FIXED INCOME CLEARING CORPORATION

Disclosure under the Principles for Financial Market Infrastructures

December 2014
Responding Institution: Fixed Income Clearing Corporation (“FICC”)
Jurisdiction: State of New York, United States of America
Authorities: U.S. Securities and Exchange Commission

The information provided in this disclosure is accurate as of December 31, 2014; financial information and certain other data are provided as of the dates specified. This Disclosure Framework can also be found at www.dtcc.com.
For further information, please contact CPMI-IOSCO@dtcc.com.
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I. Executive Summary

The Committee on Payment and Settlement Systems\(^1\) and the Technical Committee of the International Organization of Securities Commissions (collectively, “CPSS-IOSCO”) recognize that financial market infrastructures (“FMIs”), which include payment systems central securities depositories, securities settlement systems, central counterparties (“CCPs”) and trade repositories, each play a critical role in the financial system and the broader economy. FMIs facilitate clearing, settling and recording of monetary and other financial transactions, contributing to the goal of financial stability. CCPs, such as Fixed Income Clearing Corporation (“FICC”), interpose themselves between counterparties to financial transactions. CPSS-IOSCO has recognized that, while properly managed FMIs bring great benefits to promoting market safety, they also have the potential to concentrate risk. Therefore, it is important that FMIs, such as FICC, have effective risk controls and adequate financial resources.

In April 2012, CPSS-IOSCO issued a report on the Principles for financial market infrastructures (the “FMI Principles”), which harmonized, and in some cases strengthened, existing international standards applicable to FMIs. The report contains 24 FMI Principles covering the major types of risks faced by FMIs. One key objective of the FMI Principles is to encourage clear and comprehensive disclosure by FMIs, through a public “Disclosure Framework” that explains how their businesses and operations reflect each of the applicable FMI Principles.

This Disclosure Framework covers FICC, a wholly owned subsidiary of The Depository Trust & Clearing Corporation (“DTCC” or the “Company”). FICC is comprised of two divisions—the Government Securities Division (“GSD”) and the Mortgage-Backed Securities Division (“MBSD”). GSD provides central counterparty services to its customers with respect to the U.S. government securities market, and MBSD provides such services to the U.S. mortgage-backed securities market. FICC is a clearing agency registered with and under the supervision of the United States Securities and Exchange Commission (“SEC”). In July 2012, FICC was designated as a systemically important financial market utility (or “SIFMU”) under Title VIII of the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010 (“Dodd-Frank”).

This Disclosure Framework is intended to provide relevant disclosure to FICC’s stakeholders, including its Members and indirect users, on FICC’s key services and the methods it uses to manage the risks to itself and others providing these services.

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\(^1\) As of September 2014, the Committee on Payment and Settlement Systems changed its name to the Committee of Payments and Market Infrastructures.
II. Summary of Major Changes since the Last Update of the Disclosure

This is the first disclosure prepared by FICC under the FMI Principles, and is published on December 31, 2014. The information provided in this Disclosure Framework is accurate through December 31, 2014; financial information and certain other data are provided as of the dates specified.
III. General Background of FICC and Key Metrics

A. General Description of FICC and Organization

FICC operates under two divisions—GSD and MBSD. Each division has its own rules and Members. GSD provides trade comparison, netting, risk management, settlement and central counterparty services for the U.S. Government securities market, and MBSD provides the same services for the U.S. mortgage-backed securities market.

Regulatory, Supervisory and Oversight Framework

FICC was organized in 2003 as a business corporation under New York law and is a clearing agency registered with the SEC pursuant to the provisions of Section 17A of the Securities Exchange Act of 1934, as amended (the “Exchange Act”). As a registered clearing agency, FICC is subject to the requirements that are contained in the Exchange Act and in the SEC’s regulations and rules thereunder. These requirements include Exchange Act Rule 17Ad-22 (the “Clearing Agency Standards”), which was adopted by the SEC in 2012 in accordance with Dodd-Frank, and became effective on Jan. 1, 2013. The Clearing Agency Standards establish minimum requirements regarding how registered clearing agencies must maintain effective risk management procedures and controls as well as meet the statutory requirements under the Exchange Act on an ongoing basis. The Clearing Agency Standards are designed to enhance the regulatory framework for the supervision of clearing agencies.

In accordance with Dodd-Frank, FICC’s designation as a SIFMU requires that it meet prescribed risk management standards and heightened oversight by the SEC in order to promote robust risk management and safety and soundness, reduce systemic risk, and support the stability of the broader financial system. 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 FICC’s Members and the general public via the Internet and through other public sources.

Organization

DTCC is the parent company of FICC. DTCC is a non-public holding company that owns a number of FMIs, including three SIFMUs and related businesses. In addition to FICC, DTCC also owns The Depository Trust Company (“DTC”), the world’s largest central securities depository and a registered clearing agency for the settlement of securities transactions for eligible securities and other financial assets; and National Securities Clearing Corporation (“NSCC”), a registered clearing agency and central counterparty that provides clearing, netting, settlement, risk management and central counterparty services for broker-to-broker trades involving equities, corporate and municipal debt, exchange-traded funds and unit investment trusts in the United States. DTCC, through its other subsidiaries and joint

2 GSD was previously known as the Government Securities Clearing Corporation (“GSCC”), which was established in 1986. MBSD was previously known as the MBS Clearing Corporation (“MBSCC”), which was established in 1979. FICC resulted from a merger of GSCC and MBSCC on January 1, 2003.

3 GSD and MBSD have several membership types. For ease of description, when summarizing various GSD services and MBSD services in this Disclosure Framework, the term “Member,” “GSD Member” or “MBSD Member,” as applicable, are used throughout to denote a full-service participant that has access to GSD’s guarantee/CCP services or MBSD’s guarantee/CCP services, as applicable.
ventures, provides critical information and transactional services, including through global trade repositories, to financial market participants in the United States and globally.

DTCC is owned by the financial institutions that are participants of its registered clearing agency/SIFMU subsidiaries. DTCC’s governance arrangements—and those of its SIFMU subsidiaries—are designed to promote the safety and efficiency of its clearing agency subsidiaries, support the stability of the broader financial system and promote the objectives of its participants. These governance arrangements are more fully described in response to Principle 2 (Governance) below.

DTCC’s direct subsidiaries are shown in the following chart:

A description of the activities of DTCC’s principal subsidiaries is available at [www.dtcc.com](http://www.dtcc.com).

B. **Key Services: System Design and Operation**

1. **Government Securities Division**

GSD offers a suite of services to support and facilitate the submission, comparison, risk management, netting and settlement of trades executed by its Members in the U.S. Government securities market. GSD provides a guaranty of settlement of all compared trades and serves as the central counterparty for the settlement obligations it novates. GSD processes buy-sell transactions of U.S. Government securities, repurchase agreement (“repo”) transactions, including overnight, forward-start and term repo transactions, and GCF Repo® transactions.

The following is a brief description of the core services and functions performed by GSD.

A. **Trade Comparison/Real-Time Trade Matching**

The crux of GSD’s comparison system is its Real-Time Trade Matching (“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 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.

Upon trade execution, GSD Members submit all mandatory trade details to the RTTM® system to be matched with the trade details submitted against them by their counterparties.

A trade is deemed compared by GSD at the point in time at which GSD makes available to the Members on both sides of a transaction output (i.e., a report), indicating that their trade data have been compared. As noted above, a trade compared by GSD constitutes evidence of a valid, binding and enforceable contract. Upon comparison, GSD provides a guaranty of settlement (i.e., makes the counterparty whole), provided that the trade meets the requirements of the GSD Rules and was entered into in good faith.

B. Netting and Settlement

GSD’s netting system typically reduces the costs associated with securities transfers by reducing the number of securities movements required to settle transactions.

Once the trades for GSD Members have compared, they enter into GSD’s Netting System. Through netting, 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. GSD replaces each net position with a settlement obligation for the scheduled settlement date whereby the Member settles with GSD as CCP.

Settlement occurs after GSD has informed its Members of their respective obligations (principally on the night of trade date in a T+1 market). Settlement occurs on the Federal Reserve’s Securities Service System (“Fedwire®”) or on the books of FICC’s designated clearing bank. Members in turn instruct their clearing bank to transfer securities to one of GSD’s two clearing banks—The Bank of New York Mellon (“BNY”) and JPMorgan Chase (“JPM”). FICC, acting as a CCP, receives the securities and turns the securities to the ultimate net buyers.4

4 Because FICC is not a depository institution, it is not given direct access to the Fedwire® and therefore employs the services BNY and JPM for this purpose. Prior to an entity activating its membership, GSD informs the Member of the clearing bank(s) that GSD will use to deliver eligible securities to Members and receive eligible securities from Members. Each Member must also notify GSD of the clearing bank(s) that the Member has designated to act on its behalf in the delivery of securities to GSD and the receipt of securities from GSD. Additionally, in GSD, with respect to the GCF Repo® service, there are two clearing banks—BNY and JPM—that are agents for the settlement of GCF Repos®. GSD uses BNY and JPM, and GSD Members are required to select either or both of these banks with respect to the exchange of cash and collateral between cash lenders and repo dealers. The Clearing Banks also value and allocate the collateral supporting the repos. As agents, the Clearing Banks do not require a membership category in FICC.
On each business day, GSD makes available to each Member output (i.e., a report) that provides information that GSD deems sufficient to enable such Member to settle its net settlement positions on that business day. Each Member, based on the information provided by GSD, then provides appropriate instructions to its clearing bank to deliver to GSD and/or to receive from 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.

C. Auction Takedown Service

GSD’s Auction Takedown service enables Members to have their Treasury auction awards netted and guaranteed with the rest of their GSD-eligible trading activity in the secondary markets, thereby reducing settlement risk and costs for Members’ auction purchases. All auction awards are submitted to GSD by the Federal Reserve Banks on a locked-in basis, meaning that GSD automatically generates trade confirmations based on information supplied by the Federal Reserve Banks.

D. Repurchase Agreement Netting 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. GSD provides automated matching, netting, settlement and risk management of repo transactions.

GSD also provides a service known as the GCF Repo® service, which enables dealers to trade general collateral repos based on rate, term and underlying product, throughout the day with inter-dealer broker Members (“brokers”) on a blind basis. The service helps foster a highly liquid market for short-term financing.

Brokers (who are also members of GSD) are required to enter data on GCF Repo® transactions for submission to GSD shortly after trade execution. Because the specific collateral is not known at the point

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5 The report includes the type of obligation (i.e., deliver or receive), name and reference number of the clearing bank, CUSIP number, settlement date, par value, final dollar value and other information descriptive of an eligible netting security.

6 Because market activity is concentrated in New York, the FRBNY, as fiscal agent for the U.S. Treasury, coordinates much of the auction activity for the primary dealers that are required to take part in the auctions of U.S. Treasury securities. Currently, all Auction Takedown awards received by GSD on behalf of Members are received from the FRBNY, although auction activity may be processed through other Federal Reserve Banks.

