If that amount is insufficient, DTC will then borrow from the Participants Fund (including any voluntary deposits) as a liquidity resource to complete settlement. If the Participants Fund is not sufficient, DTC will borrow from its committed line of credit to provide DTC with the Funds needed by the end of the day. In both cases, DTC pledges securities which have been designated as collateral from the failing Participant's account to secure these borrowings. Lastly, in extreme situations involving multiple failures, that would exceed the depository's liquidity resources to settle, DTC may borrow from some or all of its Participants an amount up to the entire amount of the end-of-day credit balance due to Participants on the business day on which the settlement failures occur. Any such borrowing from the lending Participants would be secured by the defaulting Participant's collateral.

Any borrowed funds will ordinarily be restored on the business day following the failure to settle, when the failing Participant pays DTC. The failing Participant has until 10 A.M. on that day to wire the necessary settlement funds, including interest, to DTC's account. If the Participant fails to wire the necessary funds, DTC is authorized to sell the collateral securities in the failing Participant's account.

In addition to being a liquidity resource, the Participants Fund is available to satisfy any uninsured loss incurred by DTC, including a loss resulting from a Participant's failure to settle. In the event of such loss, DTC would first charge the loss to that Participant's deposit to the Participants Fund (including its voluntary deposit, if any). If the loss exceeded the failing Participant's deposit, DTC could charge the excess to its retained earnings or pro rata to the required Participants Fund deposits of all other Participants. Should DTC make a charge against a Participant's required deposit to the Participants Fund (pro rata or otherwise), the Participant must make an additional deposit to the Participants Fund in an amount equal to the charge¹⁶.

If the Participants Fund is applied to a loss, DTC is required to notify the SEC and each Participant promptly thereafter. Each Participant's obligation to make an additional deposit to the Participants Fund will be reflected as a debit in its money settlement account on the business day following such notification. As mentioned above, in the event of a Participant's failure to settle, DTC will first use the Participants Fund (including any voluntary deposits) as a liquidity resource to complete settlement. If the Participants Fund is not sufficient, DTC will borrow from its line of credit banks, pledging collateral securities in the failing Participant's account. These funds will ordinarily be restored on the day following the failure to settle, when the failing Participant pays DTC. The failing Participant has until 10:00 A.M. on that day to wire

¹⁵ Each Participant is required to make a deposit to the Fund based upon a sixty business-day rolling average of the Participant's intra-day net debit peaks. In the event that DTC becomes concerned with a Participant's operational or financial soundness, DTC may require an additional deposit to the Fund. The minimum deposit is \$10,000. A Participant may make a voluntary deposit to the Fund in excess of the amount required.

¹⁶ A Participant may limit its obligation in respect to any additional charges by withdrawing as a DTC Participant at this time.

the necessary settlement funds, including interest, to DTC's account. If the Participant fails to wire the necessary settlement funds, DTC is authorized to sell the collateral securities in the failing Participant's account.

DTC has never had to borrow against DTC's line of credit; nor has it had to sell collateral in any Participant's account.

Are the credit exposures of the CSD fully collateralised? If not, what measures are in place to address risks stemming from granting uncollateralised credit?

DTC operates on a fully collateralized basis – a Participant's settlement balance must be collateralized at all times. DTC monitors the value of the collateral supporting each Participant's net debit in DTC's settlement system through its Collateral Valuation System. The system is driven by the daily receipt of pricing and rating data from independent and internal sources. A security designated as collateral by a Participant is valued based on the security's prior business day's closing market price, less a haircut. Haircuts, which are based primarily upon the availability of prices, ratings, and the price volatility of the particular security, are employed to protect against intra-day price fluctuations. DTC's haircut structure takes into consideration haircuts imposed by its Line of Credit (LOC) with a consortium of banks. Securities that are not given value by DTC's LOC do not receive any collateral value in DTC's system (i.e., a 100% haircut is applied to these securities). The collateral valuation, in conjunction with other risk management controls (e.g., net debit caps and receiver authorized delivery procedures), effectively eliminates settlement system risk under normal market conditions.

DTC's objective is to obtain an end-of-day (EOD) price in an automated format (i.e., FTP internet or transmission) from a third-party vendor for each of its eligible securities. However, in the case of CMOs, which vary significantly in terms of liquidity, DTC receives pricing data from multiple sources. When a single CUSIP is priced by multiple vendors, DTC uses the lowest price to maintain the more conservative collateral value in its system at all times. Significant price differences, as described further below, are investigated with the vendors and may result in an adjustment to the daily valuation, if warranted.

The vendor data is supplemented with pricing data supplied by lead underwriters and, for MMI securities, the DTC internal pricing model. Lead underwriters furnish pricing on new non-MMI issues not yet priced by a vendor. If a price is not received from the lead underwriter, DTC will post a price of \$.01 for equity and \$100 for debt. A DTC mainframe-based model is used to price Commercial Paper (CP), Institutional Certificates of Deposit (ICDs), and Bankers Acceptances (BAs). DTC also uses data supplied by Dividends and Reorg to update prices for securities involved in stock-splits, spin-offs, and mandatory reorganizations.

Upon receipt of the vendor data, DTC conducts automated reviews of all pricing data. Any data file that increases or decreases in size by over 10% or contains an unusually

large number of securities prices that have varied by more than a significant percentage from the previous business day (e.g., 5.0% of equities, 2.5% of corporate debt or 1.0% of municipal debt) is investigated. These thresholds can be revised, upon the discretion of management, to reflect market conditions. If variances cannot be explained, the file is rejected and, if the vendor is unable to provide a replacement file in a timely manner, the previous day's file is used. This minimizes the risk of a large-scale collateral valuation problem.

DTC uses a Collateral Monitor ("CM") to track collateral in each Participant's account. The CM tracks whether DTC has available sufficient collateral to cover the Participant's net settlement debit in the event that it fails to settle.

At the opening of each business day, the Participant's CM is reset to zero. DTC will then credit the CM with the Participant's Participants Fund deposit amount. In addition, the Participant will designate which of its securities should be counted toward its collateral requirement. All types of securities that are eligible for deposit may be used as collateral. However, the Participant is restricted from using securities issued by it, or any of its affiliates, as collateral to support its DTC net debit. The value of securities designated as collateral is based on the prior business day's closing market price, less a haircut (discussed below).

Throughout the day, debits and credits to the Participant's securities and settlement accounts will result in corresponding changes in its CM. Conceptually, every transaction translates into a collateral flow and a cash flow, one a credit and the other a debit. The net value of these two flows is used to update the CM. Since the value of securities as collateral is subject to a haircut on the market value, the cash component (for settlement values) of each transaction is generally greater in value than its securities component. Thus, the completion of a delivery versus payment generally results in an increase in the deliverer's CM and a decrease in the receiver's CM, based on the difference between the collateral value of the securities and the settlement value of the transaction. Transactions that do not have a cash component, such as deposits and free deliveries, are considered to have a zero cash component. When processing a transaction, DTC verifies that the deliverer's and receiver's CM will not become negative when the transaction completes. If the transaction would cause either party to have a negative CM and thereby be under-collateralized, the transaction will pend until the deficient account has sufficient collateral to complete.

Are limits imposed on credit extensions by the CSD?

Yes. DTC imposes net debit caps on all Participants. Net debit caps limit a Participant's total settlement obligation to DTC. Net debit caps are based on the Participant's net debit history at DTC and automatically rise or fall relative to the average of the Participant's highest intraday net debit peaks. Each individual Participant's net debit balance is limited throughout the processing day to a net debit cap that is the least of 4 amounts: (a) a net debit cap based on the 3 largest net debits that each Participant incurs over a rolling 3-month period; (b) an amount, if any, determined by the Participant's settling bank;

(c) an amount, if any, determined by DTC; or (d) \$1.8 billion. An Affiliated Family net debit cap is limited to \$3 billion. The Participant net debit cap of \$1.8 billion and the Affiliated Family net debit cap of \$3 billion are set by reference to and at a level less than DTC's total liquidity resources.

Transactions that would cause a Participant's net debit balance to exceed its net debit cap will not be processed by DTC.¹⁷ These transactions will pend systematically until the transaction can be processed without exceeding the net debit cap limit or the designated cutoff time for processing valued transactions in DTC's system is reached, at which time the pending transaction will be dropped from the system.

For example, before completing a transaction, DTC calculates the resulting effect the transaction would have on the receiving Participant's account and determines whether the receiving Participant's resulting net balance would exceed its net debit cap. Any transaction that would cause the receiving Participant's net settlement debit to exceed its net debit cap is placed on a pending queue until another transaction creates credits in the Participant's account. Most credits are generated when a Participant delivers securities versus payment; pledges securities for value; receives principal, dividend or interest allocations; or wires funds to DTC's account at the Federal Reserve Bank of New York (referred to as Settlement Progress Payments).

Does the CSD have sufficient liquidity resources to ensure timely settlement?

Yes. DTC's liquidity resources of \$3.2 billion, discussed above, include a cash Participants Fund of \$1.3 billion and a \$1.9 billion committed line of credit.

2. Does the CSD permit overdraft or debit balances in securities?

DTC does not permit Participants to incur overdraft or debit balances in their securities accounts. However, from time to time a deficit may be created in a Participants securities account. This may occur, for example, if after a Participant deposits and receives credit for securities in its DTC account, the transfer agent, to whom DTC sent the securities refuses to re-register the securities in DTC's nominee name (e.g., the securities certificate has been reported lost or stolen). If the Participant has already redelivered the securities in question, DTC will debit the Participant's securities account and may, thereby, create a "short" position. If that occurs, DTC will charge the Participant 130% of the market value of the securities until the Participant has eliminated the short position.

3. Does the CSD evaluate the probability of multiple failures? Can settlement be completed in that event? If not, has the CSD evaluated the cost of ensuring settlement in the event of multiple failures?

DTC's risk management controls are designed to ensure that DTC can cover the failure of

¹⁷ As mentioned in the introduction, there are certain types of activity that will be allowed to override net debit cap controls.

its single largest Participant or family of Affiliated Participants. Accordingly, the controls also provide assurance that multiple failures of smaller entities can be covered if the single largest Participant or the largest affiliated family were not to fail.

In addition to requiring Participants to have sufficient collateral to support their net debits and ensuring that their net debits do not exceed their net debit caps, an additional procedure – LPNC, has been established to ensure that the occurrence of a combined Money Market Instrument (MMI) issuer’s default and a Participant’s failure to settle does not expose DTC to loss and liquidity risks.¹⁸

DTC’s liquidity resources (which consist of the all-cash Participants fund, as well as an end-of-day committed line of credit), and the relationship between DTC’s net debit cap and its liquidity resources, are intended to assure completion of settlement even in the event of the failure to settle of a single Participant or an Affiliated Family, having the largest net debit, or multiple failures of smaller entities if the single largest Participant or Affiliated Family does not fail. The net debit cap is set sufficiently below DTC’s liquidity resources so that settlement could be completed even in the event that: (a) a single Participant or Affiliated Family having the largest net debit fails to settle, causing DTC to borrow under its end-of-day line of credit; and (b) the failing Participant or Affiliated Family is also a member of the consortium of banks extending the credit line to DTC and has failed to honor its funding commitment. DTC has implemented systemic controls aimed at ensuring that DTC has resources in place to address a settlement failure that is \$200 million greater than needed for DTC’s largest Affiliated Family, as long as a Participant in such Affiliated Family is not a member of the consortium of banks extending the credit line to DTC.

DTC performs regular periodic stress tests and collateral studies on its Participants and securities that may be utilized for collateralizing net debit obligations. The stress tests identify Participants with DTC settlement obligations with collateral less than three times that obligation. The collateral value is reduced by 30% for equities and 5% for debt or the prevailing haircut. Collateral studies compare DTC’s haircut rate against a VaR-based historical price variance methodology based on the security type and haircut. These results are distributed to the Internal Risk Committee comprised of Senior Management. DTC Risk Management also distributes a daily Risk Enterprise Report with applicable information to DTCC Senior Management.

Assessment: DTC observes Recommendation 9.

¹⁸ The LPNC procedure is described in the Introduction.

Recommendation 10: Cash settlement assets: *Assets used to settle the ultimate payment obligations arising from securities transactions should carry little or no credit or liquidity risk. If central bank money is not used, steps must be taken to protect CSD members from potential losses and liquidity pressures arising from the failure of the cash settlement agent whose assets are used for that purpose.*

Answers to Key Questions

1. Is the settlement agent the central bank that issues the currency? If the central bank is settling in a foreign currency, what steps has it taken as settlement agent to ensure that the settlement assets pose little or no credit or liquidity risk?

Payments are made by Participants Settling Banks, to and from DTC's account at the Federal Reserve Bank of New York. As mentioned in response to key question 2(ii)(d) of Recommendation 1, DTC uses the Federal Reserve Bank payment systems to complete end-of-day cash settlement. DTC collects net debits from and distributes net credits to Settling Banks over the National Settlement Service (NSS). The Federal Reserve settles in US dollars only.

If the central bank is not used, what steps have been taken to protect CSD members from failure of the cash settlement agent?

As mentioned above, payments are made to and from DTC's account at the Federal Reserve Bank of New York.

Pursuant to DTC Rule 9(b), each DTC Participant must settle its obligations to DTC through a Settling Bank. A Participant selects its own Settling Bank which must be a DTC Participant bank with access to both NSS and Fedwire. A Settling Bank may act as its own Settling Bank only or on behalf of other DTC Participants. While Settling Banks facilitate the payment of settlement balances to and from DTC Participants, each DTC Participant is responsible for settling its payment obligations to DTC. Settling Banks are not required to pay DTC a debit balance on behalf of a Participant and may refuse to settle for a particular Participant. Furthermore, DTC does not require Settling Banks to advance funds to a Participant for whom it is a Settling Bank. In the event a Settling Bank refuses to settle on behalf of a Participant or a Settling Bank is unable to complete settlement, a Participant must make other arrangements in order to meet its payment obligation to DTC. The Participant can use another approved Settling Bank as its back-up Settling Bank, or make arrangements with a non-DTC-Participant bank to wire funds to DTC's account at the Federal Reserve Bank of New York to satisfy its settlement obligation.

Is the CSD itself organised as a limited purpose bank?

DTC is a limited-purpose trust company organized under the New York Banking Law, and a member of the Federal Reserve System.

Does it strictly limit any risks associated with non-settlement activities?

Yes. DTC performs risk assessments of its non-settlement activities. A list of non-settlement activities can be found in the introduction. Whenever a new or expanded service is proposed, the project is reviewed by members of senior management. Risk assessment is a crucial element of such reviews. In appropriate cases, a project may be subject to risk assessment reviews by the Internal Risk Management Committee counsel, internal auditors, and DTC's independent external auditors and overseen by the appropriate committee of DTC's Board of Directors.

2. Are settlement banks subject to prudential supervision by government authorities?

Settlement banks are subject to supervision and regulation by their federal and state regulators.

**Who determines which institutions can be used as settlement institutions?
What are the criteria?**

Each DTC Participant selects its own Settling Bank. As defined in DTC's rules, the term "Settling Bank" means a Participant which is a bank or trust company, subject to supervision or regulation pursuant to Federal or State banking laws, and a party to an effective Settling Bank Agreement. In addition, a Settling Bank must have access to NSS and Fedwire. As a DTC Participant, the Settling Bank must meet DTC's membership criteria and Participant qualifications on an ongoing basis. See DTC Rules 2 and 3 for additional information on participation requirements and Participant qualifications.

If multiple settlement institutions can be used in principle, how many are used in practice?

There are currently 64 DTC Settling Banks, 38 of which settle for their own accounts, as well as other DTC Participants. The other 26 Settling Banks settle for themselves only.

How concentrated are payment flows? On an average day, what percentage of total payments is credited to accounts at the institution that accounts for the largest share of payment flows?

The number of Settling Banks that represent the majority of payment flows through DTC varies from day to day. On an average day for the 38 Settling

Banks who also settle for other Participants, we estimate that approximately 70% or more of the payment flow is concentrated in the top five banks, whose identities may vary from day to day.

What is the financial condition of that institution (for example, its capital ratios and its credit ratings)?

In order to be a Settling Bank for DTC, the entity is required to be a DTC Participant with direct access to the Fedwire system. DTC Settling Banks are classified into two categories rated and unrated, the rated banks are those entities that file either a call report or a thrift financial report that allows them to be processed using the credit risk rating matrix. The call report and thrift financial report data, including regulatory capital ratios, are captured on a quarterly basis. The unrated Settling Banks are entities that do not file a call report or thrift financial report as they are not banks or thrifts and are subject to a minimum net worth requirement. Settling Banks are subject to a thorough review process, which is comprised of a review of the quarterly regulatory reports for banks and thrifts and in the case of unrated entities, quarterly financial statements; the application of certain financial parameters on a quarterly basis; and the review of the settling banks' annual reports.

Are the concentration of exposures and the financial condition of the settlement banks monitored and evaluated? If so, by whom?

DTCC's Risk Management Department monitors the DTC Settling Banks, which, by rule must be DTC Participants, to ensure that they are in compliance with DTC's rules and procedures. The DTCC Risk Management Department obtains information daily from other departments regarding settlement exposures, and any operational problems experienced by DTC Participants. The DTCC Risk Management Department reviews the financial condition of DTC's Participants at least quarterly. Financial statements filed with regulatory agencies, information obtained from other self-regulatory organizations, and information gathered from various financial publications is analyzed to assure that each Participant continues to be financially stable. The Department also monitors Participants' settlement obligations, capital adequacy, and transaction activity on a daily basis to assure that each Participant continues to be capable of meeting its obligations to DTC.

DTC does not monitor the concentration of payment flows through the Settling Bank. However, if DTCC's Risk Management Department were to identify some material credit or regulatory problem as a result of their review of the Settling Bank, DTC would terminate the Participant's right to act as a Settling Bank. (See DTC Rule 10, section 1).

3. How quickly can recipients use the proceeds of securities settlements? On the same day? Intraday?

To complete end-of-day cash settlement, net-net credits are paid from DTC's Federal Reserve Bank account to Settling Banks over NSS – these payments are final and irrevocable when made and are available for immediate use. The Settling Bank would then credit the accounts of its customers (DTC Participants) owed credits from DTC. The individual account agreements in place between the Settling Bank and its Participant customer, however, would establish the timing of the Participant's use of the funds credited to its account.

At other times during the month (usually the 1st, 15th, and 25th), Participants holding certain instruments may be entitled to principal and income paid on such instruments. Subject to DTC's risk management controls, DTC allows Participants to withdraw, on an intraday basis, redemption, reorganization, and dividend/income payments for which DTC has been funded by the paying agent and which DTC has allocated to Participants.¹⁹

4. Does the payment system used for interbank transfers among settlement banks observe CPSIPS?

The U.S. Federal Reserve Board self-assesses its Fedwire Funds Transfer System as, overall, complying with each of the 10 Core Principles for Systemically Important Payment Systems (which were developed by the Committee on Payment and Settlement Systems (CPSS) of the central banks of the Group of Ten Countries). See <http://www.federalreserve.gov/paymentsystems/coreprinciples/default.htm>.

Assessment: DTC observes Recommendation 10.

¹⁹ This does not apply to principal and income payments associated with money market instruments.

Recommendation 11: Operational reliability: *Sources of operational risk arising in the clearing and settlement process should be identified and minimised through the development of appropriate systems, controls and procedures. Systems should be reliable and secure, and have adequate, scalable capacity. Contingency plans and backup facilities should be established to allow for timely recovery of operations and completion of the settlement process.*

Rather than maintain resilient and business continuity capabilities in standby, DTCC treats all sites, networks, control centers and business sites as a unified complex that is always accessible and where feasible actively operating across multiple sites and environments.

In support of DTC's business, DTCC has multiple data center locations, including in-region and out-of-region sites. In-region sites utilize synchronous data replication between them, maintaining multiple exact copies of all production data in separate locations. Production processing is spread across the in-region data centers. The out-of-region site contains additional asynchronously replicated copies of in-region production data. (The asynchronous nature of the replication to this site is due to the limits inherent in current-day technology; the technology currently permits asynchronous replication sufficiently timely to ensure that there is no more than a two-minute variance in the data stored at the in-region sites and the data stored out-of-region.)

All data centers have emergency monitoring and backup systems including: fire detection and suppression systems, uninterruptible power supply and standby generators, and dual path, redundant telecommunications from multiple carriers. All sites are operational and have sufficient capacity to process the entire production workload so any data center can function as the sole recovery site within two hours in case one or more data centers experience an outage.

Similarly, to provide continuous operation from multiple sites, DTCC decentralized its Information Technology and key business operations staff among in-region and out-of-region sites. Daily data processing operations and monitoring of emergency systems is conducted continuously from both in-region and out-of-region data center "Command Centers."

DTCC's "SMART" (Securely Managed and Reliable Technology) Network provides connectivity between DTCC and its customers and trading platforms. All critical clearance and settlement transactions utilize SMART. SMART is a seamless, end-to-end, secure managed private communications system encompassing a geographically dispersed complex of processing centers, communications networks and control facilities. Each element of SMART is highly secure, engineered with multiple independent levels of redundancy, and capable of handling DTCC's entire clearance and settlement workload. SMART connects to both in-region and out-of-region data centers. External traffic is split between these connections, which are always active with each having sufficient capacity for the entire traffic volume.

Answers to Key Questions

1. Does the system operator have a process for identifying and managing its operational risks?

DTC has several ways in which it identifies and manages its operational risks. First, an Operational Risk Group is responsible for developing and overseeing an operational risk management program for the company using qualitative and quantitative tools to identify, measure, monitor, manage, and report on the organization's operational risk profile. More specifically, the program includes assessments at a business unit level and at an enterprise level, identification and reporting of risk metrics, collection and analysis of risk incidents, and Board level reporting on major risks to the enterprise.

Second, the Internal Risk Management Committee, comprised of officers from various disciplines, evaluates and coordinates the risk management activities within the company.

Third, a high-level Security Committee, comprising technology, audit, product and risk, officers, addresses key areas of security risk associated with information services and directs that appropriate actions be taken to minimize security risk.

Fourth, the Internal Audit Department reviews the adequacy of internal controls, procedures, and records of the company with respect to operational risks. Finally, the company engages independent accountants to perform an annual study and evaluation of the internal controls relating to the operations of the Company, including data processing operations and business continuity.

2. Does the system operator have contingency plans and backup facilities for the failure of key systems, and are these tested and reviewed regularly with participants taking part? Do contingency plans ensure at a minimum that the status of all transactions at the time of the disruption can be identified with certainty in a timely manner? How long does it take to recover operations through backup systems? Do the procedures provide for preservation of all transaction data? How does the system operator ensure the integrity of messages?

DTC has a formal business continuity plan in place that addresses events posing a significant risk of disrupting operations. In support of DTC's business, DTCC operates data centers and staff in multiple locations, within the New York region (in-region) as well as outside the New York region (out-of-region). All data centers are operational. The regional data centers operate synchronously for data replication, while asynchronous replication is used out-of-region. Failover can occur between the in-region and out-of-region data centers to restore production processing.

DTC is expected to meet and does meet the standards set forth in the "Interagency Paper on Sound Practices to Strengthen the Resiliency of the U.S. Financial System" (the

“Interagency Paper”) that was published by the Federal Reserve, the Office of the Comptroller of the Currency and the SEC in 2003. The Interagency Paper requires core clearing and settlement organizations, such as DTC, to determine appropriate recovery and resumption objectives for clearing and settlement activities in support of critical markets, to maintain sufficient geographically dispersed resources to meet recovery and resumption objectives and to routinely use or test recovery and resumption arrangements.

Consistent with the higher standards of the Interagency Paper, Information Technology equipment, data center operations and staff, which support DTC’s business, are dispersed among DTCC’s multiple data centers and office locations. All data centers have sufficient computer capacity to run DTC’s entire production workload. As expected by the Interagency Report, in-region data centers, which are operational 24 hours per day, 7 days per week (“24 x 7”), utilize synchronous data replication, maintaining current copies of the entire production data and preserving all transaction data. This capability provides for full recovery of the DTC’s entire system within 2 hours of DTCC’s declaration of the loss of a data center without any loss of data. Additionally, in-region production data is continuously replicated in an asynchronous manner to an out-of-region data center, from which DTC business systems can be recovered within 2 hours of the loss of the in-region data centers with the potential data loss limited to less than 2 minutes of transaction data.

Each data center is staffed 24 x 7 and there are two active production 24 x 7 Command Centers, one in-region and one out-of-region, capable of operating and monitoring the workloads running at any data center. The production workload responsibilities are rotated between the in-region and out-of-region Command Centers to maintain expertise of all workloads. The other in-region data center has a 24 x 7 staffed Command Center which operates and monitors the test workloads and is capable of operating and monitoring production workloads. Command centers also monitor key environmental control systems, particularly fire detection/suppression systems.

DTCC’s SMART network, which provides DTC customer connectivity, has sufficient bandwidth to handle the entire traffic load and routes customer traffic on a rotating basis between the in-region and out-of-region data centers, which continuously tests their availability. A redundant wide area network connects all locations allowing external traffic to be routed to the appropriate processing data center. The level of redundancy extends also to the network equipment and provides automated failover. A telecommunications line failure, once automatically rerouted across the redundant network component, only requires the affected customer to re-establish their session.

The in-region synchronous data centers maintain exact copies of production data allowing recovery, or failover, from the loss of one synchronous data center to another synchronous data center without the loss of data or transactions from the point of failure. In the unlikely event that the synchronous data centers fail simultaneously, up to 2 minutes of transaction data could be lost due to the physical limitation of asynchronous data replication to an out-of-region facility. In this regard, DTCC has produced an out-of-region recovery guide for DTC’s Participants to ensure that they understand how to go about identifying transactions that were lost due to the physical limitation of

asynchronous data replication to an out-of-region facility and therefore can be prepared to retransmit transactions in the unlikely event it becomes necessary.

Business continuity plans are tested several times per year on the technology side. Operational recovery is also tested several times per year with some tests involving several hundred employees working from their alternate work locations. In these tests, employees from operational departments simulate the involvement of Participants. Communications tests are conducted each year with major Participants to ensure their backup site(s) can communicate to all company processing locations.

DTC conforms to the DTCC BCP Validation Strategy, which is specifically constructed to meet the higher standards of the Interagency Paper. Business Impact Analysis validates the criticality of various systems and business areas to ensure appropriate backup and recovery testing. For those functions and facilities identified as critical that rely on contingency facilities which are not exercised in the normal course of daily business, DTC tests and rehearses recovery capabilities to keep the staff and facilities in a state of readiness and demonstrate our capability to meet all regulatory requirements for recovery time objectives and recovery point objectives inclusive of those specified in the Interagency Report. DTC tests various recovery scenarios throughout the year. At least annually scenarios simulating a failure at any one and at multiple facilities are performed. These tests include network recovery.

DTC departments involve staff, including Internal Audit, to verify the transaction data integrity and recovery of DTC applications. DTC participates in industry-wide business continuity tests, which involve the major financial institutions.

In addition, DTC's rules require Participants that are deemed "critical" (based upon revenues, Participants Fund contributions, settlement values, and settlement volumes) to test that they are able to communicate with DTC from their primary and alternate locations for business continuity purposes. DTC's Rules provide that DTC may impose a fine of \$10,000.00 per year on any "critical" Participant who fails to conduct the required annual connectivity testing for business continuity purposes.

Each data center contains an active 24 x 7 staffed command center capable of operating and monitoring the workload running at any data center. Datacenter Operations participates in each of the technology recovery tests, and has adjusted internal processes where the exercises have shown a need to do so. These included introducing plans for continuous cross-training of operations personnel among the various sites, as well as introducing a schedule for rotating control of DTCC's production environment among the various data centers on a regular basis to give all operations personnel real-time experience in operating the systems.

3. Are operational reliability issues reviewed regularly by senior management, including review by persons not responsible for the relevant operations? Are periodic external audits of the IT (information technology) system conducted? Is there an independent internal audit function and does it review operational risk controls?

Management controls including monitoring, reporting and oversight are adequate. Key personnel assigned to the area are knowledgeable and possess several years of cumulative institutional experience/knowledge.

Operational reliability issues are reviewed regularly by senior management, including review by persons not responsible for the relevant operation. Operational reliability is monitored continuously and reported to senior management on a monthly basis. Management uses numerous metrics to measure operational reliability.

Mechanisms are also in place to report/escalate operational incidences, such as reporting of major production outages to senior management and to investigate/assess the root cause of the incidences and ensure appropriate and timely corrective actions are taken.

An independent Internal Audit function is in place at DTC which regularly reviews the adequacy of DTC's operational controls, among other areas. DTC is also subject to an annual audit by its certified public accountants, which includes a review and evaluation of internal controls.

4. How many times during the last year has a key system failed? What is the most common cause of failures? How long did it take to resume processing? How much transaction data, if any, was lost? Does the system operator have capacity plans for key systems and are key systems tested periodically to determine if they can handle stress volume?

There have been very few delays in key systems and no system failures during the last year.

DTCC has dedicated capacity planning staffing and ensures that DTC has sufficient capacity to meet operational needs in all data centers. Daily, weekly and monthly capacity/utilization reports are generated and reviewed by the Infrastructure Department to track growth against projections. Each year an annual Capacity Planning Report is produced and presented to the Board of Directors, as well as to DTC's regulators.

DTC's key business volume, Delivery Orders, has remained relatively stable in the past couple of years. Delivery volumes have decreased since 2007, falling from 1.3 million average daily deliveries in 2007 to 1.2 million average daily deliveries in 2008 and year-to-date 2009. The all-time highest Delivery Order peak daily volume was 1.5 million deliveries in November 2007. Sufficient capacity exists to process at least 6 million Delivery Orders during the primary processing period of 2 AM to 3:30 PM.

New systems are stress tested prior to being placed into production. Existing systems are not routinely stress tested, in light of the capacity planning process described above.

Assessment: DTC observes Recommendation 11.

Recommendation 12: Protection of customers' securities: *Entities holding securities in custody should employ accounting practices and safekeeping procedures that fully protect customers' securities. It is essential that customers' securities be protected against the claims of a custodian's creditors.*

Answers to Key Questions

- 1. What arrangements are used to protect customers' securities from theft, loss or misuse and to ensure that they will not become subject to claims of the custodian's creditors (for example, are segregation, insurance, or compensation schemes used)? Are those arrangements based upon specific laws and regulations? In the event of the custodian's insolvency, do those arrangements enable a customer's positions to be moved by a receiver to a solvent intermediary?**

DTC maintains insurance coverage in the following amounts: \$850 million aggregate on-premises and/or in-transit coverage under blanket bond/all-risk policies; \$800 million aggregate in-transit coverage under an all-risk policy; and an additional limited coverage for mail losses. With regard to claims on customer securities, DTC does not have any lien on or interest in any segregated securities (*see* DTC Rule 6). DTC does not have financial guaranty insurance.

Any judicial proceeding concerning DTC's insolvency will be administered under either the New York Banking Law or the U.S. Federal Bankruptcy Code. If any such proceeding occurs under the New York Banking Law, DTC's creditors should not succeed with respect to any claim made against deposited securities. If DTC is a debtor under the U.S. Federal Bankruptcy Code, DTC's creditors should not succeed with respect to any claim made against deposited securities.

Under the Uniform Commercial Code, securities intermediaries, including DTC, are required to maintain a sufficient quantity of investment property (e.g., securities) to satisfy all of their customers' claims.²⁰ As a registered clearing agency, DTC is subject to Section 17(A)(b)(3)(F) of the Exchange Act which requires that the rules of the clearing agency be designed to, among other things, "assure the safeguarding of securities and funds which are in the custody or control of the clearing agency or for which it is responsible".

²⁰ U.C.C. § 8-504.

2. How often do the entities holding securities in custody reconcile their records? Are the entities holding securities in custody subject to mandatory internal or external audit, or both, to determine if there are sufficient securities to satisfy customer claims?

At the end of each day, DTC prepares a Participant Position Statement that details a Participant's DTC securities holding, as well as a Participant Daily Activity Statement for each Participant that details the opening balance, activity, and closing balance for each security issue in which the Participant had activity on that day. The Rules and Procedures of DTC require Participants to reconcile both their activity and positions with DTC upon receipt from DTC and to immediately report any discrepancies. DTC, however, does not have specific information on how often each Participant reconciles its own internal records.

DTC takes several steps to reconcile its securities records: In DTC's FAST Automated Securities Transfer ("FAST") Program, pursuant to which a significant portion of securities custodied by DTC are in turn sub-custodied, a transfer agent acts as custodian for securities registered in the name of Cede & Co., nominee of DTC. The transfer agent is obligated to confirm daily with DTC the balances of the securities. Since the securities are not under DTC's direct control, DTC receives reports on the internal controls of the transfer agent from their independent accountants annually.

Entities holding securities on behalf of DTC confirm the number of shares, units, or obligations daily.

Some securities are custodied by DTC itself. DTC's Internal Audit Department and its independent accountant regularly review the adequacy of DTC's internal controls, procedures, and records. Evaluations of DTC's financial statements and internal controls over securities and related monies processed and/or held for Participants and others are conducted on a periodic basis. Such examinations cover all critical processing areas of the operation, as well as the data processing environment.

3. Are the entities holding securities in custody subject to prudential supervision or regulation? Do regulatory reviews examine the procedures and internal controls used in the safekeeping of securities?

DTC is regulated by the SEC, the Board of Governors of the Federal Reserve System, and the New York State Banking Department; all three routinely examine DTC. These regulators and DTC's internal and external auditors regularly review the adequacy of DTC's internal controls, procedures, and records.

Assessment: DTC observes Recommendation 12.

Recommendation 13: Governance: *Governance arrangements for CSDs and CCPs should be designed to fulfill public interest requirements and to promote the objectives of owners and users.*

Answers to Key Questions

1. What are the governance arrangements of the CSD or CCP? What information is publicly available regarding the system, its ownership and its board and management structure, and the process by which major decisions are taken and management made accountable?

DTCC is the holding company of DTC. The DTCC common shareholders include approximately 362 banks, broker-dealers, mutual funds, and other companies in the financial services industry that are participants of one or more of DTCC's clearing agency subsidiaries, including DTC.

Individuals elected to the DTCC Board of Directors are also elected to the Boards of Directors of DTC and its affiliates, NSCC and FICC. Board members also serve on specific Board Committees, some of which also include members who are not on the Board. The Board Committees include an Audit Committee, a Credit and Market Risk Management Committee (with responsibility for credit determinations on members and applicants and market risk issues, including Clearing Fund components and formulas), a Compliance and Operational Risk Management Committee (with responsibility for compliance and operational risk issues, including liquidity management issues), a Core Services Operations and Planning Committee (with responsibility for service development and oversight, including budgetary and fee matters) and other committees. The Audit Committee is composed only of Board members; the other committees named include non-Board representation.

Since DTCC's formation in 1999, the corporate governance practices of DTCC and its registered clearing agencies have been the subject of significant focus by the Boards and management of the clearing agencies. The clearing agencies continually review corporate governance standards as they evolve and adopt best practices for public companies where appropriate. This year DTCC is conducting an extensive review of its governance practices to ensure that they meet applicable requirements and provide for coordinated and comprehensive oversight of DTCC's operations and risk management; recommendations from this review are expected to be reviewed by the Board and other involved parties and implementation plans put in motion by year-end 2009.

Fair Representation

Section 17A of the Exchange Act requires that the rules of a registered clearing agency "assure a fair representation of its shareholders (or members) and participants in the selection of directors and administration of its affairs" (the "Fair Representation Requirement"). The clearing agencies' corporate governance practices (including the requirement for "full-service" participants of each clearing agency to acquire DTCC

common shares and thereby have the right to vote in the election of clearing agency directors), the process for nominating directors, and the responsibilities and composition of Board committees are all intended to help assure satisfaction of the Fair Representation Requirement.

Acquisition of DTCC Common Shares, and
Voting in the Election of Clearing Agency Directors

Participants of each DTCC registered clearing agency subsidiary (other than certain classes of limited participants) are required to purchase and own DTCC common shares in amounts proportionate to their use of the services and facilities of all DTCC clearing agency subsidiaries. Share allocations are reviewed on a periodic basis, not less frequently than once every three years.

All of the above information is publicly available, both through the DTC website and DTCC.com and through its annual report and other publications and notices.

- 2. Are the system's public interest, financial and other objectives clearly articulated and public? What are they? Do the system's objectives reflect the needs of users as well as owners? How is the public interest taken into account? Can the system's participants or the public influence the system's decision-making process? How are major decisions communicated to owners and users?**

DTC's public interest objectives are necessarily based upon Section 17A of the Exchange Act which reflects the finding of the US Congress that:

The prompt and accurate clearance and settlement of securities transactions, including the transfer of record ownership and the safeguarding of securities and funds related thereto, are necessary for the protection of investors and persons facilitating transactions by and acting on behalf of investors.

In Section 17A, Congress directed the SEC, "having due regard for the public interest," to facilitate the establishment of a national system for the prompt and accurate clearance and settlement of securities transactions by, among other things, the registration of clearing agencies that have been determined by the SEC to meet the statutory standards included in Section 17A(b)(3) of the Exchange Act. One of these standards is that the rules of the clearing agency must be

designed to promote the prompt and accurate clearance and settlement of securities transactions . . . and, in general, to protect investors and the public interest.

Under §19 of the Exchange Act and SEC rules promulgated thereunder, DTC, as a registered clearing agency, must submit proposed changes to its rules, including changes that affect the rights and obligations of DTC and of its Participants, to the SEC for approval before they can be implemented.²¹ The form on which a proposed rules change is filed with the SEC requires that DTC justify its proposal by reference to the statutory objectives set forth in Section 17A of the Exchange Act.

These proposed rules changes are published by the SEC for comment by DTC Participants and other members of the public. DTC includes on its website DTC's proposed rules changes and the related SEC notices inviting comments as well as SEC Orders approving proposed rules changes.

§19 of the Exchange Act provides for SEC approval of proposed rules changes submitted for approval only upon the SEC's determination that the proposal is consistent with the requirements of the Exchange Act and related SEC rules and in the public interest.

DTC's financial objectives, to continue to provide services to its Participants at cost and to return to its Participants revenues in excess of its costs and amounts needed to be retained, are clearly articulated in a variety of DTC publications, including DTCC's annual reports.

The regulatory process described above as well as the fact that DTC is user-owned and user-governed helps assure that DTC's public interest and financial objectives are satisfied.

3. What steps are taken to ensure that management has the incentives and skills needed to achieve the system's objectives and is accountable for its performance?

Management and the Board establish formal corporate goals yearly based on consultation with individual participants, members of the Board, Board committees, advisory committees, industry associations, regulators, and others. The Board measures management's performance against these goals periodically throughout each year by reviewing status reports from management and from Board Committees that have oversight responsibilities for particular activities with respect to which goals have been established. In addition, the Board's Compensation Committee receives periodic reports throughout the year on the achievement by management of corporate goals. At the December Board meeting, the Board makes its final evaluation of management's performance against goals for the year.

²¹ Certain proposed rules changes of lesser significance submitted to the SEC may be implemented without formal SEC approval. However, the SEC may summarily abrogate such rules changes "if necessary or appropriate in the public interest."

Through evaluation of management performance, and by linking compensation to performance, the Board seeks to ensure that management has the incentives and skills needed to achieve the clearing agency's objectives, and that management is accountable for its performance.

Compensation

The Board's Compensation Committee, which is composed of non-management directors, is responsible for approving compensation actions (merit increases, incentive compensation, and other benefits, including deferred compensation and medical) for the members of management that report directly to the Chief Executive Officer, and for recommending to the Board compensation actions for the Chief Executive Officer. An independent compensation consultant makes recommendations to the Compensation Committee on these actions. The Board meets in executive session to consider the Committee's recommendations respecting the Chief Executive Officer.

The General Auditor reports functionally to the Audit Committee, which is responsible for approving the General Auditor's salary and performance appraisal.

4. How is the composition of the board determined? What steps are taken to ensure that board members have the necessary skills, and represent or take into account in their deliberations the full range of shareholder and user interests as well as the public interest?