7 A general collateral repo is a repo in which the underlying securities collateral is nonspecific general collateral within an identified basket of eligible collateral. This is in contrast to a specific collateral repo where the underlying securities are specifically identified.
of trade, brokers submit all GCF Repos® to GSD using generic general collateral CUSIPs\(^8\) 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 securities\(^9\) to their net settlement obligations. 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\(^10\), 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 of the net funds borrowers does not raise the same issue because the funds Fedwire® stays open later.

During the next day, the GCF Repo® 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 equity\(^11\) 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 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.

In 2011, FICC made changes to the GCF Repo® service in the form of a one-year pilot program in order to comply with the recommendations made by the Task Force on Triparty Reform (“TPR”), an industry group formed and sponsored by the Federal Reserve Bank of New York (“FRBNY”). This program was extended for an additional year in 2012, 2013 and then again in 2014.\(^12\) These changes better align the

\(^8\) Standardized generic CUSIP numbers established for GCF Repo® processing are used to specify the acceptable type of underlying eligible collateral.

\(^9\) The generic general collateral CUSIP defines the appropriate collateral that a dealer may use to satisfy the net settlement obligation in that CUSIP.

\(^10\) A tri-party repo is one where a custodian bank acts as an intermediary between the two parties to the repo.

\(^11\) 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.

GCF Repo® service with the TPR recommended changes for the overall triparty market. Among other things, these changes include the following: (a) the move of the cut-off of GCF Repo® submissions from 3:35 p.m. to 3:00 p.m., (b) the move of the cut-off time for dealer affirmation or disaffirmation from 3:45 p.m. to 3:00 p.m. and (c) with respect to interbank GCF Repo® transactions, permitting cash and/or securities in the substitution process.

E. Cross-Margining with Chicago Mercantile Exchange

FICC has established a cross-margining arrangement with the Chicago Mercantile Exchange (the “CME”). In this arrangement, GSD and the CME each holds and manages its own positions and collateral, and independently determines the amount of margin that it will make available for cross-margining, referred to as the “residual margin amount” that remains after FICC and the CME conduct their own internal offset. FICC then computes the amount by which the cross-margining participant’s margin requirement can be reduced at each clearing organization—i.e., the “cross-margining reduction”—by comparing the participant’s positions and the related margin requirements at FICC as against those at the CME. FICC offsets each cross-margining participant’s residual margin amount (based on related positions) at FICC against the offsetting residual margin amounts of the participant (or its affiliate) at the CME. FICC and the CME may then reduce the amount of collateral that they collect to reflect the offsets between the cross-margining participant’s positions at FICC and its (or its affiliate’s) positions at the CME.

F. Risk Management

Risk management is the foundation for GSD’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 GSD’s Rules. GSD maintains strict membership standards, including minimum financial requirements, and Members are subject to ongoing review following admission. GSD’s Clearing Fund addresses potential Member exposure through a number of risk-based component charges (as margin) calculated and assessed daily. In addition, GSD maintains liquidity resources that include the following: (1) the cash portion of the Clearing Fund; (2) the cash that would be obtained by entering into repos using the securities portion of 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 (3) 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. GSD’s liquidity resources are described more extensively in the discussion of Liquidity Risk under Principle 7 of this Disclosure Framework.

In addition, if 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 GSD would receive funds to cover such loss (or part of the loss) from its cross-margining and cross-guaranty arrangements.

The Clearing Fund (which, in the aggregate, also operates as GSD’s default fund) 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. GSD’s key risk management practices and procedures, including its process for closing out the open positions of a defaulting Member and allocating any consequent

2014-02 (Securities Exchange Release No. 34-72457 (June 24, 2014), 79 FR 36856 (June 30, 2014)). Each of the rule filings can be found on FICC’s website at [www.dtcc.com](http://www.dtcc.com).
losses, are discussed in more detail under Principles 3 through 7 and Principle 13. To date, including through the 2008 and 2011 well-publicized broker-dealer closeouts, FICC has never invoked its participant loss allocation procedures.

G. Additional Services

In addition to the core services described above, GSD offers a comparison-only service that is not guaranteed by GSD and for which it does not act as a central counterparty.

II. Mortgage-Backed Securities Division

MBSD processes (1) to-be-announced ("TBA") transactions, which are trades for which the actual identities of and/or the number of pools underlying each trade are not agreed to at the time of trade execution and (2) specified pool trades, which are trades for which all pool data is agreed upon by the Members at the time of execution. TBA transactions are comprised of (i) settlement balance order destined trades ("SBOD trades"), (ii) trade-for-trade destined trades and (iii) TBA options trades.

MBSD’s processing of these eligible transactions, which are pass-through mortgage-backed securities issued by Government National Mortgage Association ("Ginnie Mae"), Federal National Mortgage Association ("Fannie Mae") and Federal Home Loan Mortgage Corporation ("Freddie Mac"), consists of the following steps: trade matching, TBA Netting, electronic pool notification allocation, pool comparison, Pool Netting and settlement.

MBSD’s trade comparison and TBA Netting systems form the basis of all of its other services. All compared trades will be risk managed by MBSD, but the remainder of their life cycle differs according to their trade type as noted below:

- Compared SBOD trades proceed to MBSD’s TBA Netting process, which is described in a subsequent section.

- Compared trade-for-trade destined trades are not eligible for TBA Netting, but pools must be allocated before they can be settled, and those pools are eligible for MBSD’s Pool Netting process.

- Compared specified pool trades are neither eligible for TBA Netting nor for Pool Netting. These trades settle bilaterally between Members outside of FICC.

- Compared option trades are not eligible for any netting process. Members also cannot allocate pools against option trades. Option trades must be bilaterally cancelled by both the buyer and the seller when the underlying TBA option is exercised or when it expires.13

A. Trade Comparison/Real-Time Trade Matching

13 MBSD does not generate any trade or settlement instructions upon exercise; if appropriate, Members must submit TBA trade instructions separately in accordance with the terms of the exercised option.
Similar to GSD, the crux of MBSD’s trade comparison system is its RTTM® service, which is described in Section I. A. above. Through this service, MBSD Members automate the submission and matching of their TBA trades and specified pool trades throughout the trading day.

As with GSD, a trade is deemed compared by MBSD at the point in time at which MBSD makes available to the Members on both sides of a transaction output (i.e., a report) indicating that their trade data have been compared. MBSD guarantees trade settlement at the point of comparison regardless of whether the trade is novated and settled versus FICC or novated and settled bilaterally between MBSD Members.

Once trade-for-trade destined transactions and specified pool trades are matched by MBSD, settlement obligations are established between the counterparties as these trades do not enter the TBA Netting process. SBOD trades proceed to the TBA Netting process after they are matched. TBA Options are canceled by both Members at the time the underlying option is exercised or reaches its expiration date.

B. TBA Netting

MBSD performs the TBA Netting process four times per month, corresponding to each of the four primary settlement classes and dates established by Securities Industry Financial Markets Association (“SIFMA”).

Three business days prior to the SIFMA established settlement date (referred to as “72 Hour Day”), TBA Netting for the applicable class occurs. On this date, all compared SBOD trades within the class that has been designated for the TBA Netting process are netted within and across counterparties. The net positions created by the TBA Netting process are referred to as the settlement balance order position (“SBO position”), which constitutes settlement obligations against which Members will submit pool information (“Pool Instructs”) for the Pool Netting process, which is described in further detail below.

As noted above, trade-for-trade destined transactions are not netted at the TBA level, but like the SBOD positions do constitute TBA settlement obligations against which Pool Instructs may be submitted. Specified pool trades are also not netted at the TBA level, nor do such trades enter the Pool Netting.

C. Electronic Pool Notification Allocation

Electronic Pool Notification (“EPN”) enables users to reduce risk and streamline their operations by providing an automated way for Members who have an obligation to deliver pools (“pool sellers”) to transmit pool information efficiently and reliably to their counterparties (“pool buyers”) in real time.

Two business days prior to the established settlement date of the TBA settlement obligations (known as “48 Hour Day”), pool allocations occur. On the 48 Hour Day, pool sellers must notify their pool buyers through the EPN system of the specific pools that such sellers intend to allocate in satisfaction of their SBOD positions and/or trade-for-trade destined transactions. Pool allocations occur for all TBA obligations, whether established on 72 Hour Day via the TBA Netting process or established upon comparison when the TBA trade-for-trade destined activity was submitted.

14 SIFMA publishes a calendar that specifies one settlement date per month for four different product classes (known as Classes A, B, C and D) that are used to categorize the various types of TBA securities. These product classes and the associated settlement dates are recognized by the industry, and they provide the foundation for MBSD’s TBA Netting process.
Pool allocations are not performed for specified pool trades because, as noted above, the pool that is to be delivered in connection with such trade is specified upon submission.

**D. Pool Comparison**

On 48 Hour Day, Members are also required to submit Pool Instructs via the RTTM® system for pool comparison, which is a prerequisite for P®Pool Netting. As with EPN allocation, Pool Instructs are to be submitted against all TBA obligations, whether stemming from the TBA Netting process or established upon comparison when the TBA trade-for-trade destined activity was submitted.

Pool data information on Pool Instructs must be bilaterally compared (i.e., the mandatory comparison pool data submitted by the seller must match the mandatory comparison pool data submitted by the buyer) in order for the Pool Instructs to be eligible for consideration for Pool Netting. Pool Instructs must further be “assigned” by MBSD to a valid open TBA position, meaning that the trade terms submitted on the Pool Instruct must match the trade terms of a TBA CUSIP that has a sufficient open position. Only compared and assigned Pool Instructs are evaluated for inclusion in Pool Netting.

**E. Pool Netting**

MBSD’s Pool Netting process reduces the number of pool settlements by netting Pool Instructs stemming from TBA Netting Process and trade-for-trade destined activity to arrive at a single net position in a particular pool number for next-day delivery date. Although Pool Netting runs daily, the majority of Pool Netting activity follows the SIFMA calendar.

MBSD’s system will determine which pools will receive maximum benefit from Pool Netting by considering such factors as trading velocity and projected netting factor. In order to encompass only the most actively traded pools with significant netting potential, MBSD has established the following eligibility criteria: 1) the total par (current face) of all Pool Instructs across all Members in a given pool must meet a minimum (configurable) requirement and 2) the percentage of sides that would be eliminated via netting must meet a minimum (configurable) requirement. MBSD believes that this approach avoids the imposition of additional settlement costs on Members for thinly traded pools.

At the start of each netting cycle, all Pool Instructs active in the system are evaluated for potential inclusion in Pool Netting. Any Pool Instruct not included in the selection process for Pool Netting, such as unassigned Pool Instructs or Pool Instructs in pending status (pending status occurs if a Member submits a pool number that FICC does not have complete information on or if FICC deems that the pool number should not be netting eligible), will be purged from the system. These transactions must be settled directly between allocation counterparties outside of FICC. Pool Instructs in a customer delivery request ("CDR") state are precluded from operational netting; however, the current face of all long CDR Pool Instructs are totaled to establish an aggregated long CDR amount, and the current face of all short CDR Pool Instructs are totaled to establish an aggregated short CDR amount.