The Boards of each clearing agency may have between 15 and 25 directors, as determined by the Board each year. Only two members of management, DTCC's Chairman and Chief Executive Officer and its Chief Operating Officer, are also directors – the other directors are independent of management. Individuals elected to the DTCC Board by the common shareholders are also elected to the Boards of DTC, NSCC and FICC. Two members of the Board represent DTCC's preferred shareholders, the NYSE and FINRA. DTCC preferred shareholders have no right to vote on any matters submitted to a vote of DTCC shareholders, although each of the two DTCC preferred shareholders are entitled to elect one director.

Nominating Process

Each year, the Board appoints members of the Governance Committee. They, in turn, recommend nominees for directors to the Board. They do this after soliciting from participants of each clearing agency suggested nominees for election by common shareholders. The Committee standards in recommending nominees are designed to satisfy the Fair Representation Requirement, and reflect other governance best practices. Under its charter, the Governance Committee has the responsibility to nominate persons for election as directors based upon the following factors: ability to represent users of the services of each of DTCC's clearing and depository subsidiaries; ownership of DTCC

common stock; expertise; with respect to current directors, their length of service, attendance at Board and Committee meetings, and effectiveness; and adequate diversity on the Board.

Board Committees

The Board has established Committees to which it has delegated significant responsibilities. The nature of their membership is intended to further assure compliance with the Fair Representation Requirement. In this regard, certain DTCC Board Committees include as members senior industry representatives of participants of the relevant clearing agencies who are not members of the Board. Committee members are nominated each year by the Governance Committee based upon the same criteria as nominees for director, including their expertise.

Finally, as discussed in Response 1 above, the requirements of the Exchange Act, coupled with the facts that the clearing agency is owned by its users and that the members of the Board of Directors are predominantly individuals whose companies are users of the system, serve to ensure that shareholders, users, and public interests will be taken into account in the Board's deliberations.

The foregoing response represents DTCC's and DTC's current practices with respect to the subjects covered. As stated above in response to key question 1, DTCC is conducting a review of its corporate governance practices generally in 2009, which review will consider all of the subjects covered by the key questions in this Recommendation 13. Any changes on the subjects covered herein will be reflected in subsequent revisions to this self-assessment.

Assessment: DTC observes Recommendation 13.

Recommendation 14: Access: CSDs and CCPs should have objective and publicly disclosed criteria for participation that permit fair and open access.

Answers to Key Questions

1. Are access rules/criteria objective and clearly disclosed to all potential applicants?

DTC's Rules, available at www.dtcc.com, set forth the basic standards for the admission of DTC Participants. DTC's Rules provide that the admission of a Participant is subject to an applicant's demonstration that it meets reasonable standards of financial responsibility, operational capability, and character. The Rules also require all DTC Participants to demonstrate to DTC that these standards are met on an ongoing basis. DTCC's Risk Management Department obtains information daily from other internal DTC departments regarding settlement, or operational, problems experienced with any DTC Participant.

The criteria DTC uses include: (1) the extent and nature of the business the applicant intends to conduct through DTC; (2) the applicant's capital and financial stability, such as whether the applicant has the financial capability to meet its projected DTC obligations; (3) the business and market risks to which the applicant is subject; and (4) the applicant's operational capability to meet the technical demands of interfacing with the depository. In no case, however, does DTC admit brokers-dealers with less than \$500,000 in excess net capital, or banks with less than \$2 million in equity.

The Risk Management Department reviews the financial condition of all DTC Participants at least quarterly. Financial statements filed with regulatory agencies, information obtained from other self-regulatory organizations and information gathered from various financial publications are analyzed to assure that the Participant continues to be financially stable. The Department also monitors Participants' settlement obligations, capital adequacy, and transaction activity on a daily basis to assure that the Participant continues to be capable of meeting its obligations to DTC.

2. Are the same rules applied regardless of the identity, type and location of the applicant? If not, what variations apply and why?

Applicants seeking membership to DTC's full range of services are subject to more comprehensive rules than to applicants seeking to utilize limited DTC services only. A Limited Participant that does not utilize DTC's settlement services and, therefore, does not present any settlement risk to DTC, is not required to contribute to DTC's Participant Fund. (see DTC Rule 4).

While within each DTC membership category, generally the same rules and procedures apply, regardless of the identity, type, or location of the applicant, some Participant accounts may be subject to certain additional requirements or restrictions. For example, certain foreign CSDs maintain only free of payment accounts at DTC because of time

zone differences. These accounts are systemically restricted by DTC from receiving deliveries of securities versus payment or payment orders, but are not restricted from receiving or delivering securities free of payment. This restriction limits not only DTC's risks, but also those of the Participant subject to the restriction by preventing misdirected value transactions.

Can differential restrictions on access to the system be justified in terms of the need to limit risks to the system operator or to other users?

Yes.

3. Under what conditions can participants terminate their membership?

A Participant may terminate its participation in DTC by notifying DTC in writing. Notwithstanding any such termination, a Participant remains obligated to satisfy any obligations and liabilities arising out of its participation in DTC.

What arrangements does the system have in place to facilitate the exit of members who no longer meet the participation requirements? Are these arrangements publicly disclosed?

If a Participant notifies DTC that, due to exigent circumstances, it intends to wind-down its activities, and as a result of such circumstances, DTC determines, in its discretion, to take special action in order to protect itself and its Participants, Rule 32 (Wind-Down Participant) sets forth the actions that may be taken, or conditions that may be placed on the Participant. DTC will notify both its regulators and Participants that it is winding down the activities of the Wind-Down Participant specifying how transactions with the Participant are to be handled, in most cases in accordance with DTC's normal operating procedures. The Wind-Down Rules permit the Participant to deliver or withdraw the securities in its account in an orderly fashion and preserve the orderly settlement of those transactions, while mitigating risk of loss to the depository and its Participants.

Such actions may include, for example, restricting or modifying the Wind-Down Participant's use of any or all of DTC's services (whether generally, or with respect to given transactions) and requiring the Wind-Down Participant to post increased Participants Fund deposits. DTC will retain all of its other rights set forth in its rules and participant agreements, including the right to cease to act for the Wind-Down Participant.

DTC Rule 10 (Discretionary Termination) provides DTC with the right to cease to act for a Participant with respect to a particular transaction, program, or transactions generally if, based on DTC's judgment, adequate cause exists to do so. The Credit and Market Risk Management Committee of the DTC Board of Directors has been delegated by the Board the authority to determine whether to exercise this right. For example, DTC may cease to act for a Participant generally if the Participant becomes subject to a formal insolvency

proceeding, the Participant fails to perform its obligations to the corporation, the Board has reasonable grounds to believe that the Participant has been responsible for fraudulent or dishonest conduct, or the Board has reasonable grounds to believe that the Participant is in or is approaching significant financial difficulty.

If a Participant no longer meets DTC's requirements, DTC Rule 11 (Mandatory Termination) provides that DTC, upon determining to its reasonable satisfaction that the Participant no longer meets the membership qualifications set forth in its rules shall cease to act for the Participant. DTC will notify both its regulators, and all other Participants that it has cease to act for such Participant

If DTC makes the determination to cease to act for a Participant, DTC may not at any time refuse to deliver a Participant's Deposited Securities²² to that Participant; or in the case of a bankruptcy, to the court-appointed Trustee or Receiver, for the Participant.

Assessment: DTC observes Recommendation 14.

²² The term "Deposited Security" means an Eligible Security credited to the Account of a Participant by Deposit or Delivery.

Recommendation 15: Efficiency: *While maintaining safe and secure operations, securities settlement systems should be cost-effective in meeting the requirements of users.*

Answers to Key Questions

- 1. Does the system operator have in place procedures to control costs (for example, by benchmarking its costs and charges against other systems that provide a similar service and to analyse the reasons for significant differences)? Does the system operator have in place procedures to regularly review its pricing levels against its costs of operation?**

DTC's fees are cost-based.²³ DTC returns to its users, via rebates or refunds, excess net revenues not needed to fund its operations; rebates and other refunds for 2008²⁴ totaled \$51,363,000. DTC uses a formal budgeting process to control its expenditures. The budget is approved annually by the Board of Directors, as is any material change in service fees. Furthermore, to help ensure ongoing efficiency, DTCC has a Quality and Business Reengineering Department, which employs Six Sigma techniques to analyze workflows and make appropriate recommendations for improvement.

In addition, DTCC currently performs periodic benchmarking studies to assess cost effectiveness in the market place. These studies are not only limited to the cost effectiveness of the organization but also on implementing best practices. The company reviews pricing level against its costs of operations typically during the annual budget process, providing guidance to the Board of the price impact.

- 2. Does the system operator regularly review its service levels, including by regularly surveying its users? Does the system operator have in place procedures to regularly review operational reliability, including its capacity levels against projected demand?**

DTC formally surveys its Participants to test and help ensure adherence to service levels on an annual basis. In addition, several committees of the Board of Directors, made up of members of the user community, are responsible for overseeing various aspects of the operation. Operational reliability is continuously monitored against specific service level targets including availability, response time and completion against time targets. These are reported to IT, product and senior management on a monthly basis. DTCC has a dedicated capacity planning staffing and ensures that the company has sufficient capacity to meet operational needs. Daily, weekly and monthly capacity reports are generated and reviewed by the Infrastructure Department to track growth against projections. Each year an annual Capacity Planning Report, including projected capacity growth for the following year is produced and presented to the Board of Directors, as well as to the

²³ DTC's Fee Schedule may be found at the following link:
http://www.dtcc.com/products/documentation/dtcfeeguide_2009.pdf

²⁴ DTC's Financial Statement may be found at the following link:
http://www.dtcc.com/downloads/annuals/2008/dtc_yearend_2008.pdf

company's regulators.

Assessment: DTC observes Recommendation 15.

Recommendation 16: Communication procedures and standards: *Securities settlement systems should use or accommodate the relevant international communication procedures and standards in order to facilitate efficient settlement of cross-border transactions.*

Answers to Key Questions

- 1. Does the securities settlement system use international communication procedures or standards or is it able to easily convert domestic procedures and standards into the relevant international communication procedures and standards for cross-border securities transactions?**

DTC uses standard messaging formats that are widely used by the international community in order to process cross-border securities transactions. DTC uses standard ISO 15022 messaging formats for its cross-border linkages with other CSDs. These message formats have been further standardized according to the message standards first developed by the European CSD Association. The messages (ISO-based and Message Queuing) are sent and received over DTC's proprietary system as well as SWIFT.

Assessment: DTC observes Recommendation 16.

Recommendation 17: Transparency: *CSDs and CCPs should provide market participants with sufficient information for them to identify and evaluate accurately the risks and costs associated with using the CSD or CCP services.*

Answers to Key Questions

- 1. Does the CSD or CCP make clear disclosures to market participants about its rules, regulations, relevant laws, governance procedures, risks, steps taken to mitigate risks, the rights and obligations of participants and the cost of participating in the system?**

DTC's rules and procedures, including its service guides are publicly available on its websites. The rules and procedures provide Participants with sufficient information to identify and evaluate the risks and cost associated with using DTC's services. Important information, including proposed rule changes are communicated via Important Notices which are posted on DTC's website, along with any rule filings. The legal foundation and governance structure for DTC is publicly available and sound. For additional information, see the answers to key questions for Recommendation 1.

Information about key financial and operational risks associated with DTC services is also publicly disclosed. The financial statements and participation cost can be found on the DTC websites. DTC makes available to its Participants unaudited quarterly and audited annual financial statements. (See Recommendation 15). Any financial risks, and the steps to mitigate such risks, are clearly identified and discussed in the answers to key questions for Recommendation 9. Operational Risk related to security and contingency policies is outlined in the answers to key questions for Recommendation 11. In addition, intra-day operational issues, such as extensions and connectivity problems, are broadcast through DTC's network system.

- 2. Has the system completed and disclosed the questionnaire set out in the CPSS/IOSCO disclosure framework or the answers to the key questions set out in this assessment methodology? Have the authorities responsible for regulation and oversight publicly disclosed their answers to the key questions regarding implementation of the recommendations?**

DTC completed and disclosed both the questionnaire set out in the CPSS/IOSCO disclosure framework and the answers to the key questions set out in this assessment methodology.

- 3. How is this information made available? In what language or languages? In what form?**

This information is made available in English via the Internet.

4. What steps are taken by the CSD or CCP to ensure that the disclosures are complete and accurate? Are there regular reviews to ensure they remain current?

Pursuant to PSR policy, DTC's self-assessment is reviewed by its senior management and approved by its Board of Directors prior to publication. DTC reviews the content of its responses at least every two years, and updates its response following any material change to DTC's system or environment.

Assessment: DTC observes Recommendation 17.

Recommendation 18: Regulation and oversight: *Securities settlement systems should be subject to transparent and effective regulation and oversight. Central banks and securities regulators should cooperate with each other and with other relevant authorities.*

Answers to Key Questions

1. How is the system regulated/overseen? Describe the laws that authorize and govern the system's operation, the applicable regulatory bodies and their respective authority concerning the system's operation.

DTC is regulated/overseen by three authorities: the Board of Governors of the Federal Reserve System (the "Board"), the SEC, and the New York State Banking Department (NYSBD).

DTC is a member of the Federal Reserve System and is overseen by the Board. The Board has the authority to examine state member banks pursuant to the Federal Reserve Act. Board regulations and policies also govern DTC's activities as a state member bank. In addition, pursuant to the Securities Exchange Act of 1934 (Exchange Act), Section 3(a)(34)(B)(ii), the Board is the "appropriate regulatory agency" with respect to state member banks that act as clearing agencies. As such, the Board is primarily responsible for examining and enforcing compliance by DTC with Section 17 (records and reports), Section 19 (registration, responsibilities, and oversight of SROs), as well as section 17A of the Exchange Act.

DTC also operates as a clearing agency, as defined in the Exchange Act, and is registered with and regulated by the SEC. Section 17A of the Exchange Act directs the Commission to facilitate the establishment of a national system for the prompt and accurate clearance and settlement of securities, and to facilitate the establishment of linked or coordinated facilities for clearance and settlement of transactions in securities. Commission regulation of securities clearance and settlement systems revolves around the regulation of registered clearing agencies and clearing agencies which have been granted an exemption from clearing agency registration.

The Commission is responsible for providing general oversight and conducting necessary activities to maintain the public's confidence in the SEC and the securities settlement system. To affect these goals, the SEC promulgates rules and processes rule changes by the self-regulatory organizations. The SEC also conducts examinations of Participants in the clearance and settlement system to ensure compliance with federal law as well as the system's rules and procedures.

None of DTC's rules and material procedures or services can become effective until filed with, and approved or otherwise permitted by, the SEC (after review by the Federal Reserve Bank of New York and the Board) pursuant to the standards set forth in Section 19(b) of the Exchange Act.

Given the roles of the Board and the SEC, Section 19 of the Exchange Act provides that the SEC consider the views of the Board with respect to whether DTC's proposed rule changes are inconsistent with the safeguarding of securities or funds in DTC's custody or control (Section 19(b)(4)(C) of the Exchange Act).

DTC is also subject to supervision by the NYSBD as a limited purpose trust company.

- 2. Are the responsibilities of the securities regulator, central bank and, where relevant, banking supervisor clearly defined with respect to securities settlement systems? Are their roles and major policies disclosed publicly? Are they written in plain language so that they can be fully understood by designers, operators and participants of securities settlement systems, and other relevant parties?**

Section 3(a)(34)(B) of the Exchange Act defines the responsibilities of the SEC, the Federal Reserve and relevant banking supervisor with respect to securities settlement systems. The federal securities laws and the SEC's policies are written in plain language and are available to the public through a number of sources, including the SEC's website www.sec.gov. The Federal Reserve Act and Board regulations and policies are available at www.federalreserve.gov. Relevant state banking laws are available on the New York State Banking Department's website www.banking.state.ny.us.

- 3. What is the regulatory and oversight framework based on? Is it a statute-based approach where specific tasks, responsibilities and powers are assigned to specific public authorities? Or a non-statute-based approach? Do the securities regulator and the central bank have experienced staff, proper resources and funding to carry out regulatory and oversight functions effectively?**

The regulatory and oversight framework is statutorily based on the Exchange Act and SEC rules and policies and the Federal Reserve Act and Board regulations and policies. The Commission, Federal Reserve System, and NYSBD have experienced staff, proper resources, and funding to carry out regulatory and oversight functions effectively.

- 4. Is there a framework for cooperation between the securities regulator and the central bank, such as for the exchange of information and views on securities settlement systems? Is there such a framework for cooperation with relevant authorities both within and outside the country?**

Section 17A directs the Commission to consult with the Board in its efforts to facilitate the establishment of linked or coordinated facilities for clearance and settlement of transactions in securities. The SEC and Federal Reserve cooperate, as appropriate, to exchange information to ensure the effectiveness and efficiency of the securities settlement system. Both agencies utilize the *Federal Register* notification process to obtain information from the public sector regarding proposed rules, regulations, policies, and changes that would have an impact on the securities settlement system.

The SEC has entered into several memoranda of understanding with other domestic and foreign regulators in order to facilitate information sharing and cooperation. See www.sec.gov for additional information.

The Board also has a framework in place for cooperating with relevant authorities. As stated in the Federal Reserve Policy on Payments System Risk, the Board will be guided by (among other frameworks) Recommendation 18 of the Recommendations for Securities Settlement Systems and the Principles for International Cooperative Oversight (Part B) of the Committee on Payment and Settlement Systems report, “Central Bank Oversight of Payment and Settlement Systems” when working with other domestic and foreign financial system authorities to promote effective risk management in payments and settlement systems.

Assessment: DTC observes Recommendation 18.

Recommendation 19: Risks in cross-border links: CSDs that establish links to settle cross-border trades should design and operate such links to reduce effectively the risks associated with cross-border settlements.

Answers to Key Questions

1. (a) What kinds of links are in operation (see explanatory note)?

DTC currently has three direct links (*i.e.*, an account at the foreign CSD) with the following CSDs: (1) CDS Clearing and Depository Services Inc. (“CDS”) in Canada; (2) Clearstream Bank AG (“Clearstream”) in Frankfurt, Germany; and (3) SIS SegInterSettle AG (“SIS”) in Switzerland. The accounts at Clearstream and SIS are limited to free-of-payment transfers.

Currently there are ten foreign CSDs that have an account at DTC: CDS, Clearstream, CAVALI ICLV S.A. in Peru, CREST International Nomiees Limited in UK, Caja de Valores, S.A. in Argentina, Deposito Central De Valores S.A., in Chile, Tel Aviv Stock Exchange Clearing House in Israel, Monte Titoli, S.p.A. in Italy, Japan Securities Depository Center, Inc. in Japan and Hong Kong Securities Clearing Company Limited in Hong Kong. Transfers of DTC-eligible securities to and from the DTC accounts of those CSDs may be made free of payment and, in the case of CDS, CAVALI CLV.SA and Deposito Central De Valores S.A., against payment.

(b) Has the CSD done a risk analysis of the design of the link and the financial and operational integrity of the linked CSD?

1. Outbound Links

a. Risk Analysis

Yes. DTC has established procedures to examine and evaluate the financial and operation integrity of its CSD links.

b. Commission Approval

Before DTC can establish an outbound link, it must submit a proposed rule change to the SEC pursuant to Section 19 of the Exchange Act.

2. Inbound Links

a. Membership Approval Process

Generally, CSDs undergo the same application and approval process as all DTC Participants. The SEC has policies in place with regard to relevant authorities outside the U.S. Where the CSD and CCPs have links with non-U.S. CSDs and CCPs, the SEC has required memoranda of understanding between the Commission and the relevant authorities.

2. (a) How is DVP achieved? (b) Does the link permit provisional transfers of securities across the link? If so, is the retransfer of these securities prohibited until the first transfer is final?

DTC does not permit provisional transfers of securities across free of payment links with CSDs. For the CSD that maintains a DVP account with DTC, DVP is achieved in the same manner as it is achieved with any other Participant and subject to the same controls as discussed in response to key question 1 of Recommendation 7.

3. If the CSD extends credit to a linked CSD, are credit extensions to the linked CSD fully secured and subject to limits? Are risk controls and liquidity resources adequate to address liquidity risks posed by the link?

As mentioned above, CSDs that are DTC Participants are subject to the same risk controls and requirements as non-CSD Participants. Credit extensions to a CSD are fully collateralized and subject to limits referred to as net debit cap limits. See the response to key question 1 of Recommendation 7 above.

Assessment: DTC observes Recommendation 19.