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15 In order to be included in this selection process, Pool Instructs must have (i) the same contractual settlement date, (ii) a delivery date equal to the next business date, (iii) been compared and (iv) been correlated and assigned to a TBA position when pool netting commences (i.e., have been “assigned”).
All Pool Instructs selected for Pool Netting will be aggregated to arrive at a single net position in each pool number that the Member must either deliver or receive. Upon FICC’s issuance of Pool Netting results to Members, “novation” occurs, i.e., TBA settlement obligations between the parties are cancelled and replaced with obligations to settle with FICC.

F. Settlement

(i) Settlement with FICC as Counterparty

Similar to GSD, MBSD employs the settlement services of BNY and JPM. Prior to an entity activating its membership, MBSD informs the Member of the clearing bank(s) that MBSD will use to deliver eligible securities to Members and to receive eligible securities from Members. Each Member also informs MBSD of the clearing bank(s) that the Member has designated to act on its behalf in the delivery of securities to MBSD and in the receipt of securities from MBSD.

On each business day, MBSD makes available to each Member output (i.e., a report) that provides information that MBSD 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 MBSD, then provides appropriate instructions to its clearing bank to deliver to MBSD, and/or to receive from MBSD, 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.

(ii) Settlement outside of FICC

Unlike GSD, certain obligations among MBSD members settle outside of FICC. These obligations include (1) Pool Instructs that are not included in Pool Netting (either because they are ineligible or because they do not meet selection criteria for inclusion in the net) and (2) specified pool trades, which are not eligible for Pool Netting. As a result, Members are required to settle such transactions bilaterally with applicable settlement counterparties outside of FICC. Members must report that an obligation has settled outside FICC by submitting a Notification of Settlement (“NOS”) to MBSD for pool settlements relating to all trade types, with the exception of option trades. This is required because MBSD will not know which pools have actually settled directly between its Members unless it receives a separate notification. NOS are subject to bilateral matching by RTTM®. Once the mandatory details on the NOS submitted by both Members are compared, the associated obligation is deemed to have settled and will therefore no longer be subject to MBSD’s risk management calculations.

G. Risk Management

Risk management is the foundation for MBSD’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 MBSD’s Rules. MBSD maintains strict membership standards, including minimum financial requirements, and Members are subject to ongoing review following admission. MBSD’s Clearing Fund addresses potential Member exposure through a number of risk-based component charges (as margin) calculated and assessed daily. The liquidity resources of the FICC include the following: (1) the cash portion of the Clearing Fund; (2) the cash that would be obtained by entering into repos using the securities portion of 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 (3) 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. MBSD also maintains the Capped Contingency Liquidity Facility (“CCLF®”), which is a supplemental liquidity contingency option. MBSD’s liquidity resources are described more extensively in the discussion of Liquidity Risk under Principle 7 of this Disclosure Framework.

In addition, if MBSD 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 MBSD would receive funds to cover such loss (or part of the loss) from its cross-guaranty arrangement. The Clearing Fund (which, in the aggregate, also operates as MBSD’s default fund) 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. MSBD’s key risk management practices and procedures, including its process for closing out the open positions of a defaulting Member and allocating any consequent losses, are discussed in more detail under Principles 3 through 7 and Principle 13. To date, including through the 2008 and 2011 well-publicized broker-dealer closeouts, FICC has never invoked its Member loss allocation procedures.

H. Additional Services

In addition to the core services described above, MBSD offers an EPN-only service that is not guaranteed by MBSD and for which it does not act as a central counterparty.\(^{16}\)

\(^{16}\) MBSD Members are required to be EPN Members; however, one can be an EPN Member only and not a full-service Member with access to MBSD’s guaranteed central counterparty services. The EPN services are described in the EPN Rules, which are available at www.dtcc.com.
C. Key Metrics as of June 30, 2014

FICC’s Quantitative Metrics

Transaction Volumes and Values
for the 12-month period ending June 30, 2014

<table>
<thead>
<tr>
<th></th>
<th>GSD (1)</th>
<th>MBSD (2)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number of Transactions</td>
<td>Number of Transactions</td>
</tr>
<tr>
<td></td>
<td>(gross)</td>
<td>(gross)</td>
</tr>
<tr>
<td>Total volume</td>
<td>36.3 million</td>
<td>3.6 million</td>
</tr>
<tr>
<td>Average daily volume</td>
<td>145 thousand</td>
<td>14 thousand</td>
</tr>
<tr>
<td>Peak daily volume</td>
<td>334 thousand (on May 14, 2014)</td>
<td>25 thousand (on July 9, 2013)</td>
</tr>
<tr>
<td></td>
<td>$1,009.6 trillion</td>
<td>$63.7 trillion</td>
</tr>
<tr>
<td></td>
<td>$4.0 trillion</td>
<td>$254.7 billion</td>
</tr>
<tr>
<td></td>
<td>$5.8 trillion (on December 30, 2013)</td>
<td>$657.5 billion (on July 9, 2013)</td>
</tr>
</tbody>
</table>

(1) Includes buy-sell in-net transactions, DVP repo in-net transactions and GCF Repo® in-net transactions. Each buy or sell side and each repo or reverse side is counted as a separate transaction.

(2) Includes Settlement Balance Order Destined (SBO) trades, Trade-for-Trade Destined (TFTD) trades and Option (OPTN) trades. Each buy or sell side is counted as a separate transaction.

Average Aggregate Daily Clearing Fund Requirement
for the 12-month period ending June 30, 2014

- Daily start-of-day Clearing Fund requirement aggregated across all GSD members averaged $9.1 billion for the period.
- Daily start-of-day Clearing Fund requirement aggregated across all MBSD members averaged $6.3 billion for the period.
## Clearing Fund deposits—split by cash/non-cash

### as of June 30, 2014

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clearing Fund cash deposits</td>
<td>$11,168,240</td>
</tr>
<tr>
<td>Clearing Fund securities deposits, at fair value</td>
<td>$8,572,815</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$19,741,055</strong></td>
</tr>
</tbody>
</table>

## Investments of Clearing Fund cash deposits

### as of June 30, 2014

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reverse repurchase agreements</td>
<td>$3,590,000</td>
</tr>
<tr>
<td>Money market mutual funds investments</td>
<td>$6,678,000</td>
</tr>
<tr>
<td>Bank deposits</td>
<td>$200,240</td>
</tr>
<tr>
<td>Commercial paper bank sweep deposits</td>
<td>$500,000</td>
</tr>
<tr>
<td>Treasury bills</td>
<td>$200,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$11,168,240</strong></td>
</tr>
</tbody>
</table>

## Operational Systems Reliability:

Scheduled DTCC mainframe system uptime for the 12-month period ending June 30, 2014 was 100%.

For distributed systems, we do not currently measure individual system availability and instead look at the overall business service levels encompassing both mainframe and distributed systems. We utilize the IT Service Level Index to measure and track performance against Service Level Agreements (SLAs) across DTCC product areas. This is a blended SLA score that reflects both service performance and service availability.

Beginning January 1, 2014, we have been calculating a Core IT SLA Index, which excludes SLAs that are not related to DTCC’s SIFMUs. The aggregate performance against this Core IT SLA Index for the six-month period ending June 30, 2014 is 99.8%.
IV. Principle-by-Principle Summary Narrative Disclosure

Principle 1: Legal basis

An FMI should have a well-founded, clear, transparent, and enforceable legal basis for each material aspect of its activities in all relevant jurisdictions.

Key consideration 1: The legal basis should provide a high degree of certainty for each material aspect of an FMI’s activities in all relevant jurisdictions.

Key consideration 2: An FMI should have rules, procedures, and contracts that are clear, understandable, and consistent with relevant laws and regulations.

Key consideration 3: An FMI should be able to articulate the legal basis for its activities to relevant authorities, participants, and, where relevant, participants’ customers, in a clear and understandable way.

Key consideration 4: An FMI should have rules, procedures, and contracts that are enforceable in all relevant jurisdictions. There should be a high degree of certainty that actions taken by the FMI under such rules and procedures will not be voided, reversed, or subject to stays.

Key consideration 5: An FMI conducting business in multiple jurisdictions should identify and mitigate the risks arising from any potential conflict of laws across jurisdictions.

Legal basis for material aspects of FICC’s operations; relevant jurisdictions

FICC has a well-founded, clear, transparent and enforceable legal basis for each material aspect of its activities in all relevant jurisdictions.

With respect to each Division, the material aspects of FICC’s activities include: (1) trade comparison, recording and validation, (2) trade guarantee, netting and novation of delivery and receive obligations, (3) funds netting and position netting, (3) funds settlement and finality, (4) risk management and collateral arrangements, (5) default procedures and liquidity resources (including closing out a defaulting member’s open positions and closeout netting) and (6) links with other clearing organizations (i.e., FICC’s cross-margining agreement with the CME and the multilateral netting contract and limited cross-guaranty agreement with DTC, NSCC and the Options Clearing Corporation (“OCC”)).

In evaluating the legal basis for FICC’s core activities, the United States is the critical venue for FICC’s operations and the markets it serves, the location of collateral held by FICC, and with respect to each Division, the principal location of its customers, clearing banks and settling banks. FICC is a New York corporation, and New York is also a principal focus of its activities, including the location of its chief executive offices; New York law is expressly provided to govern the GSD’s Rules and MBSD’s Rules and FICC’s liquidity arrangements.

All FICC Members are required to execute membership agreements under which they agree to be bound by the applicable Division’s Rules. Entities acting as settling banks on behalf of Members execute agreements covering such arrangements, and are required, under the Rules, to be “Funds-Only Settling Bank Members” with respect to GSD or “Cash Settling Bank Members” with respect to MBSD; as such they execute a membership agreement under which they also agree to be bound by the applicable Division’s Rules (which include the requirements for the funds-only settlement/cash settlement process at each Division). Each Division’s Rules are public, and can readily be found on the DTCC website, www.dtcc.com.
FICC ensures that its legal basis provides a high degree of legal certainty for each material aspect of its activities in all relevant jurisdictions:

1. By structuring each Division’s activities and Rules in accordance with the laws of the relevant jurisdictions.

With respect to each Division, FICC’s activities and its Rules are structured in accordance with the laws of the State of New York and the United States. The principal laws comprising the legal framework under which FICC operates include: (1) the Exchange Act, (2) the New York Business Corporation Law, (3) the New York Uniform Commercial Code (the “New York UCC”), particularly Articles 8 and 9, (4) the Securities Act of 1933, as amended, (5) the Federal Deposit Insurance Act, as amended (“FDIA”), (6) the United States Bankruptcy Code (the “Bankruptcy Code”), (7) the Federal Deposit Insurance Corporation Improvement Act of 1991, as amended (“FDICIA”), (8) Dodd-Frank, particularly Title II, regarding orderly liquidation authority (“OLA”), and Title VIII, referred to as the “Payment, Clearing and Settlement Supervision Act of 2010” and (9) the Securities Investor Protection Act of 1970, as amended (“SIPA”).