August 13, 2009

**The Government Securities Division of the
Fixed Income Clearing Corporation**

**Assessment of Compliance with the
CPSS/IOSCO Recommendations for Central Counterparties**

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I. INTRODUCTION

The Committee on Payment and Settlement Systems and the Technical Committee of the International Organization of Securities Commissions (collectively, the “CPSS-IOSCO”) recognize that financial systems and their participants depend on safe and efficient payment systems. These international organizations have noted that central counterparties (“CCPs”) occupy an important place in such systems. A CCP interposes itself between counterparties to financial transactions. A well-designed CCP with appropriate risk management arrangements reduces the risk faced by participants in financial systems, such as securities settlement systems and over-the-counter markets, and contributes to the goal of financial stability. The CPSS-IOSCO have noted that although a CCP has the potential to reduce risks to market participants significantly, it also concentrates risks and responsibilities for risk management. Therefore, it is important that a CCP have effective risk controls and adequate financial resources.

In November 2004, the CPSS-IOSCO issued their report on Recommendations for Central Counterparties. The report contains 15 headline recommendations covering the major types of risks faced by CCPs (the “CCP Recommendations”). In 2007, the Board of Governors of the Federal Reserve System adopted revisions to its Policy on Payment System Risk that establish an expectation that systemically important systems that are CCPs publicly disclose self-assessments against the CCP Recommendations.

The Government Securities Division (the “FICC/GSD”) of the Fixed Income Clearing Corporation (“FICC”)¹ is a systemically important system for settling transactions in U.S. Government Treasury and Agency securities² and therefore has assessed itself against the CCP Recommendations. Overall, the FICC/GSD either fully or broadly observes each of the CCP Recommendations as more fully described herein.

The United States Congress requires clearing agencies, such as FICC, to be registered with the U.S. Securities and Exchange Commission (the “SEC”) and subject to the SEC’s comprehensive oversight. The standards that the FICC/GSD is required to adhere to as a registered clearing agency mirror a number of the CCP Recommendations. Specifically, FICC’s corporate governance structure is designed to fulfill the public interest requirements of the Securities Exchange Act of 1934, as amended (the “Exchange Act”) and provides for fair representation of users. The FICC/GSD has a well-founded and transparent legal framework that is based upon the laws and regulations governing the settlement of securities transactions and the conduct of securities clearing agencies in the

¹ Currently, FICC acts as a CCP through its Government Securities Division only. FICC has submitted a rule filing to the Securities and Exchange Commission to make its Mortgage-Backed Securities Division act as a trade guarantor and CCP. Upon approval of this proposal, this self-assessment will be expanded to include the Mortgage-Backed Securities Division’s self-assessment against the CCP Recommendations.

² The FICC/GSD also clears and settles transactions in certain eligible mortgage-backed securities in its General Collateral Finance Repo (“GCF Repo®”) service.

United States. The FICC/GSD's rules (the "Rules") are clear and enable its Members³ to understand the financial risks associated with participation in the FICC/GSD. The FICC/GSD measures and manages credit and market risk exposure through its assessment of daily Clearing Fund (margin) requirements on its Members, ongoing monitoring of their financial condition and by taking other actions permitted under its rules. Finally, FICC provides its Members with safe and secure operations while maintaining cost-effectiveness.

Background

FICC is a wholly-owned subsidiary of The Depository Trust & Clearing Corporation.⁴ FICC operates under two Divisions, the FICC/GSD and the Mortgage-Backed Securities Division. Each Division has its own rules and members. The predecessor to the FICC/GSD was established in 1986⁵ to provide automated comparison and settlement services, risk management benefits and operational efficiencies to the U.S. Government securities markets.

Today the FICC/GSD is the leading provider of trade comparison, netting, risk management and settlement for the U.S. Government securities marketplace. In 2008, the FICC/GSD processed transactions in U.S. Government securities with a value of \$1,040,000,000,000.00. The FICC/GSD's Members include the nation's major brokers and dealers, as well as a wide range of entities that trade U.S. Government securities. The FICC/GSD's inter-dealer broker members play an integral role in this market. Other market participants, such as dealers, often rely on the inter-dealer brokers to trade in the U.S. Government securities market. The inter-dealer brokers provide market participants with screens that indicate best bids and offers available from other dealers. The system is anonymous (i.e., "blind").

The FICC/GSD accepts buy-sell transactions, repurchase and reverse repurchase agreement transactions ("repos"), and Treasury auction purchases in eligible securities. The U.S. Government securities market is predominantly an over-the-counter market. Most transactions in the U.S. Government securities market are settled on a T+1 basis.

The FICC/GSD's comparison and netting systems form the core of all of its services. These systems are used to compare transactions in eligible Treasury bills, notes, bonds and zero-coupon securities, as well as book-entry Fedwire-eligible non-mortgage-backed Federal Agency securities (e.g., Tennessee Valley Authority). The transactions are then netted into one position per CUSIP, where the FICC/GSD becomes the counterparty for

³ The FICC/GSD's "netting members" are the participants that use the FICC/GSD's CCP services. The FICC/GSD also offers a comparison-only service, which is a trade matching service. Participants in the comparison-only service do not participate in the netting/CCP service. For ease of description when summarizing the FICC Rules in this assessment, the term "Member" is used throughout to refer to a netting member.

⁴ FICC resulted from the merger of the Government Securities Clearing Corporation and the MBS Clearing Corporation on January 1, 2003.

⁵ The FICC/GSD was previously known as the Government Securities Clearing Corporation.

settlement purposes for each net settlement position. These services are discussed in more detail below.

Trade Comparison/Real-Time Trade Matching (RTTM®)

The crux of the FICC/GSD's comparison system is its RTTM service. This is an interactive tool that enables members to automate the processing of their securities trades throughout the trading day. Using standardized international message formats, RTTM provides a common platform for collecting and matching trade data, enabling the parties to a securities trade to monitor and manage the status of their trades in real time. The result is an immediate confirmation for trade executions that is legal and binding. RTTM creates a more streamlined and operationally efficient processing environment. It maximizes the volume of trades that match on trade date, and it reduces the risk of mismatched securities trades by allowing trading parties to note and fix errors or potential problems in execution or processing as close as possible to trade execution.

Because real-time trade information is recorded immediately, RTTM further safeguards Members in the event of an interruption of business at a member firm level or all across the industry.

Netting and Settlement

Through netting, the FICC/GSD establishes a single net long or short position for each Member's daily trading activity in a given security. The Member's net position is the difference between all purchases (long) and all sales (short) in a given security. The FICC/GSD replaces each net position with a settlement obligation for the scheduled settlement date whereby the Member settles with the FICC/GSD as CCP. The FICC/GSD's netting system typically reduces the costs associated with securities transfers by reducing the number of securities movements required to settle transactions.

Because FICC is not a depository institution, it is not given direct access to Fedwire and therefore employs the services of its two clearing banks, the Bank of New York Mellon ("BNY") and JPMorgan Chase Bank ("JPM"), for this purpose. FICC/GSD Rule 12 (Securities Settlement) provides that the FICC/GSD shall notify each Member (prior to the entity activating its membership) of the clearing bank or banks that the FICC/GSD will use to deliver eligible securities to Members and to receive eligible securities from Members, and by product, the types of securities that each such clearing bank will so deliver and receive. In turn, each Member (prior to activating its membership) must notify the FICC/GSD of the clearing bank or banks that the Member has designated to act on its behalf in the delivery of securities to the FICC/GSD and in the receipt of securities from the FICC/GSD.

On each business day, the FICC/GSD makes available to each Member output (i.e., a report) that provides information (for example, type of obligation (deliver or receive),

name and reference number of the clearing bank, and CUSIP number, settlement date, par value, final dollar value and other information descriptive of an eligible netting security) that the FICC/GSD deems sufficient to enable such Member to be able to settle its net settlement positions on that business day. Each Member, based on the information provided by the FICC/GSD, then provides appropriate instructions to its clearing bank to deliver to the FICC/GSD, and/or to receive from the FICC/GSD, on behalf of the Member, eligible netting securities against payment or receipt at the appropriate settlement value.

Obligations may be settled within a clearing bank, i.e., on the books of a clearing bank when the deliver and attendant receive obligation are at the same clearing bank. Otherwise, obligations are settled using Fedwire. All deliveries are made against full payment.

Auction Takedown Service

The FICC/GSD's Auction Takedown service enables Members to have their Treasury auction awards netted and guaranteed with the rest of their trading activity in the secondary markets thereby reducing settlement risk and costs for participants' auction purchases. All auction awards are submitted to the FICC/GSD by the Federal Reserve Banks on a locked-in basis, meaning that the FICC/GSD automatically generates trade confirmations based on information supplied by the Federal Reserve Banks.

Repurchase Agreement Services

Repos are financial instruments that enable firms to sell securities to obtain immediate funds for their own accounts, or for the benefit of their clients, and to simultaneously agree to repurchase the same (or similar) securities after a specified time at a given price, including interest calculated using a rate agreed upon at the time of execution. Repos can be executed directly between dealers, or on a blind-brokered basis through inter-dealer brokers. In dealer-to-dealer processing, dealers trade directly with one another. In blind brokering, repos are executed using inter-dealer brokers to ensure dealer anonymity. Over the past several years, the FICC/GSD has provided automated matching, netting, settlement and risk management of repo transactions.

The FICC/GSD also provides a service known as the GCF Repo® service, which enables dealers to trade general collateral repos,⁶ based on rate, term and underlying product, throughout the day with inter-dealer broker netting members ("brokers") on a blind basis. The service helps foster a highly liquid market for short-term financing.

Brokers (who are also members of the FICC/GSD) are required to enter data on GCF Repo transactions for submission to the FICC/GSD shortly after trade execution.

⁶ A general collateral repo is a repo in which the underlying securities collateral is nonspecific, general collateral whose identification is at the option of the seller. This is in contrast to a specific collateral repo.

Because the specific collateral is not known at the point of trade, brokers submit all GCF Repos to the FICC/GSD using generic general collateral CUSIPs⁷ that denote the underlying product. GCF Repo participants can trade in generic CUSIP numbers all day and then, after the netting process at the end of the day, allocate specific securities⁸ to their net settlement obligations. The FICC/GSD becomes the CCP for settlement purposes to each dealer party to a GCF Repo transaction and guarantees settlement of GCF Repos upon receipt of trade data.

GCF Repo transactions are settled on a tri-party basis,⁹ which requires dealer Members to have an account with either one or both of the participating clearing banks, BNY and JPM. Dealer Members of the GCF Repo service are permitted to engage in GCF Repo trading on an *inter*-clearing bank basis, meaning that dealers using different clearing banks (i.e., one dealer clears at BNY and the other dealer clears at JPM) are able to enter into GCF Repo transactions (on a blind basis). Because the net GCF Repo settlement obligations are established after the close of the securities Fedwire, FICC and its two clearing banks have established a tri-party like settlement mechanism to permit a movement of the securities after the securities Fedwire has closed. Specifically, the two clearing banks have agreed to allow the securities to be held under a subcustodial relationship (where FICC is the subcustodian) in lieu of receiving the securities via Fedwire. (The movement of the funds to the clearing bank with the net funds borrowers does not raise the same need because the funds Fedwire stays open later.)

In the morning, the GCF pledges are unwound. This means that the securities are returned to the net funds borrowers and the funds are returned to the net funds lenders. The clearing bank (assume it is BNY for illustrative purposes) that is returning the funds to the net funds lenders permits FICC to run a debit in the FICC account at BNY. The net funds borrowers pledge their net free equity¹⁰ at JPM to FICC; FICC, in turn, pledges this interest to BNY (the clearing bank that has permitted the debit). The debit in the FICC account at the BNY gets satisfied during the end of day GCF settlement process. Specifically, that day's new activity will yield a new interbank funds amount that will move at end of day—this amount is netted with the amount that would have been due in the morning. The holds against the dealers' net free equity accounts are released when the interbank funds movement is made at end of day.

⁷ Standardized generic CUSIP numbers established for GCF Repo processing are used to specify the acceptable type of underlying eligible collateral. For example, there is a GCF Repo CUSIP for Treasuries with a remaining maturity of ten years or less.

⁸ The generic general collateral CUSIP defines the appropriate collateral that a dealer may use to satisfy the net settlement obligation in that CUSIP.

⁹ A tri-party repo is one where a custodian bank acts as an intermediary between the two parties to the repo.

¹⁰ A dealer's net free equity consists of the dealer's balances at the clearing bank and it encompasses the methodology that the clearing banks use to determine whether an account holder, such as a dealer, has sufficient collateral to enter a specific transaction. The net free equity methodology allows a clearing bank to place a limit on its customers' activity by calculating a value on the customers' balances at the bank.

Risk Management

Risk management is the foundation for the FICC/GSD's ability to guarantee settlement, as well as the means by which the FICC/GSD protects itself and its Members from the risk inherent in the settlement process. Procedures are in place to ensure that participants comply with the FICC/GSD's rules. The FICC/GSD maintains strict membership standards, including minimum financial requirements, and also collects Clearing Fund to minimize exposure to Members. The Clearing Fund consists of collateral deposits posted by Members in the form of cash and eligible securities.

The FICC/GSD also collects mark-to-market payments in the form of margin as part of its funds-only settlement process. Every business day, each Member must pay (or is entitled to collect) an aggregate funds-only settlement amount across all CUSIPs. The main components of this amount include, among other payments, a mark-to-market amount for every net settlement position, a mark-to-market amount for every forward net settlement position, fail marks for obligations that were scheduled to settle and have not yet settled, coupon payments and other adjustments.

The FICC/GSD's rules also contain a loss allocation procedure, which would be invoked if a defaulting Member's Clearing Fund deposit is not sufficient to cover losses incurred in the liquidation of the Member's positions. If a Member were to become insolvent, the FICC/GSD would first use that Member's Clearing Fund to cover a loss incurred on the liquidation of the Member's positions (and any funds available from any applicable collateral sharing arrangements with other clearing corporations). If such an extraordinary event occurred where those deposits were insufficient to cover the liquidation of all positions, the FICC/GSD's loss allocation procedure would be used. The procedure allocates any remaining liabilities pro rata among Members who most recently traded with the failed firm, with certain caps and limitations applied to certain trading activity. If losses still remained, the loss allocation provisions provide for loss mutualization among all Members,¹¹ which in certain instances, may be preceded by the utilization of a certain percent of FICC/GSD's retained earnings. To date, including through a recent well-publicized broker-dealer closeout, the FICC/GSD has never invoked its loss allocation procedure.

¹¹ The FICC/GSD has submitted a rule filing to the SEC to expand its netting membership types to include buy-side entities. Certain types of these firms, such as SEC-registered investment companies, are not permitted by regulation to mutualize loss. The rule filing proposes to amend the loss allocation structure of the FICC/GSD to exempt these specific entities from loss mutualization, meaning that they would not be assessed for a loss that arose from the default of a Member with whom they had never traded. Other buy-side entities would participate in loss allocation.

II. ASSESSMENT OF OBSERVANCE

EXECUTIVE SUMMARY

Overall, the FICC/GSD complies with the CCP Recommendations. The FICC/GSD either fully or broadly observes all fifteen Recommendations.

Legal Risk

U.S. law provides an enforceable legal framework for the FICC/GSD's activities. (Recommendation 1)

Credit Risk

The FICC/GSD establishes strict requirements for Members' financial resources and creditworthiness. These requirements are clearly set forth in the FICC/GSD's Rules and the FICC/GSD monitors that these requirements are met on an on-going basis. (Recommendation 2)

The FICC/GSD relies on margin requirements to limit its credit exposures to Members. (Recommendation 4) The FICC/GSD measures Member exposure daily and requires settlement of deficiencies by 9:30 am. (Recommendation 3)

Participant Default Risk

The FICC/GSD conducts liquidity studies which demonstrate that it has sufficient liquidity resources to cover the failure of the largest "affiliated family"¹² of Members. The FICC/GSD's default procedures are clearly stated and ensure that the FICC/GSD can take timely action to contain losses and liquidity pressures and to continue meeting its obligations in the event of a Member default (Recommendation 6). The FICC/GSD limits its exposure to potential losses from defaults by its Members by establishing membership standards and continuously monitoring Members to verify that they are meeting those standards. The FICC/GSD also requires that Members make required Clearing Fund deposits. In addition, FICC has entered into cross-guaranty and cross-margining arrangements with other clearing organizations which are designed to provide a mechanism for the sharing of excess collateral of a common defaulting Member held at one clearing organization to cover losses incurred at another clearing organization. Moreover, under its Rules, the FICC/GSD may seek such assurances of financial

¹² An "affiliated family" means collectively, each Member that controls or is controlled by another Member and each Member that is under the common control of any organization, entity or individual. "Control" for these purposes means the direct or indirect ownership of more than 50 percent of the voting securities or other voting interests of any organization, entity or person.

responsibility and operational capability from a participant as it deems necessary or advisable to protect itself and its Members. (Recommendation 3)

Custody and Investment Risks

All securities and cash associated with the FICC/GSD settlement process and its Clearing Fund are held in FICC's accounts at its two clearing banks. The clearing banks are subject to a strict regulatory framework. In terms of investment risk, the FICC/GSD invests its cash generally in reverse repos in debt obligations of the U.S. Government or of U.S. Government Agencies guaranteed by the U.S. Government. The FICC/GSD invests only with creditworthy counterparties. (Recommendation 7)

Operational Risk

The FICC/GSD maintains a high degree of security and operational reliability. The FICC/GSD has several ways in which it identifies and manages its operational risk. Moreover, the FICC/GSD has a formal business continuity plan in place that meets the standards set forth in the "Interagency Paper on Sound Practices to Strengthen the Resiliency of the U.S. Financial System" (Recommendation 8).

Settlement Risk

The FICC/GSD uses the central bank model with a tiered settlement arrangement for its funds-only settlement process. The settlement ultimately occurs via the Federal Reserve's National Settlement Service ("NSS") and funds transfers are final when effected on the NSS. The FICC/GSD confirms that fund transfers have been effected each business day (Recommendation 9). With respect to securities settlement, the FICC/GSD's Rules clearly set forth its obligations with respect to securities settlement. Every securities delivery, whether to or from the FICC/GSD, is made against full payment (Recommendation 10).

Financial Resources

The FICC/GSD maintains sufficient resources to withstand, at a minimum, a default by a Member to which it has the largest exposure. At the present time, however, the FICC/GSD performs stress testing quarterly. (Recommendation 5)

Transparency

The FICC/GSD provides market participants with information for them to identify and evaluate the risks and costs associated with using its services. At the present time, however, the FICC/GSD does not provide stress testing results to its Members. (Recommendation 14)

Other Issues

The FICC/GSD's link with the Chicago Mercantile Exchange (also a CCP) is managed prudently on an on-going basis (Recommendation 11). The FICC/GSD maintains safe, secure and cost-effective operations by regularly reviewing service levels and improving the efficiency of its services (Recommendation 12). The FICC/GSD's governance arrangements are designed to fulfill public interest requirements and promote the objectives of its users (Recommendation 13). The FICC/GSD is subject to transparent and effective regulation and oversight by the SEC and the Federal Reserve. These two regulators have a cooperative relationship aimed at assuring effective regulation over the FICC/GSD (Recommendation 15).

Table 1: summary of assessment results by category

Assessment category	Recommendations
Observed	1, 2, 3, 4, 6, 7, 8, 9, 10, 11, 12, 13, 15
Broadly Observed	5, 14
Partly Observed	
Non-observed	
Not applicable	

Recommendation by Recommendation Assessment of Observance

Recommendation 1: Legal risk: A CCP should have a well-founded, transparent and enforceable legal framework for each aspect of its activities in all relevant jurisdictions.

Answers to key questions:

1. Are the laws and regulations governing the operation of a CCP and the rules, procedures, and contractual provisions for its participants, clearly stated, internally coherent, and readily accessible to participants and the public?

The laws and regulations governing the operations of the FICC/GSD and the Rules, procedures and contractual provisions for the FICC/GSD's Members are clearly stated, internally coherent and readily accessible to Members and the public.

FICC is a registered clearing agency with the SEC pursuant to the provisions of Section 17A of the Securities Exchange Act of 1934, as amended (the "Exchange Act") and must adhere to all requirements applicable to registered clearing agencies that are contained in the Exchange Act and in the SEC regulations and rules that have been promulgated thereunder. FICC is also a "clearing corporation" within the meaning of Article 8 of the New York Uniform Commercial Code. These laws, regulations and rules are readily accessible to Members and the general public via the Internet and through other public sources.

All FICC/GSD Members are required to execute membership agreements under which they agree to be bound by the FICC/GSD's Rules and procedures. The Rules and procedures of the FICC/GSD are public, and can readily be found on the website of FICC's parent company, The Depository Trust & Clearing Corporation ("DTCC"),¹³ www.dtcc.com. In addition, all changes to the FICC/GSD's Rules are filed with and reviewed by the SEC, and proposed rule changes are subject to public comment. FICC/GSD's rule filings and SEC approvals thereof are posted on the DTCC website as well as the SEC's website, www.sec.gov.

¹³ FICC is a wholly owned subsidiary of DTCC.

2. Does the legal framework demonstrate a high degree of assurance that there is a clear and effective legal basis for:

(a) The CCP to act as counterparty, including the legal basis for novation or open offer.

The legal framework demonstrates a high degree of certainty that there is a clear and effective legal basis for the FICC/GSD to act as a CCP, including the legal basis for novation. The legal framework includes statutory provisions and clearing agency rules.

The New York law of contracts and provisions of the Uniform Commercial Code (*see, e.g.*, NYUCC §8-111) support the enforceability of the FICC/GSD acting as a CCP and performing novation. Of particular note is Section 8-111 of the New York Uniform Commercial Code which provides: “A rule adopted by a clearing corporation governing the rights and obligations among the clearing corporation and its participants in the clearing corporation is effective even if the rule conflicts with this article [8] and affects another party who does not consent to the rule.” In addition, the FICC/GSD requires each membership applicant to provide an opinion of counsel that provides that the membership agreement and the Rules (including those relating to the FICC/GSD’s role as a CCP and the novation) are enforceable against it.

(b) The timing of assumption of liability as CCP.

The New York law of contracts and provisions of the Uniform Commercial Code (*see, e.g.*, NYUCC §8-111) discussed immediately above support the enforceability of the timing of assumption of liability as CCP by the FICC/GSD.¹⁴

(c) Netting arrangements.

As a general matter, U.S. law supports netting arrangements relating to securities transactions. In particular, the U.S. Federal Deposit Insurance Corporation Improvement Act of 1991, as amended (“FDICIA”), validates “netting contracts” providing for the netting of payment obligations and payment entitlements between and among members of clearing organizations. Under FDICIA, netting under a netting contract is not prevented or subject to being unwound by the receiver or trustee in a subsequent insolvency proceeding. The netting provisions of FDICIA were designed to reduce systemic risk to the financial markets. In addition, New York law recognizes the validity of contractual netting arrangements generally (including transaction novation and payment and close-out netting).

¹⁴ The FICC/GSD guarantees netting-eligible trades at the point of comparison and novates net settlement positions (i.e., for settlement versus the FICC/GSD as CCP) upon issuance of the net settlement report to Members.

In addition, amendments to both FDICIA and the U.S. Bankruptcy Code (the “Code”) contained in the Bankruptcy Abuse Prevention and Consumer Protection Act of 2005 (the “2005 Amendments”) include provisions that validate master netting agreements in respect of securities, commodities, forward, swap and repurchase transactions, and provide that the close-out and netting of transactions arising under such agreements may not be stayed or avoided in any bankruptcy proceeding brought under the Code, the Federal Deposit Insurance Act (“FDIA”), or the Securities Investor Protection Act (“SIPA”) (subject in the case of SIPA, to certain exceptions not relevant for clearing organizations).

(d) The CCP's interest in collateral (including margin) that a participant pledges or transfers to the CCP and prevents the defeat of such interest by the participant or a third party.

Legal comfort for the validity of the FICC/GSD’s lien and collateral protections is found principally in the Uniform Commercial Code (Articles 8 and 9), and general New York contract law. Although relevant insolvency laws can limit a secured party's rights to access and liquidate its collateral, the FDICIA provision referred to above, the Code, FDIA, and SIPA contain specific provisions to protect clearing agency close-outs (including access to and retention of collateral).

(e) Default procedures.

The FICC/GSD’s Rules provide that if a participant fails to meet its obligations to the FICC/GSD, and the FICC/GSD ceases to act on behalf of the Member, that Member’s positions would be closed out. As noted above, clearing agency close-out provisions are specifically permitted under both FDICIA and the Code.

(f) Finality of transfers of funds and financial instruments.

Settlement on Fedwire is final as per the Federal Reserve’s procedures (which are called “Operating Circulars”); finality as between FICC and its clearing banks is governed by the applicable account agreements (once a settlement instruction from the FICC/GSD is acted upon by the clearing bank it may not be reversed except for the correction of an error).¹⁵

¹⁵ The FICC/GSD recently received SEC approval to add certain notes insured by the Federal Deposit Insurance Corporation, which are DTC-eligible instruments, to its GCF Repo service. Finality as to these products with respect to the GCF Repo service is also governed by the agreements between FICC and its clearing banks.

(g) Other significant aspects of the CCP's operations, risk management procedures and related rules.

The enforceability of the FICC/GSD's Rules on operations, risk management and other related aspects are supported by the legal framework, in particular the relevant provisions of the Exchange Act (and the rules and regulations promulgated thereunder), the process by which the SEC reviews and approves the Rules and changes thereto, and general New York contract law. The FICC/GSD's netting and collateral Rules are enforceable under the FDICIA netting statute, the Uniform Commercial Code and general New York contract law.

3. Are the rules, procedures, and contracts of the CCP enforceable when a CCP participant defaults or becomes insolvent? Is there a high degree of assurance that actions taken under such rules and procedures may not later be stayed, avoided or reversed?

The 2005 Amendments include provisions that validate the rules, procedures and contracts of FICC/GSD, and provide that the close-out and netting of transactions arising under such agreements may not be stayed or avoided in any bankruptcy proceeding brought under the Code, FDIA, or SIPA (subject in the case of SIPA, to certain exceptions not relevant for clearing organizations)

4. Is there a significant level of cross-border participation in the CCP? Has the CCP determined whether there are other jurisdictions relevant for determining the adequacy of the legal framework? Has the legal framework been evaluated for the other relevant jurisdictions? Do laws and rules support the design of any cross-border arrangement and provide adequate protection to both CCPs in the operation of the arrangement? Are there conflicts of laws issues and, if so, have they been addressed? Have cross-border collateral arrangements been evaluated?

Approximately 10 percent of the FICC/GSD Members are entities that are established or incorporated outside of the United States.

Historically, the FICC/GSD has reviewed conflicts of law issues for non-domestic applicants to evaluate the impact of foreign laws. This had been determined through opinions of counsel required of applicants, in which conflict of laws issues are addressed. However, we believe that the 2005 Amendments (discussed above) render consideration of foreign legal regimes less relevant because the new Chapter XV and other relevant amendments of the Code (part of the 2005 Amendments) make clear that should a foreign receiver on behalf of a defaulting foreign member seek recognition in the U.S. bankruptcy courts, the same protections available to FICC under the Code with respect to a domestic Member should also be available to it in any domestic proceeding brought on behalf of a foreign Member. The FICC/GSD has no cross-border arrangements with other CCPs.

ASSESSMENT: The FICC/GSD observes Recommendation 1.

Recommendation 2: Participation requirements: A CCP should require participants to have sufficient financial resources and robust operational capacity to meet obligations arising from participation in the CCP. A CCP should have procedures in place to monitor that participation requirements are met on an ongoing basis. A CCP’s participation requirements should be objective, publicly disclosed, and permit fair and open access.

Answers to key questions:

1. (a) Does the CCP establish requirements for participants’ financial resources and creditworthiness? How? What factors are considered (for example, size, clearing for indirect participants, products cleared)?

The FICC/GSD establishes requirements for Members’ financial resources and creditworthiness. These membership requirements are clearly set forth in the FICC/GSD’s Rules. Generally, financial requirements are based upon entity type (*e.g.*, broker/dealer, bank/trust company, etc.), the types of services that the entity will use, as well as the type of accounting principles that are used to prepare the entity’s audited financial statements. For example, a FICC/GSD bank Member must have and maintain \$100 million in equity capital. If the bank Member does not use U.S. generally accepted accounting principles (“GAAP”) to prepare its audited financial statements, its minimum financial requirement will be higher depending upon the type of accounting standards used.

In addition, the FICC/GSD’s Rules (*see* Rule 4 (Clearing Fund)) provide that all Members are required to make a deposit to the Clearing Fund, with the amount of each Member’s required deposit being fixed by the FICC/GSD in accordance with the Rules.

(b) Does the CCP assess participants’ operational capability? How? What factors are considered (for example, arrangements to meet payment obligations, risk management policies, staffing, internal audit of risk controls and IT systems)?

The FICC/GSD assesses Members’ operational capability to ensure that the Member is able to satisfactorily communicate with the FICC/GSD (i.e., send in trade input and receive output from the FICC/GSD). All applicants for netting membership must provide FICC with certain financial and operational information. This information is reviewed to ensure that the applicant: 1) has sufficient financial ability to make anticipated contributions to the Clearing Fund and to meet obligations to the FICC/GSD, and 2) has an established business history of a minimum of six months or personnel with sufficient operational background and experience to ensure the ability of the firm to

conduct such a business. In addition, the FICC/GSD confirms that the applicant will be able to satisfactorily communicate with and fulfill anticipated commitments to the FICC/GSD and to meet the operational requirements of the FICC/GSD with necessary promptness and accuracy. The applicant must designate a clearing bank for settlement purposes.

2. Does the CCP monitor that participation requirements are met on an ongoing basis? How? Through access to regulatory reports or directly? Are reports sufficiently timely to be useful for monitoring purposes? Under what conditions can the CCP suspend and terminate participants' membership? What arrangements does the system have in place to facilitate the suspension and orderly exit of participants that no longer meet the participation requirements?

The FICC/GSD monitors that participation requirements are met on an ongoing basis. The FICC/GSD receives monthly or quarterly regulatory reports (*e.g.*, FOCUS or CALL Reports), depending on the regulatory reporting frequency of the Members and assigns an internal credit rating based upon a number of factors. Additionally, the FICC/GSD receives directly from certain Members interim financial statements that are attested to by an officer of the firm. Members are also required to submit annual audited financial statements. Members are required to provide these reports and other required financial information on a timely basis and are informed by Important Notice as to the due dates for providing this information. The FICC/GSD may fine Members that fail to timely provide such information; this is clearly stated in the FICC/GSD's Rules and the fine schedules are published. Such fines are reported to the SEC.

As part of the ongoing monitoring of Members, a credit risk rating matrix is utilized to risk rate bank and broker/dealer Members (these participant types represent the largest class of Members). This matrix is quantitatively driven and is produced systemically from data contained in the Members' regulatory reports. A rating scale of 1 to 7 is utilized with 1 being the strongest and 7 being the weakest. The key financial elements focus on a Member's capital, leverage, liquidity and profitability. Once this rating is generated, it is then reviewed by an analyst for possible downgrade due to qualitative factors such as regulatory history or type of audit opinion issued and then a final rating is assigned. The resulting rating determines the level of financial review that will be performed on each Member and may impact the Member's Clearing Fund requirement.

The FICC/GSD Rules contain provisions that facilitate the orderly exit of Members as follows:

- Under Section 13 of Rule 3 (On-going Membership Requirements, voluntary termination), a Member may voluntarily terminate its membership by notifying the FICC/GSD in writing. Notwithstanding any such notification, a Member remains obligated to satisfy any open obligations and liabilities arising out of its

membership in the FICC/GSD existing at the time of such notification. The FICC/GSD issues an important notice to Members when a Member voluntarily retires from membership.

- Under Rule 21A (Wind-Down of a Netting Member), the FICC/GSD can facilitate the orderly wind-down of a Member's business when the FICC/GSD is notified by the Member that it intends to wind-down its business. Under this Rule, the FICC/GSD may impose conditions on, or take actions with respect to, the "wind-down Member" in order to mitigate risk, including (but not limited to) permitting the wind-down Member to submit only transactions that serve to support the wind-down, restricting or modifying the wind-down member's use of any or all of the FICC/GSD's services, and requiring the wind-down Member to post increased Clearing Fund deposits. The Rule provides that if the FICC/GSD declares a Member to be a wind-down Member, the FICC/GSD will notify the Member, all other Members (via important notice) and the SEC of such determination.
- Under Rule 21 (Restrictions on Access to Services), the FICC/GSD has the right to restrict a Member's access to services, by limiting or excluding the Member's participation in one or more transactions or services or by ceasing to act for the Member generally. The circumstances under which the FICC/GSD may do so are clearly set forth in the Rule and include a determination by the FICC/GSD's Board of Directors or appropriate Board Committee that the Member is no longer in compliance with the membership requirements. Under Rule 22 (Insolvency of a Member), the FICC/GSD may cease to act for a Member that is determined to be insolvent (e.g., the Member has filed a petition seeking reorganization or relief under the U.S. Bankruptcy Code or any other applicable Federal, State or non-U.S. law). If the FICC/GSD ceases to act for a Member, the Rules provide that the FICC/GSD must notify the affected Member, other Members (via important notice) and the SEC of the FICC/GSD's action.

All important notices referenced above would be made available on FICC's website at www.dtcc.com.

3. Do participation requirements limit access on grounds other than risks? Are they objective and do they permit fair and open access? Are participation requirements, including arrangements for orderly exit of participants, clearly stated and publicly disclosed?

Participation requirements of the FICC/GSD are objective and clearly stated, they permit fair and open access and they do not limit access on grounds other than risks. The FICC/GSD's participation requirements address: credit risk, operational capability, compliance risk and legal risk.¹⁶ The current membership types include banks, broker-

¹⁶ Adverse regulatory and compliance history is considered during the membership application process. For example, as a registered clearing agency, the FICC/GSD is required to consider whether an applicant or a Member has become subject to a statutory disqualification, which would include a violation of the

dealers, futures commission merchants and government securities issuers.¹⁷ These membership categories differ in terms of their reporting requirements, admission and continuance standards, and, in some instances, their Clearing Fund requirements. Members within a specific category are generally subject to the same membership requirements (for example, all broker-dealers must submit monthly regulatory reports to the FICC/GSD).

Under the FICC/GSD's Rules, before denying a membership application, the FICC/GSD must provide the applicant with a concise written statement setting forth the specific grounds under consideration upon which any such denial may be based, and notify the applicant of its right to request a hearing to determine whether the application should be denied.

Membership requirements, including the arrangements for the orderly exit of Members discussed above, are clearly stated in the FICC/GSD's Rules, which are available to the public on FICC's website at www.dtcc.com.

ASSESSMENT: The FICC/GSD observes Recommendation 2.

securities laws and suspension from a self-regulatory organization, among other violations.

¹⁷ The FICC/GSD has submitted a rule filing to the SEC to expand its membership categories to include buy-side entities, such as SEC-registered investment companies and unregistered investment pools, as these entities have become more significant participants in the markets that the FICC/GSD serves.

Recommendation 3: Measurement and management of credit exposures: A CCP should measure its credit exposures to its participants at least once a day. Through margin requirements, other risk control mechanisms or a combination of both, a CCP should limit its exposures to potential losses from defaults by its participants in normal market conditions so that the operations of the CCP would not be disrupted and non-defaulting participants would not be exposed to losses that they cannot anticipate or control.

Exposures to Members are assessed on a daily basis in the following ways:

- A risk-based margining methodology is used to calculate the daily exposures to Members; these exposures are covered by the Members' Clearing Fund deposits.
 - On a daily basis the FICC/GSD calculates a Clearing Fund requirement for each Member which consists of the following components: an end-of-day Value at Risk ("VaR") component, a "margin requirement differential" and a "coverage component." Separate from the Clearing Fund, the FICC/GSD collects mark-to-market as part of its funds-only settlement process (this is described more fully in the introduction to this self-assessment).
 - The FICC/GSD's VaR calculations are based on 3-day horizon and 99 percent confidence level. The end-of-day VaR component of the Clearing Fund addresses the risk presented by a Member's end-of-day positions. The margin requirement differential component addresses the risk due to future position fluctuations, the risk that the Member will not satisfy a deficiency in its Clearing Fund deposit requirement, and the risk that a Member will not satisfy its funds-only settlement obligation. Finally, the coverage component is a back test-like component that is meant to address model deficiencies that may arise and serves to bring the Member's confidence level to the desired level.
- For select Members, a daily profit or loss is calculated on the simulated liquidation of the Member's portfolio; depending upon the results, additional Clearing Fund deposits may be requested from the Member.
- Members may receive intraday calls to deposit additional Clearing Fund deposits based on significant intraday price moves as related to large positions.

Answers to key questions:

1. How frequently does the CCP measure its exposures to its participants? Does the CCP have the capacity to measure exposures intra-day? How timely is the information on prices and positions that is used in these calculations?

The FICC/GSD measures its exposure to Members daily and requires settlement of any deficiencies by 9:30 am. The daily calculation uses the prior day's closing market price. The FICC/GSD does have the capacity to measure exposure intra-day and has the ability under its rules to call for additional margin.

2. (a) How does the CCP limit its exposures to potential losses from defaults by its Members?

The FICC/GSD limits its exposure to potential losses from defaults by its Members as follows:

- By establishing membership standards and performing continuous monitoring of Members to those standards.
- By requiring contributions to FICC/GSD's Clearing Fund (*i.e.*, margin) (All netting Members are required to make deposits to the Clearing Fund. The amount of their required deposits is calculated daily and collected accordingly.)
- Through the existing cross-guaranty and cross-margining arrangements with other clearing organizations. These arrangements are designed to provide a mechanism for the sharing of excess collateral of a common defaulting participant held at one clearing organization to cover losses incurred at another clearing organization.
- In addition, under the Rules, the FICC/GSD may seek such assurances of financial responsibility and operational capability from a Member as it deems necessary or advisable to protect itself and its Members. This may include, *inter alia*, restrictions on use of FICC/GSD services and increased Clearing Fund deposits.

4? (b) If margin requirements are used, does the CCP observe Recommendation

Yes.

(c) If not, how does the CCP ensure that closing out any participant's positions in normal market conditions would not disrupt the operations of the

CCP or expose non-defaulting participants to losses that they cannot anticipate or control?

N/A

ASSESSMENT: The FICC/GSD observes Recommendation 3.

Recommendation 4: Margin requirements: If a CCP relies on margin requirements to limit its credit exposures to participants, those requirements should be sufficient to cover potential exposures in normal market conditions. The models and parameters used in setting margin requirements should be risk-based and reviewed regularly.

Answers to key questions:

1. What is the intended coverage of margin requirements? What is the time interval over which potential price movements are measured? Is the interval consistent with a reasonable assumption about how quickly a defaulting participant's positions could be closed out? How does the CCP validate the models and parameters used to determine the margin levels consistent with the intended coverage? How frequently does it review and validate the models?

The FICC/GSD calculates Clearing Fund requirements assuming a three-day liquidation period in normal market conditions. This liquidation period is conservative based on (1) the types of securities to be liquidated (which typically settle in a one-day period), (2) as well as the assumption that liquidation transactions settle prior to the third day following the default of a member firm and (3) the availability of options to “hedge” the portfolio to be liquidated essentially in “real time.” The FICC/GSD’s Rules provide it with the flexibility to conduct the close out over a different (i.e., longer) liquidation period. In a recent close out of a major market participant, the FICC/GSD took longer than 3 days to complete the liquidation of the portfolio, but had placed hedges on the portfolio shortly after the failure of the firm in order to minimize basis and interest-rate risks and thereby protect itself and its members.

The Clearing Fund requirement is calculated with a confidence level of 99 percent and this is evidenced with regular back-testing studies.

The Risk Management department has developed the model used for calculating Clearing Fund. This model is back-tested internally on a monthly basis. The model as well as the FICC/GSD’s general risk management procedures are periodically examined by the FICC/GSD’s regulators and by its internal and external auditors. The models are also periodically validated by outside experts.

2. Does the CCP have the authority and operational capability to demand margin intra-day to maintain the desired coverage? Under what circumstances?

The FICC/GSD has the legal authority to demand intraday margin should it deem it necessary or appropriate. Intra-day margin calls can be effected as necessary. The Risk Management department has the discretion to make such calls, based upon, for example, market events and the need to seek financial assurances from a Member. The FICC/GSD has the operational capability to demand margin intraday; this would occur via the Fedwire Funds Service.