The ability of FICC to enforce each Division’s Rules to accomplish its core clearance and settlement and risk management functions has been repeatedly confirmed through analogous court decisions with respect to its clearing agency affiliates, NSCC and DTC. Moreover, courts have routinely held that state-law challenges to the existence or operation of clearing agency-related SEC-approved programs are federally preempted because they conflict with congressional directives as set forth in Section 17A of the Exchange Act.

2. Through the Proposed Rule Change and Advance Notice Processes.

The Exchange Act provides a clear framework under which each Division’s Rules are adopted and enforced. Each Division’s Rules are filed with and reviewed by the SEC. As a clearing agency registered under Section 17A of the Exchange Act, a self-regulatory organization subject to Section 19 of the Exchange Act and a designated financial market utility under Title VIII of Dodd-Frank, FICC is required to follow (1) a specified process whenever it proposes a new rule or a change or amendment to

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17 See generally Pet Quarters, Inc. et al. v. Depository Trust and Clearing Corporation et al., 559 F.3d 772 (8th Cir. 2009); Whistler Investments, Inc., et al. v. The Depository Trust and Clearing Corporation et al., 539 F.3d 1159 (9th Cir. 2008); Nanopierce Technologies, Inc. et al. v. The Depository Trust and Clearing Corporation et al., 168 P.3d 73 (Nev. 2007).

18 The aforementioned cases involve FICC’s affiliates, DTC and NSCC. See Whistler Investments, 539 F.3d at 1167 (affirming the district court’s dismissal of all claims on the grounds of preemption by Section 17A of the Exchange Act); Pet Quarters, 559 F.3d at 780; Nanopierce Technologies, 168 P.3d at 76 (concluding that “because the state law on which [plaintiffs] base their claims poses an obstacle to [DTC’s and NSCC’s] accomplishment of congressional objectives as explicitly stated in and gleaned from the Securities Exchange Act’s framework, and because [DTC’s and NSCC’s] compliance with both state and federal requirements concerning the securities transactions at issue in this case is impossible, section 17A of the Securities Exchange Act preempts [plaintiffs’] claims.”).

19 Each Division’s Rules, as originally in effect at the time of its registration as a clearing agency, were filed with and reviewed by the SEC as part of the clearing agency registration process.

20 This process is set forth in Section 19(b) of the Exchange Act and Exchange Act Rule 19b-4.
each Division’s Rules (a “Proposed Rule Change,” and the process, the “Proposed Rule Change Process”) and (2) a specified process\textsuperscript{21} whenever it proposes to make a change to its rules, procedures or operations that could materially affect the nature or level of risks presented by FICC (a “Material Change,” and the process, the “Advance Notice Process”).

Under the Proposed Rule Change Process, generally, before a Proposed Rule Change may take effect, (1) the change and an explanatory statement must be filed with the SEC and posted by FICC on DTCC’s website, (2) notice of the filing and the substantive terms or description of the change must be published by the SEC in the Federal Register for public review and comment and (3) the SEC must approve the change (or the change must otherwise be permitted\textsuperscript{22} to take effect). The SEC is required to disapprove a Proposed Rule Change if it does not find that the change is consistent with the requirements of the Exchange Act and the rules and regulations thereunder that are applicable to FICC.

Similar submission, disclosure and publication requirements apply to the Advance Notice Process, where, generally, FICC must provide 60 days advance notice to the SEC (an “Advance Notice”) before a Material Change may take effect, describing the nature of the change, its expected effects on risks to FICC, its Members or the market, and how FICC plans to manage any identified risks. A copy of the notice must also be (1) provided by FICC to the Board of Governors of the Federal Reserve System (the “FRB”), (2) posted by FICC on DTCC’s website and (3) published by the SEC in the Federal Register for public review and comment. The SEC must consult with the FRB in regard to a Material Change, and may object to the change if it determines that the change would be inconsistent with the objectives and principles for risk management standards described in Section 805(b) of Dodd-Frank or the rules and regulations thereunder that are applicable to FICC.

3. By requiring or otherwise obtaining legal opinions, analyses or advice.

FICC requires applicants for membership to provide a legal opinion to the effect that the membership agreement (which incorporates the Rules) will be binding and enforceable on the applicant when it becomes a Member. To the extent that the applicant is organized under the laws of a jurisdiction outside of the United States, the required opinion must, in addition, specifically address issues such as FICC’s ability to enforce each Division’s Rules (including its netting, guaranty, novation of delivery and receive obligations, and default management rules) under the applicable insolvency rules of the applicant’s home jurisdiction, and the enforceability of the choice of New York law to govern the agreement and the Rules. FICC also obtains legal analyses or advice as it deems appropriate in connection with new services, changes in law and other matters.

**FICC’s role as CCP, trade guaranty and netting**

FICC’s authority to clear and settle securities transactions and act as a CCP is provided through its registration as a clearing agency under the Exchange Act. The New York law of contracts provides the legal basis under which FICC guarantees trades and becomes a CCP through novation. The timing of

\textsuperscript{21} This process is set forth in Section 806(e) of Dodd-Frank and Exchange Act Rule 19b-4.

\textsuperscript{22} In certain limited circumstances, including fee changes, Proposed Rule Changes may become effective upon filing. Proposed Rule Changes may also become effective summarily if it appears to the SEC that such action is necessary for the protection of investors, the maintenance of fair and orderly markets, or the safeguarding of securities or funds. However, any Proposed Rule Change that becomes effective upon filing or summarily is subject to the SEC’s right to take action thereafter.
FICC’s guarantee and the timing of novation are clearly set forth in each Division’s Rules; the Rules generally provide that with respect to each Division, FICC guarantees settlement and completion of compared trades and serves as the central counterparty for settlement obligations that it novates.

As regards netting, FICC’s legal basis supports the enforceability of its netting arrangements. As a general matter, U.S. law supports netting arrangements relating to securities transactions. In particular, the definition of “clearing agency” in the Exchange Act clearly recognizes that one of the roles of a clearing agency is to “reduce the number of settlements of securities transactions.” FDICIA supports “netting contracts” (which include the rules of a clearing organization) providing for the netting of payment obligations and payment entitlements between and among clearing organizations and their members (including liquidation or closeout values relating to such obligations or entitlements). “Payment” includes both cash payments and noncash deliveries. Each Division’s Rules (including the netting and limited cross guaranty agreements with other clearing agencies to which FICC is a party23) are a “netting contract” within the meaning of FDICIA.

The provisions of FDICIA applicable to clearing organization netting override any conflicting provisions of state or federal law (except to the extent expressly stated to be applicable). The netting provisions of FDICIA were designed to reduce systemic risk to the financial markets. In addition, amendments to FDICIA, the Bankruptcy Code, SIPA and FDIA in 2005 and 2006 (the “2005/2006 Amendments”) include provisions that validate master netting agreements in respect of securities, commodities, forward, swap and repurchase transactions. The foregoing provisions also support the cross-margining arrangement between FICC and the CME.

**FICC’s legal basis supports the finality of transfers of financial instruments and funds, and the effectiveness of its risk management and default procedures (including the closeout of positions of an insolvent Member).**

Each Division’s Rules provide (1) the timing of, and requirements for, settlement, and (2) procedures that will be followed in the event of a failure of a Member to perform its obligations, including the insolvency of a Member. As a general matter, U.S. law, including Articles 8 and 9 of the New York UCC, FDICIA, the Bankruptcy Code, SIPA and Title II of Dodd-Frank support the settlement of securities transactions in accordance with each Division’s Rules, and the ability of FICC to effectuate its risk management and default rules (including closing out the open positions of an insolvent Member).

*Settlement Finality.* Each Division’s Rules (GSD Rule 12 and MBSD Rule 9) provide that all securities settlements are to be effected on a delivery versus payment basis. The legal basis is provided by the New York law of contracts (including the NYUCC).

GSD funds-only settlement (GSD Rule 13) and MBSD cash settlement (MBSD Rule 11) are described more fully in Principle 9 (Money settlements). Cash debits and credits are paid out via the Federal Reserve’s National Settlement Service (“NSS”) through the use of cash settling banks appointed by Members, with DTC assuming the role of FICC’s settlement agent in NSS. The individual debits and credits of all Members (in the respective Division) using the same settling bank are totaled. Once the net debits/credits are approved at the bank level, the Federal Reserve debits or credits each bank. The banks

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23 These arrangements are described under Principles 9 (Money settlements) and 13 (Participant default rules and procedures).
then debit or credit each Member’s accounts for which the bank settles. Funds transfers become final at the time of the funds’ movements, per Federal Reserve requirements regarding NSS.24

**Risk Management and Default Procedures.** Each Division’s Rules also provide risk management tools: GSD Rule 4 and MBSD Rule 4, as applicable, provide for the Clearing Fund formula, collection of Clearing Fund (margin) from Members, the form and manner in which such funds or collateral is provided, and the means by which losses are to be allocated. In addition, GSD Rule 3 and MBSD Rule 3, as applicable, provide FICC with the ability to obtain adequate assurances of a Member’s ability to perform its operational and financial obligations. Additionally, the cross-guaranty arrangements described under Principles 9 (Money settlements) and 13 (Participant default rules and procedures) are structured as netting contracts under FDICIA.

Legal support for the validity of the foregoing provisions, including the validity of FICC’s lien and collateral protections, is found principally in the New York UCC (Articles 8 and 9) and New York general contract law.

In the case of a Member default or insolvency, FICC may cease to act for the Member, and in that event, proceed to close out the open positions of the Member25, and once that is completed, determine a net gain or loss on the closeout of those positions.26 GSD Rule 21 (Restrictions on Access to Services) and Rule 22 (Insolvency of a Member), and MBSD Rule 14 (Restrictions on Access to Services) and Rule 16 (Insolvency of a Member), set out the circumstances under which FICC may cease to act for a Member, and the types of actions it may take.

As discussed more fully below, clearing agency closeout provisions (including access to and retention of collateral) are supported (with limited exceptions) under FDICIA, the Bankruptcy Code, SIPA, FDIA and OLA.

(a) **FDICIA**

As noted above, FDICIA supports the effectiveness of “netting contracts,” which include the rules of a clearing organization, providing for the netting of payment obligations and payment entitlements between and among clearing organizations and their members (including liquidation or closeout values relating to such obligations or entitlements). “Payment” includes both cash payments and noncash deliveries. Each Division’s Rules are a “netting contract” within the meaning of FDICIA.