3. What types of assets does the CCP accept as margin? What types are actually held? How frequently are the assets revalued? Are haircuts applied that adequately reflect the potential for declines in asset values between the last revaluation and liquidation?

The FICC/GSD accepts cash and certain eligible securities as Clearing Fund collateral. Securities currently accepted to collateralize a Member's open account Clearing Fund indebtedness are U.S. Treasury securities, U.S. Agency securities guaranteed by the U.S. Government and certain U.S. Agency/Government Sponsored Enterprise pass-through securities. The FICC/GSD requires that at least 10 percent of a Member's required deposit be maintained in cash, up to a required maximum of \$5 million.

Haircuts (based on security type, maturity and concentration) for all such securities pledged to the Clearing Fund are set forth in the FICC/GSD's Rules. Assets (securities) are re-priced every night. The FICC/GSD applies haircuts that reflect the potential of the Clearing Fund assets' value to decline. The FICC/GSD applies haircuts that reflect the potential of the Clearing Fund assets' value to decline. Initial haircut rates were determined based on a ten-year historical return volatility analysis using a 5 sigma confidence level, as well as the application of additional concentration factors for certain security types if the amount deposited exceeds a certain percent of total collateral. On an ongoing basis, haircut rates are reviewed quarterly.

The FICC/GSD reserves the right to require a letter of credit to be posted by a member as additional collateral where it deems it appropriate to protect itself and its Members.

ASSESSMENT: The FICC/GSD observes Recommendation 4.

Recommendation 5: Financial resources: A CCP should maintain sufficient financial resources to withstand, at a minimum, a default by the participant to which it has the largest exposure in extreme but plausible market conditions.

The FICC/GSD maintains sufficient resources to cover a default by a Member to which it has the largest exposure.

The financial resources of the FICC/GSD include the Clearing Fund.

The liquidity resources of the FICC/GSD include the following:

- the cash portion of the Clearing Fund;
- the cash that would be obtained by entering into repurchase transactions (“repos”) using the securities portion of the Clearing Fund (Treasury securities, Agency securities guaranteed by the U.S. Government and certain U.S. Agency/Government Sponsored Enterprise pass through securities); and
- the cash that would be obtained by entering into repos using the securities underlying transactions that would have been delivered to the defaulting Member had it not defaulted.

In addition, if the FICC/GSD incurred a loss in the liquidation of a Member that was not covered by the Member’s Clearing Fund deposit, there is the possibility that the FICC/GSD would receive funds to cover such loss (or part of the loss) from its cross-margining and cross-guaranty arrangements. If the loss was still not covered, the FICC/GSD could invoke its loss allocation process (as described in the Introduction to this self-assessment).

These resources are described more fully below.

Answers to key questions:

1. Has the CCP established procedures to stress test its exposures in extreme but plausible market conditions? What scenarios are evaluated? Do the scenarios include the most volatile periods that have been experienced by the markets for which the CCP provides services? Does the CCP have sufficient resources in the event of default by the participant with the largest exposure? Has the potential for multiple simultaneous defaults been evaluated? Are stress tests performed at least monthly, with a comprehensive reconsideration of models, parameters and scenarios occurring at least annually? Does the CCP have a clear policy on actions to be taken in the event stress testing results indicate resources are not likely to be adequate to meet its obligations resulting from a default? Has it adhered to that policy? Is the policy made available to participants and authorities?

The FICC/GSD currently performs quarterly stress testing, but will begin such testing on a monthly basis by the end of the third quarter of 2009. The stress tests performed include 50 stress scenarios selected from the past 10 years of history as well as the special events such as 1994 that are not within the past 10 years of history. The 50 stress scenarios were selected by calculating the weighted average market move across different types of securities within the GSD portfolio over the past 10 years. The largest 50 results identify the stressed days to be used in the stress test. On each day, the actual market moves on securities in the portfolio are used to calculate the stressed profit or loss on the portfolio. The calculated profit or loss is compared to the portfolio related Clearing Fund requirement. This process is repeated for all Members over a one year period. To date, the largest deficiency identified in the stress tests has been covered by GSD's total Clearing Fund requirement.

The steps that the FICC/GSD would follow in the event that stress tests indicate a problematic deficiency (which has not occurred) would be as follows: senior management of the Risk Management department would bring the deficiency results to the attention of executive management and the Board's Credit and Market Risk Management Committee for consideration of options. The steps may not be made explicitly known to Members (unless they result in a proposed Rule change, for example by modifying the Clearing Fund formula). However, management believes that Members are informed via the Rules as to the flexibility that the FICC/GSD has to take risk management-related actions (such as increasing a Member's Clearing Fund requirements if the FICC/GSD is concerned about a particular Member and determines a need to seek assurances of the Member's continuing financial responsibility in the form of increased Clearing Fund) in order to protect the FICC/GSD and its Members.

As stated in the previous paragraph, stress testing is done quarterly at this time. In order to make stress testing a more useful tool, the FICC/GSD has engaged an outside expert to conduct a comprehensive review of its models, parameters and scenarios, as well as the frequency of testing. This comprehensive review will be completed by year-end 2009. Upon completion of the review, the FICC/GSD will enhance its testing policies and procedures to include actions to be taken. Going forward, the FICC/GSD will re-evaluate its models, parameters and scenarios annually and when any significant changes are made.

Back testing results demonstrate that the FICC/GSD total Clearing Fund would be able to cover close-out losses of multiple Members. Specifically, the most recent back test showed that the sum of all back test losses of FICC/GSD Members is less than the sum of the Clearing Fund deposits of Members with losses.

For liquidity purposes, the FICC/GSD conducts back test studies of affiliated family liquidity requirements. Results in 2008 and through April 2009 showed that there was sufficient liquidity to cover the maximum needs resulting from the failure of any

affiliated family¹⁸ 100 percent of the time, assuming that the funding need can be fulfilled via the repo arrangements that the FICC /GSD has established. The FICC/GSD has executed master repo agreements for these purposes with 15 firms. The repo agreements are non committed (as is typical in this business) and would be exercised on a best-efforts basis. They are, however, held with diversified entities, i.e., banks, dealers and inter-dealer brokers. Recent reports on the depth of the market indicate it at \$4,000,000,000,000.00.

As stated above, the FICC/GSD's liquidity resources include: (i) the cash in the Clearing Fund (which as of December 31, 2008 totaled \$3,269,696,647), (ii) the cash that would be obtained by reposing the securities in the Clearing Fund (U.S. Government Treasury securities, Agency securities guaranteed by the U.S. Government and certain U.S. Agency/Government Sponsored Enterprise pass-through securities), and (iii) the cash that would be obtained by reposing the securities underlying the transactions that would have been delivered to the defaulting Member had it not defaulted (Treasury bills, bonds, notes, zero-coupon securities, U.S. Government agency securities and inflation-indexed securities).

2. What are the types and values of resources that the CCP has available to cover losses from participants' defaults? Is there a high degree of assurance that the CCP will be able to draw on those resources for the anticipated value in the event of a participant's default? Do the CCP's rules prohibit them from being used to cover operating losses or losses from other CCP activities?

At December 31, 2008, FICC/GSD's total Clearing Fund deposits were \$18,896,761,303 (of which \$14,470,593,866 was required deposits), consisting of \$3,269,696,647 in cash, \$15,404,006,002 in U.S. Treasury and Agency securities, and \$223,058,654 in eligible mortgage-backed securities. The legal enforceability of FICC/GSD's collateral arrangements is supported by the Uniform Commercial Code and generally New York contract law. Although relevant insolvency laws can limit a secured party's rights to access and liquidate its collateral, the FDICIA provisions, the Code, FDIA and SIPA contain specific provisions which would generally be applicable to the FICC/GSD, to protect the clearing agency close-outs (including access to and retention of collateral).

In the event that the defaulting Member's Clearing Fund deposits were insufficient to cover the liquidation of all positions, the FICC/GSD's loss allocation

¹⁸ As stated in the Introduction to this self-assessment, an "affiliated family" means collectively, each Member that controls or is controlled by another Member and each Member that is under the common control of any organization, entity or individual. "Control" for these purposes means the direct or indirect ownership of more than 50 percent of the voting securities or other voting interests of any organization, entity or person.

process would be invoked. The process allocates any remaining liabilities pro rata among Members who most recently traded with the failed firm, with certain caps and limitations applied to certain trading activity. If losses still remained, the loss allocation provisions provide for loss mutualization among all Members, which in certain instances, may be preceded by the utilization of a certain percent of FICC/GSD's retained earnings.¹⁹ The FICC/GSD Rules provide that with respect to loss mutualization, a Member may cap its allocation to the amount of its required Clearing Fund deposit by electing to terminate its membership in the FICC/GSD. As stated in the Introduction to this self-assessment, to date, including through a recent well-publicized broker-dealer closeout, the FICC/GSD has never invoked its loss allocation process.

Specifically with respect to the GCF Repo service, as noted in the Introduction to this self-assessment, the FICC/GSD relies on its clearing banks to place holds on the applicable dealers' net free equity ("NFE") accounts at the banks; this is done on an intraday basis. Therefore, the FICC/GSD is dependent upon its clearing banks for the intraday collateral substitution and associated controls with respect to the NFE holds. To address the risk presented by this dependency, the FICC/GSD conducts its own periodic due diligence on the valuations of collateral related to the NFE holds. In the event of an intraday default of a Member with an NFE hold, the applicable clearing bank would liquidate the NFE and the proceeds would generally be shared pro rata between the bank and the FICC/GSD (to the extent of the NFE hold amount).

3. Are any of the resources that the CCP is relying upon to cover losses from defaults not immediately available to meet the CCP's obligations? If so, has the CCP obtained committed credit lines subject only to presentment that allow it to borrow against those assets? If so, can those lines be drawn upon sufficiently quickly to ensure that the CCP can meet its obligations when due?

All of the resources that the FICC/GSD is relying upon to cover losses from default are readily available to meet the FICC/GSD's obligations.²⁰ The Clearing Fund, which is both a source of liquidity and a source to cover liquidation losses, is held in accounts in FICC's name at the clearing banks. The Clearing Fund cash is held in a tri-party repo agreement overnight and returned to a FICC/GSD bank account during the day for immediate access, if needed. Securities in the Clearing Fund are held at FICC's clearing

¹⁹ The FICC/GSD has submitted a rule filing to the SEC to expand its netting membership types to include buy-side entities. Certain types of these firms, such as SEC-registered investment companies, are not permitted by regulation to mutualize loss. The rule filing proposes to amend the loss allocation structure of the FICC/GSD to exempt these specific entities from loss mutualization, meaning that they would not be assessed for a loss that arose from the default of a Member with whom they had never traded. Other buy-side entities would participate in loss allocation.

²⁰ If a liquidity need arose, FICC would seek to invoke the repo arrangements referred to in the response to key question 1 of this Recommendation 5. The repo arrangements are not committed lines and there is not complete assurance that they would be available in extreme market situations.

banks and immediate access is available for repoing (for liquidity purposes), if needed.²¹ The FICC/GSD has not obtained committed credit lines.

ASSESSMENT: The FICC/GSD broadly observes Recommendation 5.

Additional Comments: The FICC/GSD believes that it has addressed, on a broadly observed basis, the safety objectives that underlie Recommendation 5. The intent of Recommendation 5 is to ensure that the CCP has planned for the possibility of a member default, both from a liquidity perspective (i.e., the CCP can continue to settle with non-defaulting members) and a liquidation loss perspective. From a liquidity perspective, the FICC/GSD has evaluated and put in place those resources that it can reasonably and reliably draw on if necessary. From a loss perspective, in the worst possible scenario where the Clearing Fund deposits of more than one defaulting Member were not sufficient to cover losses incurred in the liquidation of their positions, the FICC/GSD would have the authority to invoke its loss allocation process. The FICC/GSD has never invoked its loss allocation process even during recent market events.

²¹ If a liquidity need arose, FICC would seek to invoke the repo arrangements referred to in the response to key question 1 of this Recommendation 5. The repo arrangements are not committed lines and there is not complete assurance that they would be available in extreme market situations.

Recommendation 6: Default procedures: A CCP's default procedures should be clearly stated, and they should ensure that the CCP can take timely action to contain losses and liquidity pressures and to continue meeting its obligations. Key aspects of the default procedures should be publicly available.

Answers to key questions:

1. (a) Do the CCP's default procedures state clearly what constitutes a default?

The FICC/GSD's Rules state clearly what constitutes a default. Under the FICC/GSD's Rules, the FICC Board of Directors or a delegated Board Committee may cease to act for or suspend a Member from any service either with respect to a particular transaction or transactions or with respect to transactions generally in enumerated circumstances. For example, the FICC/GSD may cease to act for a Member generally if the Member becomes subject to a formal insolvency proceeding, the Member fails to perform its obligations to the FICC/GSD, the Board has reasonable grounds to believe that the Member has been responsible for fraudulent or dishonest conduct, or the Board has reasonable grounds to believe that the Member is in or is approaching significant financial difficulty.

(b) If a default occurs, do the CCP's default procedures provide it with authority to promptly close out or manage the positions of a defaulting participant and to apply the defaulting participant's collateral or other resources?

The FICC/GSD's rules provide it with the authority to promptly close out and manage the positions of a defaulting Member and to apply the defaulting Member's collateral. FICC/GSD Rule 22A, entitled "Procedures for When the Corporation Ceases to Act," provides that the close-out procedure shall be completed as promptly as possible after the FICC/GSD has given notice that it has ceased to act for a Member. The Rule provides the FICC/GSD with the ability to apply the proceeds of the liquidation, as well as all other funds and assets of the defaulting Member, to meet the defaulting Member's obligations to the FICC/GSD. This rule provides the FICC/GSD with the necessary means to manage the close-out in the manner it deems most appropriate, including hedging the open positions promptly so as to minimize credit exposure.

(c) Do the CCP's procedures, or mechanisms other than those of the CCP, permit the transfer or (as an alternative) liquidation of the positions and margin of customers of the defaulting participant?

Mechanisms outside of the CCP (the FICC/GSD treats its Members as principals) permit the transfer and liquidation of the positions and margin of customers of a defaulting participant. Specifically, the Securities Investor Protection Corporation protects securities investors from financial harm if their broker-dealer fails. In the event of a failure of a broker-dealer, SIPC's primary responsibility is to organize the distribution of customer cash and securities to investors, and if the cash and securities are not available, SIPC provides insurance coverage of up to \$500,000 of the customer's net equity balance.

(d) Do the procedures empower the CCP to draw promptly on any financial resources?

The rules and procedures empower the FICC/GSD to draw promptly on the available financial resources. Please see the responses to Recommendation 5 on the types of financial resources that are available to the FICC/GSD.

2. (a) Does the legal framework provide a high degree of assurance that the decisions to liquidate or transfer a position, to apply margin or to draw down liquidity resources in the event of the insolvency of a participant would not be stayed or reversed?

The legal framework supports these actions with a high degree of assurance. The 2005 Amendments (see response to key question 2(c) of Recommendation 1 above) provide that the close-out and netting of transactions arising under the protected transactions may not be stayed or avoided in any bankruptcy proceeding brought under the Code, FDIA, or the SIPA (subject in the case of the SIPA, to certain exceptions not relevant for clearing organizations). In addition, legal comfort for the validity of the FICC/GSD's lien and collateral protections is found principally in the Uniform Commercial Code (Articles 8 and 9), and general New York contract law. Although relevant insolvency laws can limit a secured party's rights to access and liquidate its collateral, the FDICIA provision referred to above, the Code, FDIA, and SIPA contain specific provisions that would generally be applicable to FICC/GSD, to protect clearing agency close-outs (including access to and retention of collateral).

(b) Does national insolvency law permit identification and separate treatment of customer and proprietary assets?

U.S. insolvency law permits the identification and separate treatment of customer and proprietary assets. For example, the insolvency of a U.S. broker-dealer with

customer accounts will be handled by the Securities Investor Protection Corporation under the SIPA.

3. Does the CCP's management have internal plans for implementing its default procedures? Does the plan maintain a measure of flexibility for the CCP in deciding how best to implement its default procedures? Does the plan address the need for coordination in cases where more than one CCP, authority or a separate market operator is involved? How frequently is the plan reviewed?

The involved departments within FICC have internal procedures in the event that the FICC/GSD determines to cease to act on behalf of a Member. Each instance where the FICC/GSD would determine to cease to act is unique, and both the Rules and internal procedures take this into consideration.

The need for coordination in cases where more than one CCP, authority or a separate market operator is involved is addressed. For example, the multilateral cross-guaranty agreement among the FICC/GSD, The Options Clearing Corporation, and the FICC/GSD's affiliates, NSCC and DTC, contemplates coordination in the event of the default of a common Member. The FICC/GSD's cross-margining agreement with the Chicago Mercantile Exchange provides for coordination between the two clearing corporations in the event of a default of a cross-margining participant. The FICC/GSD's Rules and internal procedures address the need to coordinate with applicable regulatory authorities.

The FICC/GSD's close out procedures are subject to ongoing review and development, including incorporating knowledge gained from internal tests, which occur at least once per year.

4. Are the key aspects of the default procedures publicly available?

The key aspects of the close out procedures are in the FICC/GSD's Rules which are available to Members and to the public generally at www.dtcc.com. In addition, if the FICC/GSD were to make a determination to cease to act on behalf of a Member, the FICC/GSD would provide notice of that action to Members via Important Notice and also communicate relevant details as to the resolution of open transactions to Members in the same manner. Important Notices are posted by FICC on its website, and are available to the public.

ASSESSMENT: The FICC/GSD observes Recommendation 6.

Recommendation 7: Custody and investment risks: A CCP should hold assets in a manner whereby risk of loss or of delay in its access to them is minimised. Assets invested by a CCP should be held in instruments with minimal credit, market and liquidity risks.

Answers to key questions:

1. At what types of entities is collateral held? Does the CCP verify that these entities' procedures and practices conform to Recommendation 12 of the RISS? How? Does the CCP confirm that its interest in the securities can be enforced and that it can have prompt access to the securities in the event of a participant's default, even if these securities are held in another time zone or jurisdiction? Does it monitor the financial condition of its custodians on an ongoing basis?

All securities and cash associated with FICC/GSD settlement and the Clearing Fund are held in FICC's accounts at its clearing banks, the Bank of New York Mellon and JPMorgan Chase Bank. As described in response to the key questions under Recommendation 1, FICC has an enforceable interest in the collateral held in the Clearing Fund.

The FICC/GSD relies on the strict regulatory framework in which the clearing banks operate (which includes oversight and examination by the U.S. Federal banking regulators) to ensure the safety and accessibility of its Clearing Fund deposits. This includes regulation regarding the protection of customer securities from theft, loss, or misuse, and in the event of insolvency. In addition, the clearing banks are participants of the clearing agencies within DTCC and are therefore monitored as such from financial and operational perspectives.

All securities are held in the U.S. As to enforceability of collateral rights, *see* responses to the key questions under Recommendation 1 above.

2. How is cash invested? Are investments secured? What standard does the CCP use to ensure that obligors are highly creditworthy? What standard does the CCP use to ensure that investments have minimal market and liquidity risks?

The FICC/GSD's cash is generally invested in reverse repurchase agreements in debt obligations of the U.S. Government or those U.S. Government Agencies guaranteed by the U.S. Government. Investments consist of tri-party repo²² arrangements using standard legal documentation. Investments may also include direct purchase of debt obligations of the U.S. Government. When reverse repos are not available, funds may be sold to a clearing bank.

The risk of loss of invested funds is minimized in a number of ways. Investments are placed with well-capitalized financial institutions acting as principal rather than as agent, and with maturity limited to the next business day. The FICC/GSD invests only with those counterparties assigned a long-term credit rating of A- (or equivalent rating) or better by the major credit rating agencies. The reverse repo investments are secured; collateral must have a market value greater than or equal to 102 percent of the cash invested (an industry standard). A written confirmation of each security underlying the repo is also required to be provided by the custodian bank.

A thorough financial review is performed on the custodian banks. This review includes the analysis of the custodians' quarterly regulatory reports, the application of certain financial parameters on a quarterly basis and the review of the custodians' annual reports. Depending upon the results of these financial reviews, discussions will be held with appropriate staff of the custodian firms.