Further, Section 404(h) of FDICIA provides that the provisions of any security agreement or arrangement or other credit enhancement related to one or more netting contracts between any two members of a clearing organization shall be enforceable in accordance with their terms (with a limited exception for certain contracts of commodity brokers not relevant to FICC), and shall not be stayed, avoided or otherwise limited by any State or Federal law (except to the extent expressly stated to be applicable).

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24 NSS is governed by Federal Reserve Bank Operating Circular 12 (Multilateral Settlement).

25 With respect to such defaulting Member, under GSD Rule 22 and MBSD Rule 17 FICC will generally exit from its system those transactions that have not reached the point where FICC’s trade guaranty attaches, unless the Board of Directors determines otherwise.

26 The process by which FICC closes out transactions of a defaulting Member is described in greater detail under Principle 13 (Participant default rules and procedures).
FDICIA also provides that (1) Section 404 of FDICIA shall be given effect notwithstanding that a Member is a failed Member, and (2) no stay, injunction, avoidance, moratorium or similar proceeding or order, whether issued or granted by a court, administrative agency or otherwise, shall limit or delay application of otherwise enforceable netting contracts in accordance with Section 404 of FDICIA.

(b) The Bankruptcy Code, SIPA, FDIA and Title II of Dodd-Frank

The insolvency regime applicable to any FICC Member is determined by the form of organization of the Member and its regulatory oversight; these regimes include Chapter 11 of the Bankruptcy Code (reorganization), subchapters III and IV of Chapter 7 of the Bankruptcy Code (liquidation), SIPA (with respect to members of the Securities Investor Protection Corporation (“SIPC”)), FDIA (with respect to insured depository institutions) and Title II of Dodd-Frank regarding OLA (with respect to covered financial companies).

The insolvency of a FICC Member that is not a member of SIPC, insured depository institution or covered financial company is typically handled under Chapter 11 of the Bankruptcy Code or subchapter III or IV of Chapter 7 of the Bankruptcy Code. Although the automatic stay, prohibitions on ipso facto provisions and avoidance powers of the bankruptcy trustee are generally applied with respect to cases conducted under Chapters 11 and 7 of the Bankruptcy Code, the Bankruptcy Code contains various exceptions and safe harbors to those provisions that support the finality of securities transactions processed through securities clearing agencies and the clearing agency’s closeout of the insolvent member’s open positions. The Bankruptcy Code also provides similar exceptions and safe harbors that apply to master netting agreement participants with respect to master netting agreements.

The insolvency of a FICC Member that is a member of SIPC and whose customers would be entitled to advances from the SIPC fund created under SIPA to protect customers is handled under SIPA. Although SIPC proceedings generally involve (1) a protective decree of a federal district court that, among other things, freezes a Member’s assets, and (2) the application of the Bankruptcy Code’s automatic stay and avoidance powers of the trustee, there are exceptions in SIPA and exceptions that are typically included in protective decrees that support the finality of securities transactions processed through securities clearing agencies and their ability to close out the open positions of the insolvent Member. The insolvency and receivership of a FICC Member that is an insured depository institution is handled under FDIA. Although stays, prohibitions on walkaway provisions, avoidance powers of the Federal

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27 Examples of such exceptions include: Sec. 362(b)(6) (exemptions from the automatic stay); Sec. 546(e) (limitations on avoidance powers); Sec. 555 (contractual right to liquidate, terminate or accelerate a securities contract); Sec. 561 (contractual right to terminate, liquidate, accelerate or offset under a master netting agreement and across contracts; proceedings under chapter 15).

28 Examples of these exceptions include 15 U.S.C. §78eee(b)(2)(C), which provides that the automatic stay shall not apply to “any contractual rights [including rights set forth in a rule or bylaw of a securities clearing agency] of a creditor to liquidate, terminate, or accelerate a securities contract, commodity contract, forward contract, repurchase agreement, swap agreement or master netting agreement as those terms are defined [in the Bankruptcy Code], to offset or net termination values, payment amounts, or other transfer obligations arising under or in connection with one or more such contracts or agreements, or to foreclose on any cash collateral pledged by the debtor, whether or not with respect to one or more such contracts or agreements.” Moreover, protective decrees often recite many of the stay exceptions found in the Bankruptcy Code and SIPA and also contain additional stay exceptions not contained in the Bankruptcy Code and SIPA, including those designed to enable clearing agencies to timely effectuate a closeout.
Deposit Insurance Corporation ("FDIC") and powers of the FDIC to disaffirm or repudiate certain contracts and leases are generally applied with respect to cases under FDIA, there are exceptions and safe harbors in FDIA that support settlement of securities transactions through clearing agencies.\(^{29}\)

FDIA does provide for a one-business-day stay of closeout actions while the FDIC determines whether to transfer all the insured depository institution’s positions to a successor institution. In the event that the FDIC is appointed as receiver for a Member, FICC expects to be in discussions with the FDIC regarding FICC’s acceptance of such a successor institution as a substitute Member.

The provisions of Title II of Dodd-Frank regarding OLA provide for the appointment of the FDIC as receiver for certain systemically significant entities (defined in Title II of Dodd-Frank as “covered financial companies”). As under FDIA, stays, prohibitions on walkaway provisions, avoidance powers of the FDIC and powers of the FDIC to disaffirm or repudiate certain contracts and leases are generally applied with respect to cases under OLA, with exceptions and safe harbors under OLA similar to FDIA that support settlement of securities transactions through clearing agencies. As under FDIA, OLA provides for a one-business-day stay of closeout actions while the FDIC determines whether to transfer all the covered financial company’s positions to a successor institution. In the event that the FDIC is appointed as receiver for a Member under OLA, FICC expects to be in discussions with the FDIC regarding FICC’s acceptance of such a successor institution as a substitute Member.

\textit{Transparency of each Division’s Rules}

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

FICC makes the following resources, among others, available to the public on the DTCC website: (1) each Division’s Rules; (2) filings of Proposed Rule Changes and Advance Notices; (3) white papers and other reports addressing initiatives under consideration or in process, or other issues of import to stakeholders, including the membership; (4) Important Notices that address issues of import to each Division’s membership (including notice of when FICC ceases to act for a Member, and information as to how it will handle pending transactions of the defaulting Member), and (5) this Disclosure Framework and/or FICC’s prior assessments of GSD against the CPSS-IOSCO Recommendations for Central Counterparties.\(^{30}\) FICC also makes available, on request by a Member, a Handbook, with respect to each

\(^{29}\) Examples of these exceptions and safe harbors include 12 U.S.C. §1821(e)(8), which provides that, notwithstanding any Federal or State law relating to the avoidance of preferential or fraudulent transfers, the FDIC, whether acting as such or as conservator or receiver of an insured depository institution, “may not avoid any transfer of money or other property in connection with any qualified financial contract [including a securities contract] with an insured depository institution” (except in cases involving an intent to hinder, delay or defraud). It also provides for (1) the right to liquidate a qualified financial contract (“QFC”) with an insured depository institution arising upon the appointment of the FDIC as receiver at any point after such appointment; (2) the right to exercise any right under a security agreement or other credit enhancement that relates to one or more such QFCs; and (3) the right to offset or do closeout netting in connection with one or more such QFCs, including under any master agreement (such as each Division’s Rules).

\(^{30}\) FICC has only published CPSS-IOSCO self-assessments for GSD because MBSD was not approved for CCP services until 2012.
Division, that describes each Division’s products and services, eligibility, risk management procedures and other key risk concerns.

The Proposed Rule Change Process and Advance Notice Process, as described above, provide for proposed changes to be made available publicly—both by the SEC by publication in the Federal Register,\(^3\) and by FICC by posting on the DTCC website. Interested parties are provided an opportunity to comment publicly on such proposals, including the ability to raise any applicable concerns. Any such concerns would be addressed or responded to as part of the SEC’s review and approval/non-objection process.

The SEC is required to disapprove a Proposed Rule Change if it does not find that the change is consistent with the requirements of the Exchange Act and the rules and regulations thereunder that are applicable to FICC. Similarly, the SEC may object to a Material Change that is the subject of an Advance Notice if it determines that the change is inconsistent with the objectives and principles for risk management standards described in Section 805(b) of Dodd-Frank or the rules and regulations thereunder that are applicable to FICC.

**Degree of certainty for rules and procedures; conflict of laws issues**

FICC achieves a high level of confidence that the rules, procedures and contracts related to its operations are enforceable in all relevant jurisdictions:

1. By obtaining legal opinions, analyses and advice and other legal comfort.

Each Division’s Rules and, generally, FICC’s material contracts, are (1) governed by the laws of the State of New York and (2) subject to the jurisdiction of federal and New York state courts located in New York. As described above, U.S. and New York law provide a clear and comprehensive framework for the enforceability of each Division’s Rules and material contracts.

FICC identifies, analyzes and mitigates legal risks arising from potential conflict-of-law issues in a variety of ways. FICC’s operations are based in the United States, and each Division’s Members are predominantly U.S.-domiciled entities. With respect to membership of non-U.S. entities, GSD Rule 2A and MBSD Rule 2A, as applicable, set forth the clearing agency’s policy with respect to such admissions. Among the requirements for such applicants is the provision of a legal opinion of counsel qualified in the applicant’s home jurisdiction, to the effect that (1) the choice of New York law and the submission to jurisdiction of the federal and New York state courts located in New York will be enforceable against the Member in its home jurisdiction, and (2) the foreign jurisdiction will recognize the judgment of a federal or state court located in New York. In addition, as noted above, the opinion must specifically address issues such as the CCP’s ability to enforce its rules (including its netting, guaranty, novation and default management rules) under the applicable insolvency rules of the applicant’s home jurisdiction. These opinions facilitate analysis of any legal risk that may arise as a result of the applicant’s participation in FICC. FICC can mitigate conflicts of laws risks or other legal risks that may be identified as a result of

\(^3\) The SEC also makes proposed changes publicly available by posting on its website.
such opinions and analysis by, among other things, imposing conditions on membership or additional requirements and/or requiring special representations from an applicant.32

FICC also obtains legal opinions, analyses and/or advice, as it deems necessary or appropriate, to confirm, among other things, that each Division’s Rules and material contracts are consistent with relevant laws and regulations prior to becoming effective. FICC will also obtain legal opinions, analyses and/or advice in the future, as it deems necessary or appropriate, to address new services, changes in law or other matters.

2. Through the Proposed Rule Change and Advance Notice Processes.

As noted above, generally before a Proposed Rule Change may take effect, the SEC must approve the change. In order to do so, it must determine that the change is consistent with the requirements of the Exchange Act. Similarly, generally before a Material Change takes effect, the SEC may object to the change if it determines that the change is inconsistent with the objectives and principles for risk management standards described in Section 805(b) of Dodd-Frank or the rules and regulations thereunder that are applicable to FICC. These processes, together with the opportunity for public review and comment provided thereby, provide a clear record and statutory basis for the enforceability of each Division’s Rules. The ability of FICC to enforce each Division’s Rules has been repeatedly confirmed throughout its years of operations.

32 For example, GSD Rule 4 (Clearing Fund and Loss Allocation) and MBSD Rule 4 (Clearing Fund and Loss Allocation) provide that FICC reserves the right to require the entity to deposit additional amounts to the Clearing Fund where FICC believes the entity may present a legal risk.
Principle 2: Governance

An FMI should have governance arrangements that are clear and transparent, promote the safety and efficiency of the FMI, and support the stability of the broader financial system, other relevant public interest considerations, and the objectives of relevant stakeholders.

Key consideration 1: An FMI should have objectives that place a high priority on the safety and efficiency of the FMI and explicitly support financial stability and other relevant public interest considerations.

Key consideration 2: An FMI should have documented governance arrangements that provide clear and direct lines of responsibility and accountability. These arrangements should be disclosed to owners, relevant authorities, participants, and, at a more general level, the public.

Key consideration 3: The roles and responsibilities of an FMI’s board of directors (or equivalent) should be clearly specified, and there should be documented procedures for its functioning, including procedures to identify, address, and manage member conflicts of interest. The board should review both its overall performance and the performance of its individual board members regularly.

Key consideration 4: The board should contain suitable members with the appropriate skills and incentives to fulfill its multiple roles. This typically requires the inclusion of non-executive board member(s).

Key consideration 5: The roles and responsibilities of management should be clearly specified. An FMI’s management should have the appropriate experience, a mix of skills, and the integrity necessary to discharge their responsibilities for the operation and risk management of the FMI.

Key consideration 6: The board should establish a clear, documented risk management framework that includes the FMI’s risk-tolerance policy, assigns responsibilities and accountability for risk decisions, and addresses decision making in crises and emergencies. Governance arrangements should ensure that the risk management and internal control functions have sufficient authority, independence, resources, and access to the board.

Key consideration 7: The board should ensure that the FMI’s design, rules, overall strategy, and major decisions reflect appropriately the legitimate interests of its direct and indirect participants and other relevant stakeholders. Major decisions should be clearly disclosed to relevant stakeholders and, where there is a broad market impact, the public.

Ownership and Board Structure

FICC is a wholly owned subsidiary of DTCC. DTCC is user owned and governed pursuant to a Shareholders Agreement.33 The DTCC common shareholders include approximately 315 banks, broker-dealers and other companies in the financial services industry that are participants of one or more of DTCC’s clearing agency subsidiaries, including FICC. DTCC common shares are allocated to

33 DTCC’s Third Amended and Restated Shareholders Agreement dated December 7, 2005 (the “Shareholders Agreement”).
participants in accordance with a formula based on their relative usage of the services of the three clearing agencies.

Individuals elected to the DTCC Board of Directors are also elected to the Boards of Directors of FICC and of its affiliates, DTC and NSCC, and these boards generally operate together with the DTCC Board (collectively, the “Board”). DTCC (and FICC) is a New York business corporation. As such, DTCC’s business is subject to the oversight of the Board, and managed on a day-to-day basis by DTCC’s senior management.

The Board is currently composed of 19 directors. Twelve of the directors represent clearing agency participants, including international broker/dealers, custodian and clearing banks and investment institutions (“participant directors”); three are non-participant directors (non-participant directors”); two directors are designated by DTCC’s preferred shareholders (NYSE and the Financial Industry Regulatory Authority); and two are management directors, DTCC’s Executive Chairman and the President and Chief Executive Officer. The non-participant directors are not employed by any financial institution user of DTCC’s services. Non-participant directors were added in 2010 to bring additional skills and expertise to the Board, mitigate potential conflicts of interest among participant directors and introduce different perspectives. Collectively, the participant directors, non-participant directors, management directors and representatives of the preferred shareholders provide a diverse representation of DTCC’s stakeholders and ensure that the broad interest of the public is represented. All directors, except those designated by the preferred shareholders, are elected annually to one-year terms.

As noted in the Board of Directors Mission Statement and Charter (available on the DTCC website), the Board is responsible for providing direction to and overseeing the conduct of the affairs of the corporation in the interests of the corporation, its shareholders and other stakeholders including investors, issuers and participants in the financial markets that DTCC serves. The Board plays a key role in policy development as well as establishment of corporate objectives, financial management and operational planning.

The names and backgrounds of the members of the Board and DTCC senior management are available on the DTCC website.

**Mission and objectives**

FICC’s objectives are aligned with those of its parent company, DTCC, as targeted to the participation role of FICC and its membership base, which is composed of GSD Members and MBSD Members (collectively, “FICC Members”). DTCC’s long-term objective is to safeguard the stability and integrity of global financial markets, and to drive positive change. As expressed on the DTCC website:

> Risk management is the primary function of DTCC and has been since the organization’s inception more than 40 years ago. The company’s risk management role entails effective and efficient identification, measurement, monitoring and control of credit, market, liquidity, systemic, operational and other risks for the DTCC enterprise, its users and the marketplace.

In applying these objectives to the Board’s oversight role, the Mission Statement provides that:

> The Board will discharge its oversight responsibilities and exercise its authority in a manner, consistent with applicable legal and regulatory provisions and with regulatory expectations of a systemically important market infrastructure, that:

  * promotes the safe, sound and efficient operation of the corporation and its subsidiaries,
including the clearance and settlement activities conducted by its registered clearing agency subsidiaries;

● fosters the safe, sound and efficient operation of services provided by DTCC and its subsidiaries supporting the global system for processing transactions in financial instruments and related activities;

● seeks to develop the services and businesses of DTCC and its subsidiaries in a manner promoting further safety, soundness and efficiency broadly in the global system for processing transactions in financial instruments and related activities and

● leverages DTCC’s role as a leader in financial services with respect to risk management and systemic risk management, promoting sound practices in governance and in transparency to its membership and user community and in its role as a systemic component of the financial market infrastructure supporting the operation of orderly and efficient markets in the interest of the investing public.

DTCC’s performance management framework consists of two major components: annual corporate goals (“Corporate Goals”) and a “Balanced Business Scorecard” (“BBS”). Together they provide the basis for assessing DTCC’s overall performance in supporting the industry and the financial markets throughout the year. The Corporate Goals are strategic in nature, focusing on the key projects or improvements that DTCC plans to deliver during the year. The BBS focuses more on actual performance, assessing it against a series of measures organized into four quadrants (Stakeholder/Financial, Customer/Service Delivery, Strategic Positioning and Employee/Enabler). In designing these metrics and setting targets for them, the BBS deliberately recognizes that various corporate priorities must be “balanced” to achieve the optimum level of organizational achievement.

In furtherance of its Mission Statement, relevant public interest considerations are identified and reflected in DTCC’s objectives through the Corporate Goals. The Corporate Goals are developed based on consultation with individual participants, members of the Board, standing Advisory Councils, industry associations, regulators and others. Individual Product Managers are actively engaged with relevant industry groups and associations in partnering to identify ways that the DTCC can continue to develop operational, technological and risk mitigation solutions for the financial services industry.

DTCC management prioritizes safety and efficiency through review of businesses and initiatives by management committees organized to focus on such issues, including the Management Committee, the Management Risk Committee (“MRC”), the Operating Committee and the New Initiatives Committee (“NIC”). Initiatives are also reviewed at the Board level by the relevant Board Committee, as appropriate. For example, risk initiatives are reviewed by the MRC, and escalated as appropriate to the Board Risk Committee. The Compensation and Human Resources Committee, in consultation with the Board Risk Committee, seeks to ensure that compensation policies do not encourage excessive risk-taking and meet evolving standards on compensation practices.

DTCC works closely with its regulators (sometimes referred to as the “supervisors”) to foster a culture of openness and dialogue at the management and Board levels. Management has created a full-time supervisory liaison function whose primary responsibility is to facilitate DTCC’s relationship with its supervisors.
Governance Structure and Arrangements

The governance arrangements, which also identify the roles and lines of responsibility and accountability within DTCC, are described in by-laws, the Board of Directors Mission Statement and Charter, the Procedures for the Annual Nomination and Election of the Board, and each of the Board Committee Charters, all of which are publicly available on the DTCC website. The Board Charter includes provisions relating to board composition, meetings, election of directors, board committees, duties and responsibilities of directors, and director qualification standards. With respect to management, the roles and responsibilities of management, including reporting lines, are provided in job descriptions.

The Board currently has designated eight (8) standing Committees, and each director serves on at least one Board Committee. The Committees are briefly described below:

Audit Committee: The Board has established an Audit Committee to assist the Board in overseeing: (1) the integrity of DTCC’s financial statements and financial reporting; (2) the overall effectiveness of DTCC’s internal control environment; (3) the effectiveness of DTCC’s process for monitoring compliance with applicable laws, regulations and the code of ethics; (4) the performance and coverage of the internal audit function; (5) the external auditor’s independence, performance and coverage; and (6) legal, compliance and regulatory risks. The roles and responsibilities of the Audit Committee are outlined in the DTCC Audit Committee Charter.

Businesses and Products Committee: To facilitate the oversight of DTCC’s business strategy and assess performance against that strategy, the Board has established a Businesses and Products Committee. Consistent with this purpose, the Businesses and Products Committee oversees the performance of existing businesses, including reviewing and approving plans and fees of such businesses and extensions to such businesses, and reviewing and recommending for Board approval new businesses in which DTCC proposes to become engaged. These reviews pay particular regard to the potential risks created by those businesses and proposals, both for DTCC and the clearing agency subsidiaries as an organization, and the financial system more generally, and measures to control and reduce or eliminate such risks. The roles and responsibilities of the Businesses and Products Committee are outlined in the Businesses and Products Committee Charter.

Compensation and Human Resources Committee: The Board has established a Compensation and Human Resources Committee to assist it in overseeing DTCC’s human resource programs and management compensation policies and practices, including by (1) recommending the compensation of DTCC’s Executive Chairman and the Chief Executive Officer and approving compensation for certain other officers; (2) reviewing and approving the structure and design of compensation programs for employees and (3) assessing whether the compensation program promotes an appropriate approach to risk management. The roles and responsibilities of the Compensation and Human Resources Committee are outlined in the Compensation and Human Resources Committee Charter.

Executive Committee: The Board has established an Executive Committee to exercise powers of the Board in the event that an emergency or other time-sensitive matter arises and it is not practicable to assemble the entire Board. The roles and responsibilities of the Executive Committee are outlined in the Executive Committee Charter.

Finance/Capital Committee: To facilitate the oversight of DTCC’s financial strategy and assess performance against that strategy, the Board has established a Finance/Capital Committee. Consistent with this purpose, the Finance/Capital Committee recommends financial policies, goals and budgets that support the mission, values and strategic goals of DTCC. The Finance/Capital Committee also reviews DTCC’s financial performance against its goals and recommends for Board approval major transactions.
in which DTCC proposes to become engaged. The roles and responsibilities of the Finance/Capital Committee are outlined in the Finance/Capital Committee Charter.