3. Does the CCP consider its overall exposure to an obligor in choosing investments? Are investments limited to avoid concentration of credit risk exposures? How?

The overall exposure to a counterparty is considered when placing an investment. The investment policy provides for the establishment of credit limits by counterparty. The credit limits have been established to ensure that investments do not exceed an acceptable level of concentration with any single counterparty.

ASSESSMENT: The FICC/GSD observes Recommendation 7.

²² A tri-party repo is a repo in which a custodian bank acts as an intermediary between the two parties to the repo. The tri-party custodian is responsible for the administration of the transaction including the collateral allocations.

Recommendation 8: Operational risk: A CCP should identify sources of operational risk and minimise them through the development of appropriate systems, controls and procedures. Systems should be reliable and secure, and have adequate, scalable capacity. Business continuity plans should allow for timely recovery of operations and fulfilment of a CCP's obligations.

Rather than maintain resilient and business continuity capabilities in standby, DTCC treats all sites, networks, control centers and business sites as a unified complex that is always accessible and where feasible, actively operating across multiple sites and environments.

In support of the FICC/GSD's business, DTCC has multiple data center locations, including in-region and out-of-region sites. In-region sites utilize synchronous data replication between them, maintaining multiple exact copies of all production data in separate locations. Production processing is spread across the in-region data centers. The out-of-region site contains additional asynchronously replicated copies of in-region production data. (The asynchronous nature of the replication to this site is due to the limits inherent in current-day technology; the technology currently permits asynchronous replication sufficiently timely to ensure that there is no more than a two-minute variance in the data stored at the in-region sites and the data stored out-of-region.)

All data centers have emergency monitoring and backup systems including: fire detection and suppression systems, uninterruptable power supply and standby generators, and dual path, redundant telecommunications from multiple carriers. All sites are operational and have sufficient capacity to process the entire production workload so any data center can function as the sole recovery site within two hours in case one or more data centers experience an outage.

Similarly, to provide continuous operation from multiple sites, DTCC decentralized its Information Technology and key business operations staff among in-region and out-of-region sites. Daily data processing operations and monitoring of emergency systems is conducted continuously from both in-region and out-of-region data center "Command Centers."

DTCC's "SMART" (Securely Managed and Reliable Technology) Network provides connectivity between DTCC and its customers and trading platforms. All critical clearance and settlement transactions utilize SMART. SMART is a seamless, end-to-end, secure managed private communications system encompassing a geographically dispersed complex of processing centers, communications networks and control facilities. Each element of SMART is highly secure, engineered with multiple independent levels of redundancy, and capable of handling DTCC's entire clearance and settlement workload. SMART connects to both in-region and out-of-region data centers. External traffic is split between these connections, which are always active with each having sufficient capacity for the entire traffic volume.

Answers to key questions:

1. Does the CCP have a process for actively identifying, analysing and addressing its operational risk, including risks arising from its outsourced operations and its other activities?

The FICC/GSD has several ways in which it identifies and manages its operational risks. First, an Operational Risk Group is responsible for developing and overseeing an operational risk management program for the company using qualitative and quantitative tools to identify, measure, monitor, manage, and report on the organization's operational risk profile. More specifically, the program includes assessments at a business unit level and at an enterprise level, identification and reporting of risk metrics, collection and analysis of risk incidents, and Board level reporting on major risks to the enterprise.

Second, the Internal Risk Management Committee, comprised of officers from various disciplines, evaluates and coordinates the risk management activities within the company.

Third, a high-level Security Committee, made up of business, risk, audit, and technology officers, addresses key areas of risk associated with information services and directs that appropriate actions be taken to minimize risk.

Fourth, the Internal Audit Department reviews the adequacy of internal controls, procedures, and records of the company with respect to operational risks. Finally, the company engages independent accountants to perform an annual study and evaluation of the internal controls relating to its operations.

2. Does the CCP have a business continuity plan that addresses events posing a significant risk of disrupting operations? Do plans ensure that critical information can be recovered in a timely manner? Do plans provide, at a minimum, for the recovery of all transactions at the time of the disruption to allow systems to continue to operate with certainty? Is the business continuity plan regularly reviewed and tested with participants? Have appropriate adjustments to operations been made based on the results of such exercises?

The FICC/GSD has a formal business continuity plan in place that addresses events posing a significant risk of disrupting operations. In support of the FICC/GSD's business, DTCC operates data centers and staff in multiple locations, within the New York region (in-region) as well as outside the New York region (out-of-region). All data

centers are operational. The regional data centers operate synchronously for data replication, while asynchronous replication is used out-of-region. Failover can occur between the in-region and out-of-region data centers to restore production processing.

The FICC/GSD is expected to meet and does meet the standards set forth in the “Interagency Paper on Sound Practices to Strengthen the Resiliency of the U.S. Financial System” (the “Interagency Paper”) that was published by the Board of Governors of the Federal Reserve System, the Office of the Comptroller of the Currency and the SEC in 2003. The Interagency Paper requires core clearing and settlement organizations, such as the FICC/GSD, to determine appropriate recovery and resumption objectives for clearing and settlement activities in support of critical markets, to maintain sufficient geographically dispersed resources to meet recovery and resumption objectives and to routinely use or test recovery and resumption arrangements.

Consistent with the higher standards of the Interagency Paper, Information Technology equipment, data center operations and staff, which support the FICC/GSD’s business, are dispersed among DTCC’s multiple data centers and office locations. All data centers have sufficient computer capacity to run FICC/GSD’s entire production workload. As expected by the Interagency Report, in-region data centers, which are operational 24 hours per day, 7 days per week (“24 x 7”), utilize synchronous data replication, maintaining current copies of the entire production data and preserving all transaction data. This capability provides for full recovery of the FICC/GSD’s entire system within 2 hours of DTCC’s declaration of the loss of a data center without any loss of data. Additionally, in-region production data is continuously replicated in an asynchronous manner to an out-of-region data center, from which FICC/GSD business systems can be recovered within 2 hours of the loss of the in-region data centers with the potential data loss limited to less than 2 minutes of transaction data.

Each data center is staffed 24 x 7 and there are two active production 24 x 7 Command Centers, one in-region and one out-of-region, capable of operating and monitoring the workloads running at any data center. The production workload responsibilities are rotated between the in-region and out-of-region Command Centers to maintain expertise of all workloads. The other in-region data center has a 24 x 7 staffed Command Center which operates and monitors the test workloads and is capable of operating and monitoring production workloads. Command centers also monitor key environmental control systems, particularly fire detection/suppression systems.

DTCC’s SMART network, which provides FICC/GSD customer connectivity, has sufficient bandwidth to handle the entire traffic load and routes customer traffic on a rotating basis between the in-region and out-of-region data centers, which continuously tests their availability. A redundant wide area network connects all locations allowing external traffic to be routed to the appropriate processing data center. The level of redundancy extends also to the network equipment and provides automated failover. A telecommunications line failure, once automatically rerouted across the redundant network component, only requires the affected customer to re-establish their session.

The in-region synchronous data centers maintain exact copies of production data allowing recovery, or failover, from the loss of one synchronous data center to another synchronous data center without the loss of data or transactions from the point of failure. In the unlikely event that the synchronous data centers fail simultaneously, up to 2 minutes of transaction data could be lost due to the physical limitation of asynchronous data replication to an out-of-region facility. Additionally, DTCC has produced an out-of-region recovery guide for the FICC/GSD's Members to ensure that they understand how to go about identifying transactions that were lost due to the physical limitation of asynchronous data replication to an out-of-region facility and therefore can be prepared to retransmit transactions in the unlikely event it becomes necessary.

Business continuity plans are tested several times per year on the technology side. Operational recovery is also tested several times per year with some tests involving several hundred employees working from their alternate work locations. In these tests, employees from operational departments simulate the involvement of Members. Communications tests are conducted each year with major Members to ensure their backup site(s) can communicate to all company processing locations.

The FICC/GSD conforms to the DTCC BCP Validation Strategy, which is specifically constructed to meet the higher standards of the Interagency Paper. Business Impact Analysis validates the criticality of various systems and business areas to ensure appropriate backup and recovery testing. For those functions and facilities identified as critical that rely on contingency facilities which are not exercised in the normal course of daily business, the FICC/GSD tests and rehearses recovery capabilities to keep the staff and facilities in a state of readiness and demonstrate our capability to meet all regulatory requirements for recovery time objectives and recovery point objectives inclusive of those specified in the Interagency Report. The FICC/GSD tests various recovery scenarios throughout the year. At least annually scenarios simulating a failure at any one and at multiple facilities are performed. These tests include network recovery. FICC/GSD departments involve staff, including Internal Audit, to verify the transaction data integrity and recovery of the FICC/GSD applications. The FICC/GSD participates in industry-wide business continuity tests, which involve the major financial institutions.

In addition, the FICC/GSD's Rules require Members that are deemed "critical" (based upon revenues, clearing fund contributions, settlement amounts, and trading volumes) to test that they are able to communicate with the FICC/GSD from their primary and alternate locations for business continuity purposes. The FICC/GSD's Rules provide that the FICC/GSD may impose a fine of \$10,000.00 per year on any "critical" Member who fails to conduct the required annual connectivity testing for business continuity purposes.

Each data center contains an active 24 x 7 staffed command center capable of operating and monitoring the workload running at any data center. Datacenter Operations participates in each of the technology recovery tests, and has adjusted internal processes

where the exercises have shown a need to do so. These included introducing plans for continuous cross-training of operations personnel among the various sites, as well as introducing a schedule for rotating control of DTCC's production environment among the various data centers on a regular basis to give all operations personnel real-time experience in operating the systems.

3. Are there adequate management controls and sufficient (and sufficiently well qualified) personnel to ensure that procedures are implemented appropriately? Are operational reliability issues reviewed regularly by senior management, including review by persons not responsible for the relevant operations? Is there an internal audit function and does it review operational risk controls?

Management controls including monitoring, reporting and oversight are adequate. Key personnel assigned to the area are knowledgeable and possess several years of cumulative institutional experience/knowledge.

Operational reliability issues are reviewed regularly by senior management, including review by persons not responsible for the relevant operation. Operational reliability is monitored continuously and reported to senior management on a monthly basis. Management uses numerous metrics to measure operational reliability.

Mechanisms are also in place to report/escalate operational incidences, such as reporting of major production outages to senior management and to investigate/assess the root cause of the incidences and ensure appropriate and timely corrective actions are taken.

An independent Internal Audit function is in place at the FICC/GSD which regularly reviews the adequacy of the FICC/GSD's operational controls, among other areas. FICC is also subject to an annual audit by its certified public accountants, which includes a review and evaluation of internal controls.

4. How many times during the last year has a key system failed? What is the most common cause of failures? How long did it take to resume processing? How much transaction data, if any, was lost? How does the CCP ensure the integrity of messages? Does the CCP have capacity plans for key systems and are key systems tested periodically to determine if they can handle stress volume?

There have been very few delays in systems operations and no key system has failed. In no instance was any data lost.

The FICC/GSD assures that the originator is known to our secure, private network and that business applications provide counterparty confirmation(s) through a variety of application-appropriate mechanisms. DTCC has built the SMART network into a seamless, end-to-end, managed communications network. Each element of SMART is highly secure, engineered with multiple independent levels of redundancy, and capable of handling DTCC's entire clearance and settlement workload.

DTCC has dedicated capacity planning staffing and ensures that the FICC/GSD has sufficient capacity to meet operational needs in all data centers. Daily, weekly and monthly capacity/utilization reports are generated and reviewed by the Infrastructure Department to track growth against projections. Each year an annual Capacity Planning Report is produced and presented to the Board of Directors, as well as to the FICC/GSD's regulators.

New systems are stress tested prior to being placed into production. Existing systems are not routinely stress tested, due to the capacity planning process described above.

ASSESSMENT: The FICC/GSD observes Recommendation 8.

Recommendation 9: Money settlements: A CCP should employ money settlement arrangements that eliminate or strictly limit its settlement bank risks, that is, its credit and liquidity risks from the use of banks to effect money settlements with its participants. Funds transfers to a CCP should be final when effected.

Answers to key questions:

1. Does the CCP use the central bank model or the private settlement bank model?

The FICC/GSD uses the central bank model with a tiered settlement arrangement for its funds-only settlement process.

The key components of a Member's funds-only settlement obligation at the FICC/GSD include: a mark-to-market amount for every net settlement position, a mark-to-market amount for every forward net settlement position, fail marks for obligations that were scheduled to settle and have not yet settled, coupon payments and other adjustments. (As provided in the CCP Recommendations paper, payments against delivery of securities are covered by Recommendation 10.) The FICC/GSD funds-only settlement process is a cash pass-through process, i.e., those members who are in a debit position submit payments which are then used to pay Members in a credit position.

The settlement for the funds-only settlement process occurs on the Federal Reserve's National Settlement Service ("NSS"). Because FICC does not have direct access to the Federal Reserve, payments are made to and from the FICC/GSD on the NSS through the Federal Reserve Bank of New York sub-account of FICC's affiliate, DTC. Similarly, FICC/GSD Members are required to engage a settling bank that meets FICC's settling bank criteria to effect funds-only settlement on the central bank's NSS on behalf of the Members.

2. Do the CCP's legal agreements with its settlement bank or banks provide that funds transfers to its accounts are final when effected? Do the laws of the relevant jurisdictions support these provisions? Do the payment systems for the currencies used support intraday finality? Does the CCP routinely confirm that funds transfers have been effected as and when required by those agreements?

The funds transfers in the case of the FICC/GSD funds-only settlement occur at the Federal Reserve. Funds transfers are final when effected on the Federal Reserve's NSS and intraday finality is supported by this central bank service. The arrangement with the central bank is supported by applicable laws and rules, including the applicable Federal

Reserve circular (Federal Reserve Operating Circular 12). The FICC/GSD confirms that funds transfers have been effected on each business day.

3. If the private settlement bank model is used, does the CCP establish and monitor strict criteria for the banks used that address their creditworthiness, access to liquidity, and operational reliability?

As stated above, the FICC/GSD uses the tiered settlement arrangement of the central bank model.

4. If the private settlement bank model is used, does the CCP actively monitor the concentration of exposures among the settlement banks, and routinely assess its potential losses and liquidity pressures from a settlement bank's failure?

As stated above, the FICC/GSD uses the tiered settlement arrangement of the central bank model.

ASSESSMENT: The FICC/GSD observes Recommendation 9.

Recommendation 10: Physical deliveries: A CCP should clearly state its obligations with respect to physical deliveries. The risks from these obligations should be identified and managed.

Answers to key questions:

1. Does the CCP have rules that clearly state its obligations with respect to deliveries of physical instruments?

The FICC/GSD's Rules clearly set forth its obligations with respect to deliveries of the securities that it processes. (The FICC/GSD processes transactions whose underlying securities are in book-entry form only.)

There are three basic underpinnings of the FICC/GSD's settlement process for netted positions: (1) every securities delivery, whether to or from the FICC/GSD, is made against full payment, (2) the FICC/GSD does not "build a box" during the day; rather, deliveries that come into the FICC/GSD ordinarily are instantaneously redelivered to another netting member (i.e., all movements are in a pre-matched, "bound" status), and (3) all settlements are made either over the Federal Reserve's Fedwire or on the clearing bank's books; finality of settlement is obtained at the time of the securities movement.

As described in more detail in the Introduction to this self-assessment, because FICC is not a depository institution, it is not given direct access to Fedwire and therefore employs the services of its two clearing banks, the Bank of New York Mellon ("BNY") and JPMorgan Chase Bank ("JPM"), for this purpose. FICC/GSD Rule 12 (Securities Settlement) provides that the FICC/GSD shall notify each Member (prior to the entity activating its membership) of the clearing bank or banks that the FICC/GSD will use to deliver eligible securities to Members and to receive eligible securities from Members, and by product, the types of securities that each such clearing bank will so deliver and receive. In turn, each Member (prior to activating its membership) must notify the FICC/GSD of the clearing bank or banks that the Member has designated to act on its behalf in the delivery of securities to the FICC/GSD and in the receipt of securities from the FICC/GSD. As stated above, obligations may be settled within a clearing bank, i.e., on the books of a clearing bank when the deliver and attendant receive obligation are at the same clearing bank. Otherwise, obligations are settled using Fedwire. All deliveries are made against full payment.

Participation in the FICC/GSD's GCF Repo service requires dealer Members to have an account with either or both of BNY or JPM. As described more fully in the Introduction (page 7), the clearing banks have an integral role in the GCF Repo service.

2. Does the CCP have obligations to make or receive deliveries of physical instruments? If yes, does the CCP use DVP mechanisms that eliminate principal risk? If no DVP mechanism is available, does the CCP take other steps to mitigate principal risk?

The FICC/GSD is obligated to deliver securities to a Member with a net long position in order to settle such position; however, the FICC/GSD is not obligated to make such deliveries until the day on which it receives from a Member with a net short position securities with the same CUSIP number that are at least equal in quantity to such net long positions and that have not been allocated for delivery to another Member. In other words, a Member can fail to deliver to the FICC/GSD, which will cause the FICC/GSD to fail to deliver to another Member. However, Members do not have the right to fail to receive securities from the FICC/GSD. Deliver and receive obligations are satisfied through delivery to and receipt from clearing banks designated by the FICC/GSD. Members are obligated to properly instruct their clearing bank as to movements to be made to and from the FICC/GSD.

3. Has the CCP identified the liquidity, storage and delivery (other than principal) risks to which it is exposed because of the delivery obligations that it assumes? Does the CCP take steps to mitigate these risks? What steps does it take?

Storage and delivery risks (such as warehousing and transportation of instruments) do not arise for the FICC/GSD because the underlying securities of the transactions that it processes are in book-entry form. In the FICC/GSD's case, the CCP is never long; if the FICC/GSD is unable to deliver securities received too close to the close of the securities Fedwire, the FICC/GSD will finance such securities on overnight basis with one of its clearing banks. The FICC/GSD has identified its liquidity risks in the event of an insolvency of a Member and has steps that it may take to mitigate such risks, which include the ability to enter into repo agreements with market participants.

ASSESSMENT: The FICC/GSD observes Recommendation 10.

Recommendation 11: Risks in links between CCPs: CCPs that establish links either cross-border or domestically to clear trades should evaluate the potential sources of risks that can arise, and ensure that the risks are managed prudently on an ongoing basis. There should be a framework for co-operation and co-ordination between the relevant regulators and overseers.

Answers to key questions:

1. What kinds of link are in operation? Has the CCP carried out a risk analysis of the potential sources of risks arising from the link? Are the resultant risk management arrangements designed to minimise or contain these risks, such that the CCP remains able to observe the other recommendations contained in this report?

The FICC/GSD has implemented a cross-margining arrangement with the Chicago Mercantile Exchange. The FICC/GSD has analyzed this arrangement from a risk management perspective and the arrangement does not adversely affect the FICC/GSD's ability to observe the recommendations contained herein.

2. Which laws and contractual rules govern the link? What steps have the CCPs taken to satisfy themselves that these laws and rules support the design of the link and provide adequate protection to both CCPs in the operation of the link?

The cross-margining agreement which governs the FICC/GSD-CME arrangement is governed by the laws of the State of New York. The cross-margining agreement itself has been approved by the SEC, and has been made a part of the Rules of the FICC/GSD.

Under this arrangement, eligible positions at the futures clearing organization (the CME) are offset against eligible positions at the FICC/GSD for purposes of calculating margin requirements; both clearing organizations agree to accept correlated positions in lieu of supporting collateral. The FICC/GSD and the CME have satisfied themselves that the provisions of the cross-margining agreement are enforceable under U.S. law and have designed the arrangement to avail themselves of the special protections that are available in the event of the insolvency of a cross-margining participant.

3. What are the potential sources of operational, credit and liquidity risks arising from the link? Are effective mechanisms in place, including arrangements between the linked CCPs, to monitor and manage the risks identified?

The cross-margining agreement does not introduce new operational risks to the FICC/GSD. The cross-margining agreement calls for the daily exchange of cross-margining data between the FICC/GSD and the CME.