**Governance Committee:** The Board has established a Governance Committee to assist the Board in: (1) identifying, screening and reviewing individuals qualified to serve as directors and recommending to the Board candidates for nomination for election at the annual meeting of shareholders or to fill Board vacancies; (2) developing, recommending to the Board and overseeing implementation of DTCC’s Corporate Governance Policy and DTCC’s Board Code of Ethics and (3) reviewing on a regular basis the overall corporate governance of DTCC and recommending improvements when necessary. The roles and responsibilities of the Governance Committee are outlined in the Governance Committee Charter.

**Operations and Technology Committee:** To facilitate the oversight of the operational and technology capabilities that support DTCC’s business lines, the Board has established an Operations and Technology Committee (the “Ops and Tech Committee”). Consistent with this purpose, the Ops and Tech Committee oversees management’s operation and development of the infrastructure capabilities, technology resources, processes and controls necessary to fulfill DTCC’s service delivery requirements; monitors key operational and technology metrics associated with the delivery of DTCC’s services; reviews financial performance related to technology and operations; and receives reports on various operational and technology programs at DTCC. The roles and responsibilities of the Ops and Tech Committee are outlined in the Operations and Technology Committee Charter. Commencing in 2015, this Committee is being consolidated with the Businesses and Products Committee, and renamed the “Businesses, Technology and Operations Committee.”

**Risk Committee:** The Board has established a Risk Committee (the “Board Risk Committee” or “BRC”) to assist the Board in fulfilling its responsibilities for oversight of the Company’s risk management activities focusing on three critical aspects: (1) oversight of enterprise risk management systems and processes designed to identify and manage credit, market and liquidity risks to DTCC’s clearing agency subsidiaries; (2) oversight of operational risks to DTCC arising from the operation of DTCC’s subsidiaries; and (3) due to DTCC’s unique capabilities and position, oversight of DTCC’s efforts to mitigate certain systemic risks that may undermine the stable operation of the financial system. In order to provide additional dedicated focus and align oversight of specialized risk categories with the domain expertise of particular Committees, certain risks will be overseen by other Board Committees. While these risks will not be directly overseen by the BRC, the BRC will, nonetheless, coordinate risk oversight with these Board Committees as appropriate to achieve a comprehensive and holistic oversight of the organization’s risk-related matters. The BRC directly oversees the following: credit, liquidity, market, operational, new initiatives and systemic risks. The BRC’s role is one of delegated oversight on behalf of the Board. The Board retains the authority to review matters brought to the BRC and request immediate escalation to the full Board should the Board deem appropriate. It remains the responsibility of DTCC’s management team, including through the activities of the MRC, to identify, manage and mitigate risk as appropriate. The roles and responsibilities of the BRC are outlined in the Risk Committee Charter.

**Review of Board Performance and Conflicts of Interest**

The Governance Committee of the Board reviews and addresses Director conflicts of interest. Directors are subject to the DTCC Board Code of Ethics. The Board Code of Ethics, which is available on the DTCC website, describes how conflicts of interest are identified and to be addressed. The Board Code of Ethics is reviewed by the Governance Committee.

The Board conducts an annual self-evaluation of its performance and the performance of its Committees. The Governance Committee is responsible for coordinating and providing oversight of the annual self-
evaluation, including determining the methodology for the evaluation, and overseeing its execution. The results of the self-assessments are reviewed by the Governance Committee and reported to the Board.

**Director Nomination Process**

As a registered clearing agency, FICC is subject to Section 17(A) of the Exchange Act, which provides that the rules of a clearing agency must assure a “fair representation of its shareholders and participants in the selection of its directors and administration of its affairs....” DTCC’s shareholders are the participants and members of its three clearing agency subsidiaries, including FICC’s Members. This “fair representation” requirement is currently satisfied by allocating shares, pursuant to the Shareholders Agreement, with attendant voting rights to elect directors, in accordance with a formula based on usage of the services of the three clearing agencies.

Each year, typically in December, a nominations solicitation letter along with a copy of the Procedures for the Annual Nomination and Election of the Board of Directors (“Procedures”) is sent to the participants of DTC, FICC and NSCC, and is also provided via Important Notice on DTCC’s website. This begins the process by which participants of the clearing agency subsidiaries may nominate individuals for election as participant directors. Using cumulative voting, DTCC’s common shareholders vote on Director nominees at the annual shareholders’ meeting.

The Procedures set forth the skill sets that are necessary for Board members. The skill sets are reviewed annually by the Governance Committee, and changes, if any, are recommended to the Board for approval.

Each director is required to complete a skills and experience questionnaire. In accordance with its Committee Charter, on a yearly basis, the Governance Committee reviews the skills and experience of the current directors and determines, among other things, whether there are any gaps in skills or experiences that would be desirable to have filled by a new director nominee. Each Board Committee Charter contains a list of skill sets that the Committee members should have.

Individuals are nominated for election as directors based on their ability to represent DTCC’s diverse base of participants, and DTCC’s governance is specifically structured to help achieve this objective. The non-participant Board members are individuals with specialized knowledge of financial services, but who bring an independent perspective since they are not employed by firms that use DTCC services. Collectively, the Board composition reflects an appropriate balance of participant and non-participant directors. Board members serve on a variety of Board committees with responsibility to oversee aspects of DTCC and its clearing agency subsidiaries’ operations.

The Board plays an integral role in the oversight of the firm, ensuring DTCC services (including those provided by FICC) continue to meet the evolving needs of participants.

**Management experience, skills, integrity and performance**

DTCC has talent management programs and succession planning programs that are reviewed/updated and presented to the Compensation and Human Resources Committee annually. As needed, the full Board is updated on the company’s succession planning process and on the status of development plans for key individuals. For very senior level positions, multiple members of the Management Committee and selected Board Members may be involved in the interview and selection process. For the most senior levels of the organization (CEO, Executive Chairman), a search committee of the Board may be formed to conduct the process.

Performance appraisals are prepared on an annual basis for employees, including Managing Directors.
On an annual basis, the CEO reviews the performance of the Management Committee members and discusses the performance with the members of the Compensation and Human Resources Committee.

The performance and compensation of the CEO and Executive Chairman are reviewed by the Compensation and Human Resources Committee and presented to the full Board for approval.

A Risk Assessment of the Management Committee (and selected additional Managing Directors) is conducted on a quantitative and qualitative basis by the Group Chief Risk Officer, the Chief Compliance Officer and the General Auditor, and the results are presented to the Compensation and Human Resources Committee and the Chairs of the Risk and Audit Committees.

A “Leadership Scorecard” is produced for the Management Committee and selected Managing Directors as part of the year-end performance management process.

The Board of Directors measures management’s performance against the Corporate Goals periodically throughout each year through (i) the review of status reports prepared by management, and (ii) the Board Committees that have oversight responsibilities for particular activities with respect to which goals have been established. In addition, the Board’s Compensation and Human Resources Committee receives periodic reports throughout the year on the achievement by management of Corporate Goals. As provided in its Committee Charter, the Compensation and Human Resources Committee is also responsible for the following:

- In consultation with the Board Risk Committee, assuring that corporate goals and objectives are aligned with the interests of DTCC’s stakeholders and do not encourage executive officers to take undue risks;
- Reviewing and assessing, in consultation with the Board Risk Committee, whether the compensation program promotes appropriate approaches to the management of risk and, specifically, does not encourage executive officers to take unnecessary and excessive risks, interpreted in the broadest possible sense;
- Reviewing and assessing, in consultation with the Board Risk Committee, whether the compensation program promotes management activities to proactively identify and manage risk, including a regular assessment of the appropriateness of key performance indicators to measure and compensate executive officers, while also maintaining a high level of responsiveness to concerns and recommendations raised by regulators;
- Obtaining input from the Group Chief Risk Officer, General Auditor and Chief Compliance Officer regarding executives’ performance in relation to risk management/behaviors and consider that input when determining incentive compensation; and
- Ensuring that critical matters and material systemic risk concerns are escalated to the full Board.

Employee integrity is a core DTCC value. DTCC maintains a Code of Ethics that sets forth the foundational principles that govern DTCC’s business. All employees and consultants must comply with the Code of Ethics and are expected to have a clear understanding of and commitment to the high ethical standards outlined in the Code.
**Risk Management Framework**

DTCC has established a Corporate Risk Framework, which has been reviewed and approved by the Board, and remains subject to Board oversight. The Board Risk Committee and the MRC govern the risk management framework. The framework is documented through a Corporate Risk Framework document and includes Risk Tolerance Statements covering Market Risk, Credit Risk, Liquidity Risk, Strategic Risk (which includes General Business Risk and New Initiatives Risk) and Operational Risk (which includes Financial Risk, Legal and Regulatory Compliance Risk, Processing and Operations Risk, Information Security, Technology and Privacy Risk, Business Continuity Risk and Human Capital/People Risk). The Framework and Risk Tolerance Statements are reviewed, updated as appropriate, and approved by the Management Risk Committee, and Board Risk Committee and the Board, annually. The Operational Risk Management group, Enterprise Risk Management (“ERM”) and the Systemic Risk Office all have risk management policies and procedures addressing their specific areas of responsibility, which are also reviewed and updated (as appropriate) annually and shared with the Board. The Corporate Risk Framework is more fully described under Principle 3 (Framework for the comprehensive management of risks).

The roles, responsibilities, authority, reporting lines and resources of ERM and Audit are defined in the Board Risk and Audit Committee Charters, respectively. In addition, the job descriptions of the Group Chief Risk Officer and the General Auditor spell out their reporting lines of responsibility, and are designed to provide these officers and their staff with the requisite independence from the operating business areas. The General Auditor reports to the Chairman of the Audit Committee, functionally, and to the DTCC Executive Chairman, administratively. The Group Chief Risk Officer reports to both the Chairman of the Board Risk Committee and to the DTCC Executive Chairman.

**Internal Audit**

The Internal Audit Department’s (“IAD”) mission is to provide independent, objective assurance and advisory services to assist the enterprise in maintaining an effective system of internal controls. IAD supports the Board in its oversight of the governance, risk and control framework. The Audit Committee is responsible for overseeing the internal audit function. IAD is governed by policies established by the Audit Committee and the Board.

IAD’s assurance services include evaluating operations and internal controls to validate that the enterprise’s assets and member assets held by DTCC and its subsidiaries (including FICC) are safeguarded, and that policies, standards and procedures are being followed. Each year, IAD performs more than 90 audits across the DTCC enterprise in fulfillment of these responsibilities. IAD’s advisory services include providing proactive advice to the enterprise to help management identify risks and establish controls for new businesses, products and jurisdictions, and to properly maintain controls in existing and expanding businesses.

The scope of IAD’s activities is subject to the Audit Committee’s review and approval, but is not otherwise restricted. The General Auditor directs all internal audit activities in support of its mission to support the Board and to enhance the control environment.