The clearing corporations limit their credit risk exposure by determining which participants are eligible to participate in the arrangement and independently determining how much margin with regard to a participant's residual positions is adequate to protect themselves under the cross-margining agreement. The clearing corporations have the right under the agreement to remove a participant from the arrangement for any reason deemed necessary by the clearing corporation to protect itself and its members. The FICC/GSD and the participating futures clearing organization independently calculate applicable residual margin amounts based on their respective rules. Furthermore, the FICC/GSD's partner in this cross-margining arrangement is a reputable regulated entity, whose activities are overseen by the Commodities Future Trading Commission. Loss sharing procedures are set forth in the agreement and both parties are on notice of their obligations.

4. For the purposes of regulation and oversight of the link, is there a framework for co-operation and co-ordination between the relevant regulatory and oversight authorities, including provisions on information sharing and the division of responsibilities in the event of any need for co-ordinated regulatory action?

The legal framework supports cooperation and coordination between the SEC and the CFTC. In addition, the FICC/GSD and the CME participate in the Unified Clearing Group ("UCG"), which brings together securities clearing agencies and futures clearing agencies on subjects of mutual interest. The SEC, the CFTC and the Federal Reserve participate as observers at the meetings of the UCG.

ASSESSMENT: FICC observes Recommendation 11.

Recommendation 12: Efficiency while maintaining safe and secure operations: CCPs should be cost-effective in meeting the requirements of participants.

Answers to key questions:

1. Does the CCP have in place procedures to control costs (for example, by benchmarking its costs and charges against other CCPs that provide a similar service and by analysing the reasons for significant differences)? Does the CCP have in place procedures to regularly review its pricing levels against its costs of operation?

The FICC/GSD has in place procedures to control costs and to regularly review pricing levels against costs of operation. The FICC/GSD uses a formal budgeting process to control its expenditures. It reviews pricing levels against its costs of operation typically during the annual budget process, providing guidance to the Board of Directors of the price impact. The budget is approved annually by the Board, as is any material change in service fees. Furthermore, to help ensure ongoing efficiency, DTCC (FICC's parent company) has a Quality and Business Reengineering Department, which employs Six Sigma techniques to analyze workflows and make appropriate recommendations for improvement.

The FICC/GSD periodically performs benchmarking studies to assess cost effectiveness in the market place. These studies cover the cost effectiveness of the organization, and also take into account implementing best practices. The FICC/GSD's fees are cost-based. The FICC/GSD returns to its users, via rebate or refund, excess revenues not needed to fund its operations. The FICC/GSD fees are widely recognized to be among the very lowest charged by service providers of its type.

2. Does the CCP regularly review its service levels, (for example, by surveying its participants)? Does the CCP have in place procedures to regularly review operational reliability, including its capacity levels against projected demand?

The FICC/GSD regularly reviews its service levels and has in place procedures to regularly review operational reliability, including its capacity levels against projected demand. On an annual basis, the FICC/GSD formally surveys its Members to test and help ensure adherence to service levels. In addition, several committees of the Board of Directors, made up of members of the user community, are responsible for overseeing various aspects of the operation.

DTCC has dedicated capacity planning staffing and ensures that the FICC/GSD has sufficient capacity to meet operational needs in all data centers. Daily, weekly and monthly capacity/utilization reports are generated and reviewed by the Infrastructure Department to track growth against projections. Each year an annual Capacity Planning Report is produced and presented to the Board of Directors, as well as to the FICC/GSD's regulators.

ASSESSMENT: The FICC/GSD observes Recommendation 12.

Recommendation 13: Governance: Governance arrangements for a CCP should be clear, and transparent to fulfil public interest requirements and to support the objectives of owners and participants. In particular, they should promote the effectiveness of a CCP's risk management procedures.

Answers to key questions:

1. What are the governance arrangements for the CCP? What information is publicly available about the CCP, its ownership and its board and management structure?

DTCC is the parent holding company of FICC. The DTCC common shareholders include approximately 362 banks, broker-dealers, mutual funds, and other companies in the financial services industry that are participants of one or more of DTCC's clearing agency subsidiaries, including FICC.

Individuals elected to the DTCC Board of Directors are also elected to the Boards of Directors of FICC and its affiliates, DTC and NSCC. Board members also serve on specific Board Committees, some of which also include members who are not on the Board. The Board Committees include an Audit Committee, a Credit and Market Risk Management Committee (with responsibility for credit determinations on members and applicants and market risk issues, including Clearing Fund components and formulas), a Compliance and Operational Risk Management Committee (with responsibility for compliance and operational risk issues, including liquidity management issues), a Core Services Operations and Planning Committee (with responsibility for service development and oversight, including budgetary and fee matters) and other committees. The Audit Committee is composed only of Board members; the other committees named include non-Board representation.

Since DTCC's formation in 1999, the corporate governance practices of DTCC and its registered clearing agencies have been the subject of significant focus by the Boards and management of the clearing agencies. The clearing agencies continually review corporate governance standards as they evolve and adopt best practices for public companies where appropriate. This year DTCC is conducting an extensive review of its governance practices to ensure that they meet applicable requirements and provide for coordinated and comprehensive oversight of DTCC's operations and risk management; recommendations from this review are expected to be reviewed by the Board and other involved parties and implementation plans put in motion by year-end 2009.

Fair Representation

Section 17A of the Exchange Act requires that the rules of a registered clearing agency “assure a fair representation of its shareholders (or members) and participants in the selection of directors and administration of its affairs” (the “Fair Representation Requirement”). The clearing agencies’ corporate governance practices (including the requirement for certain classes of participants of each clearing agency to acquire DTCC common shares and thereby have the right to vote in the election of clearing agency directors), the process for nominating directors, and the responsibilities and composition of Board committees are all intended to help assure satisfaction of the Fair Representation Requirement.

Acquisition of DTCC Common Shares, and Voting in the Election of Clearing Agency Directors

Certain participants of each DTCC registered clearing agency subsidiary (other than certain classes of limited participants) are required to purchase and own DTCC common shares in amounts proportionate to their use of the services and facilities of all DTCC clearing agency subsidiaries. Share allocations are reviewed on a periodic basis, not less frequently than once every three years.

All of the above information is publicly available both through the FICC website, www.dtcc.com, and through annual reports and other publications and notices.

2. Is there a clear separation in the reporting lines between risk management and other operations of the CCP? How is this separation achieved? Is there an independent risk management committee?

There is a clear separation in the reporting lines between risk management and other operations of the FICC/GSD. The Chief Risk Officer reports directly to the Chairman and Chief Executive Officer. The Board of Directors has appointed a number of standing committees, including a Credit and Market Risk Management Committee, whose responsibilities include overseeing membership and risk management issues, including determinations to cease to act for Members. The Compliance and Operational Risk Management Committee oversees compliance with legal and regulatory requirements and oversees operational risk issues for the organization. There is a separate Board Committee, the Core Services Operations and Planning Committee, that oversees product services and operations, including the approval of fees.

3. What steps are taken to ensure that management and the Board have the adequate skills and incentives to achieve the CCP’s objectives of delivering sound and effective services and to meet related public interest requirements? What are

the mechanisms the Board has in place to ensure the objectives include delivering sound risk management and meeting related public interest requirements? How are management and the Board made accountable for their performance? How is the composition of the Board determined? Are there mechanisms to ensure that the Board contains suitable expertise and takes account of all relevant interests? Are reporting lines between management and the Board clear and direct? Is the Board responsible for selecting, evaluating, and if necessary removing senior management?

Management and the Board establish formal corporate goals yearly based on consultation with individual participants, members of the Board, Board Committees, advisory committees, industry associations, regulators and others. The Board measures management's performance against these goals periodically throughout each year by reviewing status reports from management and from Board committees that have oversight responsibilities for particular activities with respect to which goals have been established. In addition, the Board's Compensation Committee receives periodic reports throughout the year on the achievement by management of corporate goals. At the December Board meeting, the Board makes its final evaluation of management's performance against goals for the year.

Through evaluation of management performance, and by linking compensation to performance, the Board seeks to ensure that management has the incentives and skills needed to achieve the clearing agency's objectives, and that management is accountable for its performance.

Compensation

The Board's Compensation Committee, which is composed of non-management directors, is responsible for approving compensation actions (merit increases, incentive compensation, and other benefits, including deferred compensation and medical) for the members of management that report directly to the Chief Executive Officer, and for recommending to the Board compensation actions for the Chief Executive Officer. An independent compensation consultant makes recommendations to the Compensation Committee on these actions. The Board meets in executive session to consider the Committee's recommendations respecting the Chief Executive Officer.

The General Auditor reports functionally to the Audit Committee, which is responsible for approving the General Auditor's salary and performance appraisal.

Board Composition and Nominating Process

The Boards of each clearing agency may have between 15 and 25 directors, as

determined by the Board each year. Only two members of management, DTCC's Chairman and Chief Executive Officer and its Chief Operating Officer, are also directors – the other directors are independent of management. Individuals elected to the DTCC Board by the common shareholders are also elected to the Boards of DTC, NSCC and FICC. Two members of the Board represent DTCC's preferred shareholders, the NYSE and FINRA. DTCC preferred shareholders have no right to vote on any matters submitted to a vote of DTCC shareholders, although each of the two DTCC preferred shareholders are entitled to elect one director.

Each year, the Board appoints members of the Governance Committee. They, in turn, recommend nominees for directors to the Board. They do this after soliciting from participants of each clearing agency suggested nominees for election by common shareholders. The Committee standards in recommending nominees are designed to satisfy the Fair Representation Requirement, and reflect other governance best practices. Under its charter, the Governance Committee has the responsibility to nominate persons for election as directors based upon the following factors: ability to represent users of the services of each of DTCC's clearing and depository subsidiaries; ownership of DTCC common stock; expertise; with respect to current directors, their length of service, attendance at Board and Committee meetings, and effectiveness; and adequate diversity on the Board.

Finally, as discussed in the response to key question 1 above, the requirements of the Exchange Act, coupled with the facts that the clearing agency is owned by its users and that the members of the Board of Directors are predominantly individuals whose companies are users of the system, serve to ensure that shareholders, users, and public interests will be taken into account in the Board's deliberations and that the Board's objectives include delivering sound risk management and meeting related public interest requirements.

The foregoing response represents DTCC's and the FICC/GSD's current practices with respect to the subjects covered. As stated above in response to key question 1, DTCC is conducting a review of its corporate governance practices generally in 2009, which review will consider all of the subjects covered by the key questions in this Recommendation 13. Any changes on the subjects covered herein will be reflected in subsequent revisions to this self-assessment.

4. Are the CCP's objectives, those responsible for meeting them and the extent to which they have been met disclosed to owners, participants, and public authorities? What are they?

The FICC/GSD's public interest objectives are necessarily based upon Section

17A of the Exchange Act which reflects the finding of the U.S. Congress that:

The prompt and accurate clearance and settlement of securities transactions, including the transfer of record ownership and the safeguarding of securities and funds related thereto, are necessary for the protection of investors and persons facilitating transactions by and acting on behalf of investors.

In Section 17A, Congress directed the SEC, “having due regard for the public interest,” to facilitate the establishment of a national system for the prompt and accurate clearance and settlement of securities transactions by, among other things, the registration of clearing agencies that have been determined by the SEC to meet the statutory standards included in Section 17A(b)(3) of the Exchange Act. One of these standards is that the rules of the clearing agency must be

designed to promote the prompt and accurate clearance and settlement of securities transactions . . . and, in general, to protect investors and the public interest.

Under Section 19 of the Exchange Act and SEC rules promulgated thereunder, FICC, as a registered clearing agency, must submit proposed changes to its Rules, including changes that affect the rights and obligations of FICC and of its Members, to the SEC for approval before they can be implemented.²³ The form on which a proposed Rules change is filed with the SEC requires that FICC justify its proposal by reference to the statutory objectives set forth in Section 17A of the Exchange Act.

These proposed rules changes are published by the SEC for comment by FICC Members and other members of the public. FICC includes on its website FICC’s proposed Rules changes and the related SEC notices inviting comments as well as SEC Orders approving the proposed rules changes.

Section 19 of the Exchange Act provides for SEC approval of proposed rules changes submitted for approval only upon the SEC’s determination that the proposal is consistent with the requirements of the Exchange Act and related SEC rules and in the public interest.

FICC’s financial objectives, to continue to provide services to its Members at cost and to return to its Members revenues in excess of its costs and amounts needed to be retained, are clearly articulated in a variety of publications, including DTCC’s annual reports.

²³ Certain proposed rules changes of lesser significance submitted to the SEC may be implemented without formal SEC approval. However, the SEC may summarily abrogate such rules changes “if necessary or appropriate in the public interest.”

The regulatory process described above as well as the fact that FICC is user-owned and user-governed helps assure that FICC's public interest and financial objectives are satisfied.

ASSESSMENT: The FICC/GSD observes Recommendation 13.

Recommendation 14: Transparency: A CCP should provide market participants with sufficient information for them to identify and evaluate accurately the risks and costs associated with using its services.

Answers to key questions:

1. Does the CCP disclose to market participants its rules, regulations, relevant laws, governance procedures, risks, steps taken to mitigate risks, the rights and obligations of participants and the costs of using the CCP services? Does the CCP make clear when and in what circumstances it assumes counterparty exposure and any restriction or limitations on its fulfilment of its obligations? Does the CCP disclose appropriate quantitative information on its clearing, netting, and settlement activities? Does the CCP provide market participants with sufficient information on default procedures and stress testing?

The FICC/GSD Rules provide information on the subjects noted in the question. In addition, the FICC/GSD often issues explanatory service bulletins and guidelines on risk management measures via Important Notices to Members. All of the foregoing information is published on FICC's website (www.dtcc.com). The website also contains general information about products and services as well as contact information.

The FICC/GSD Rules are explicit as to when the FICC/GSD assumes counterparty exposure, or the time of novation, *i.e.*, when the FICC/GSD issues the report of net settlement results to its netting members (See FICC/GSD Rule 11). The Rules also provide information on default procedures (See FICC/GSD Rule 22A).

In addition, unaudited quarterly and audited annual financial statements are made available to Members. Consolidated financial statements of DTCC are available on the DTCC website, www.dtcc.com.

Information on stress testing is not currently provided to Members.

2. How is information made available? In what language or languages? In what form?

Information is provided in English. *See* the response to Question 1 immediately above as to how and in what form information is provided.

In addition to information provided on DTCC's website, management responds to inquiries from Members and meets with them as may be requested, to assist them in their understanding of the Rules and the risk implications thereof.

ASSESSMENT: The FICC/GSD broadly observes Recommendation 14.

Additional Comments: The FICC/GSD believes that it has addressed, on a broadly observed basis, the objectives that underlie Recommendation 14. The intent of Recommendation 14 is for the CCP to provide information publicly so that the CCP's participants are able to identify and evaluate the risks and costs to which they could be exposed as a result of participation in the CCP. The way in which Members determine their risks of participation in the FICC/GSD is through analyzing the Rules and implications thereof; as stated above, the Rules are made public. Changes to the Rules which could affect the risks to which Members may become subject by virtue of being participants in the clearing corporation are accompanied with a narrative that is part of the rule filing form and that explains each Rule change; Members (and the public generally) have the right to submit comments on Rule changes that will be considered by the SEC prior to its making a determination on the filing. Moreover, members have the right to voluntarily terminate their membership if they do not wish to comply with a Rule change prior to such change's effectiveness.

Recommendation 15: Regulation and oversight: A CCP should be subject to transparent and effective regulation and oversight. In both a domestic and international context, central banks and securities regulators should cooperate with each other and with other relevant authorities.

Answers to Key questions:

1. How is the CCP regulated/overseen? Describe the laws that authorise and govern the CCP's operation, the applicable regulatory bodies and their respective authority for the CCP's operation. Do the securities regulator and central bank have sufficient legal capacity and resources (including experienced staff and funding) to carry out effective regulation and oversight?

In the United States, the SEC is statutorily responsible for overseeing the activities of clearing agencies. As a registered clearing agency, the FICC/GSD is regulated and examined by the SEC pursuant to the provisions of Section 17A of the Exchange Act.

The FICC/GSD does not perform banking functions, and therefore is not supervised by the central bank. However, the Federal Reserve is interested in the FICC/GSD's observance of the RCCPs given the importance of the FICC/GSD for the liquidity of financial institutions and the stability of the overall financial system. The Federal Reserve coordinates with the SEC to conduct oversight, but the U.S. currently does not have a statute providing formal oversight authority to the central bank for payment, clearing, and settlement services.

The SEC and the Federal Reserve have sufficient legal capacity and resources to carry out effective regulation and oversight.

2. Are the objectives, responsibilities and main policies of the securities regulator, central bank and, where relevant, banking supervisor, clearly defined and publicly disclosed? Are the regulations, roles and policies written in plain language so that they may be fully understood by CCPs and their participants?

The SEC's regulatory objectives, responsibilities, and main policies are defined and publicly disclosed. For example, the scope of the SEC's regulation of clearing agencies is defined by the Exchange Act, namely Sections 17A and 19. The SEC has adopted rules to carry out these statutory responsibilities. In order to assist registrants in meeting their statutory responsibilities, the SEC has published guidance on how a clearing agency applicant can meet the objectives set forth in Section 17A. In addition to publishing proposing and adopting releases for its own rules, the SEC also publishes concept releases and policy statements to educate industry participants as to the SEC's positions on different issues, such as straight-through processing, confirmation of trades,

operational outages, and business continuity. These materials are publicly available from several sources, including the SEC's website, www.sec.gov. The SEC has adopted a plain English standard for filings by registrants and seems to meet the same standard. In addition to publications, SEC staff maintains an active dialogue with FICC management.

The Federal Reserve also publishes policy statements that are readily available to the public. For example, the Federal Reserve's Policy on Payments System Risk is available at www.federalreserve.gov. Operating Circulars governing Reserve Bank services are available online at the Federal Reserve's Financial Services website at www.frbservices.org. Other service-related information, such as services offered, forms, agreements, schedules, and fees, can be obtained on this site.

3. What information is the CCP required to provide, including information on operations that have been outsourced? How frequently is this information provided? Are there specific information requirements for participants' defaults and CCP financial difficulties? Is the CCP required to report significant events, such as rule changes, outages, and changes in risk management procedures?

FICC is statutorily required to comply with several recordkeeping requirements set forth in the Exchange Act (Section 17) and SEC rules (Rule 17a-1 et seq.). For example, FICC must maintain business records related to its self-regulatory activities. These materials must be held for a period of not less than five years, with the first two years in an "easily accessible place." SEC Rule 17a-6 sets forth the manner by which FICC may destroy/dispose of such documentation. All of this information, including information on operations that have been outsourced, may be provided to the SEC either during a specific supervisory examination or upon request.

In certain instances, FICC also may be asked to furnish copies of materials upon request from its members, other self-regulatory organizations, or other regulators. In addition, during examinations, FICC is required to provide examiners with documentation relevant to the examination scope.

The FICC/GSD is required to notify the SEC if it ceases to act for a Member and indicate the actions taken by the FICC/GSD to resolve outstanding obligations.

In addition, the FICC/GSD is required to submit all rule changes to the SEC for review, comment, and in some cases approval. Section 19 of the Exchange Act and the rules thereunder define the circumstances under and means by which self-regulatory organizations ("SROs") must file proposed rule changes. Depending on the proposal, some rule changes are "effective upon filing," whereas others are subject to review, public comment, and final approval by the SEC's Division of Trading and Markets, pursuant to delegated authority.

The SEC has established an Automation Review Policy (“ARP”) applicable to SROs, including FICC. Under the policy, SROs voluntarily establish comprehensive planning and assessment programs to determine systems capacity and vulnerability. ARP also requires that SROs provide SEC staff with real-time notifications of significant system outages. ARP staff at the SEC also conduct IT-specific onsite examinations of the FICC/GSD, separate from other reviews conducted by SEC examination staff.

4. Is there a framework for cooperation between relevant authorities for the CCP, including domestic and non-domestic? If so, describe the principles underlying this/these framework(s) and their main contents, including any information-sharing arrangements and decision-making procedures.

There is a framework that supports cooperation and coordination among the authorities. For example, the SEC has entered into memoranda of understanding with regulators in various non-domestic jurisdictions for the exchange of information. In addition, the SEC and the Federal Reserve have signed information-sharing arrangements regarding the oversight of the FICC/GSD. The main principle underlying this framework is to provide for consolidated supervision and to stem systemic risk.

ASSESSMENT: The FICC/GSD observes Recommendation 15.