IAD is expected to be independent in the execution of its activities. As noted above, independence is achieved through organizational placement and senior management’s support of the internal audit function. To help maintain independence, staff assignments are rotated periodically as is practicable. In addition, the General Auditor, among others, periodically meets privately with the Audit Committee, without members of management or the external accounting firm present. The General Auditor’s performance rating and compensation are reviewed and approved by the Audit Committee.
Disclosure

Major decisions of the Board that are not confidential are disclosed to the supervisors and, as appropriate, other relevant stakeholders. To the extent such decision is reflected in a change to the Rules of FICC or constitutes a material change to the operations of FICC, disclosure is made though public regulatory filings with the supervisors, as applicable, as well as the issuance of Important Notices, which are published on the DTCC website. Decisions and information with a more broad impact or of more general interest are disclosed through press releases, articles, white papers and other materials posted to the DTCC website, including DTCC’s Annual Reports and the financial statements of the clearing agency subsidiaries. Section VI of this Disclosure Framework provides a list of information and documents that is publicly available on the DTCC website.
Principle 3: Framework for the comprehensive management of risks

An FMI should have a sound risk management framework for comprehensively managing legal, credit, liquidity, operational, and other risks.

Key consideration 1: An FMI should have risk management policies, procedures, and systems that enable it to identify, measure, monitor, and manage the range of risks that arise in or are borne by the FMI. Risk management frameworks should be subject to periodic review.

Key consideration 2: An FMI should provide incentives to participants and, where relevant, their customers to manage and contain the risks they pose to the FMI.

Key consideration 3: An FMI should regularly review the material risks it bears from and poses to other entities (such as other FMIs, settlement banks, liquidity providers, and service providers) as a result of interdependencies and develop appropriate risk management tools to address these risks.

Key consideration 4: An FMI should identify scenarios that may potentially prevent it from being able to provide its critical operations and services as a going concern and assess the effectiveness of a full range of options for recovery or orderly wind-down. An FMI should prepare appropriate plans for its recovery or orderly wind-down based on the results of that assessment. Where applicable, an FMI should also provide relevant authorities with the information needed for purposes of resolution planning.

Risk Management Framework

DTCC has established a Corporate Risk Framework that provides an overarching comprehensive structure, for the management of risk that is common across DTCC’s clearing agency subsidiaries, including FICC. For FICC (and each of DTCC’s other clearing agency subsidiaries), this framework is designed to identify, measure, monitor and manage the range of risks present in its business and operations.

The Corporate Risk Framework identifies and defines five (5) types of risks, with a number of sub-types:

- Market Risk
- Credit Risk
- Liquidity Risk
- Operational Risk, which includes the following:
  - Financial Risk
  - Legal and Regulatory Compliance Risk
  - Processing and Operations Risk
  - Information Security, Technology and Privacy Risk
  - Human Capital/People Risk
• Business Continuity Risk

• Strategic Risk, which includes the following:
  • General Business Risk
  • New Initiatives Risk

DTCC’s fundamental approach to risk management, as reflected in the Corporate Risk Framework, is a process in which risks of the types noted above are assessed on an inherent basis (that is, in the absence of any mitigating controls) and then evaluated against the strength of the existing controls (and, as appropriate, for new and additional controls).

The Board of Directors has delegated to management the responsibility for identifying, assessing, measuring, monitoring, mitigating and reporting risks through a process of developing individual risk tolerance statements for identified risks. Risk tolerance statements provide the overall risk reduction or mitigation objectives for each of the identified risk categories. In addition to these objectives, these statements also set out the risk controls and other measures used to manage the risk, and the escalation process. At the end of the process, residual risks may be identified for either further management or “acceptance” (which follows an escalation and approval process).

Management is responsible for the day-to-day management of the residual risks. Risk tolerance statements are reviewed and approved by the Management Risk Committee and the Board Risk Committee, and provided to the Board for its review and approval, at least annually.

To enable management to effectively identify, understand and mitigate risks, DTCC has adopted an approach that includes three lines of defense:

• The first line of defense is the businesses and functional units, including Product Management, Operations, Finance, Technology, Legal, Human Resources and others. Their mandate is to proactively manage risk.

• The second line of defense is comprised of the control functions, including Operational Risk Management (“ORM”), ERM, the Compliance Department and Technology Risk Management (“TRM”), Privacy and certain elements of Operations and Technology, such as the Testing Support Group. Their mandate is to establish standards for risk management for the company, to provide advice and guidance to the first line of defense in adhering to the standards and to monitor compliance with the standards.

• The third line of defense is IAD, whose mission is to provide independent, objective assurance and advisory services to assist the enterprise in maintaining an effective system of internal controls, including the manner in which the first and second lines of defense operate.

On a monthly basis, operational risk profiles are prepared for all key business and functional units of FICC, to assist in identifying operational risks at a more granular level.
DTCC maintains comprehensive policies, procedures and systems to measure, report, manage and mitigate risk. DTCC maintains an enterprise-wide repository of all corporate policies and procedures. This includes a system that provides automated workflows for the review, approval and dissemination of documents maintained within the repository. GSD’s and MBSD’s policies and procedures are reviewed and updated regularly, at least annually, or as may be required in the event of changes to laws, rules and regulations, or changes in GSD’s or MBSD’s operations or Rules.

FICC monitors and manages credit and market risk, addressed more fully under Principles 4 and 6, respectively, through strict membership admission criteria and review (as outlined in GSD Rule 2 and Rule 3A; and MBSD Rule 2 and Rule 2A), ongoing monitoring and review of Members (as outlined in GSD Rule 3 and MBSD Rule 3), collection of Clearing Fund twice a day with respect to GSD (Rule 4) and daily with respect to MBSD (Rule 4), and other tools that enable FICC to obtain adequate assurances that GSD Members and MBSD Members are capable of meeting their membership obligations (GSD Rule 3, Section 7 and MBSD Rule 3, Section 6). ERM’s efforts are supported by a number of systems, including the systems that (i) capture and evaluate Member regulatory reports (the Credit Risk Rating Matrix System34), (ii) calculate Member Clearing Fund requirements, (iii) monitor Members’ compliance with Clearing Fund requirements and (iv) evaluate the potential closeout exposure of a given Member portfolio in the event of a default.

Clearing Fund requirements, which include a number of risk-based components, are calculated systemically twice a day for each GSD Member and daily for each MBSD Member. For GSD, the core of this system is built around an engine that uses a yield-based Value-at-Risk (“VaR”) model to estimate market exposure of cleared instruments. The models for these calculations are regularly back-tested, as well as tested under stress scenarios, designed to identify coverage issues and protect against model risk. The VaR engine itself generates hourly snapshots of each Member’s portfolio of unsettled positions (from 8:00 a.m. ET to 5:00 p.m. ET) and uses intraday trade and settlement data to estimate the market risk on these portfolios. To further mitigate credit risk, FICC’s systems allow the addition of special Clearing Fund charges to specific Members, and GSD’s Rules and MBSD’s Rules permit the collection of Clearing Fund on an intraday basis outside of the scheduled margin calls.

FICC mitigates collateral risk, addressed more fully under Principle 5 (Collateral), by strictly limiting the types, and amount, of collateral it accepts for the Clearing Fund (eligible government and agency securities being defined as “Eligible Clearing Fund Securities”). Eligible collateral types and limitations are described in GSD Rule 4 and MBSD Rule 4.

In addition, if GSD or MBSD, as applicable, 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 GSD or MBSD, as applicable, would receive funds to cover such loss (or part of the loss) from its cross-margining and cross-guarantee arrangements. If the loss was still not covered, GSD or MBSD, as applicable, could invoke its loss allocation process as described in Principle 13.

FICC manages its liquidity risk by running daily simulations that measure the amount of liquidity that would be required for FICC in the event that the Member or Member family with the largest aggregate

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34 The Credit Risk Rating Matrix is utilized to risk rate banks and broker/dealer Members.
liquidity exposure becomes insolvent. FICC then seeks to maintain qualified liquidity resources in an amount sufficient to cover this risk. The liquidity resources for each of GSD and MBSD include the following: (1) the cash portion of the Clearing Fund; (2) the cash that would be obtained by entering into repos using the securities portion of 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 (3) 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 to the above, MBSD also maintains the CCLF®, which was put in place as a supplemental contingency option. Briefly summarized, once MBSD declares a CCLF® event, MBSD Members will be required to hold and fund their deliveries to the insolvent Member up to a predetermined cap by entering into repo transactions with FICC until MBSD completes the associated closeout. This facility allows Members to effectively manage their potential financing requirements with predetermined caps. MBSD intends to use the CCLF® process only in the event it is not able to procure its own financing via its existing repo agreements and other funding sources.

FICC’s liquidity resources are described more extensively in the discussion of Liquidity Risk under Principle 7 below.

ORM utilizes a governance risk and control system to collect and track information on operational risk incidents. This information is used to generate reports and identify matters for escalation. The system also enables staff to manage action/remediation plans. Operational Risk policies and procedures, including business continuity arrangements, are discussed under Principle 17 (Operational risk).

The Compliance Department performs testing and conducts risk assessments to determine compliance risk levels and assess the effectiveness of compliance controls. The Compliance Department utilizes a number of automated systems to assist in the identification and mitigation of compliance risk. For FICC, this includes systems that provide (i) “Know Your Customer” due diligence, (ii) a compliance tracking database and (iii) monitoring of employee investments (to detect and prevent insider trading).

**Review of risk management policies, procedures and systems**

FICC’s management establishes policies, procedures and controls for FICC’s key businesses and functional units. While the responsibility for proactive risk management lies with management, the responsibility for oversight resides within a framework of the following senior management committees:

- The Management Committee provides overall direction for all aspects of FICC’s business and operations. In particular, it reviews and approves firm-wide strategies, goals, metrics, financial plans and budgets. It sets direction for overall talent management and development, including succession planning and mobility. In this capacity, it carries primary oversight for the Human Capital/People Risk family.

- The MRC is responsible for providing oversight of the management of DTCC’s risks (which include risks that relate to FICC) in accordance with policies agreed by the Board of Directors. This committee reviews reporting of key risks and related risk tolerances, and obtains assurance from senior management that the firm’s risk management culture is supported by appropriate management communication, training, structures, staffing, policies and procedures as the committee deems appropriate. The MRC also reviews matters escalated from the NIC.
• The Operating Committee provides guidance for business strategy, including review and approval of new and existing products and business lines, monitoring financial results and key operational performance metrics, and monitoring changes in the external environment. In this capacity, it also provides management oversight for FICC business risks.

• The NIC has responsibility for review and approval of new initiatives, including enhancements to existing services, products and systems. These reviews occur in multiple stages of any initiative, from initial identification and concept development through product launch and post-implementation.

The effectiveness of the risk management, policies, procedures and systems are assessed by (1) the Board of Directors and management, and (2) IAD. Risk management procedures are subject to review by IAD, ORM and FICC’s supervisors.

Board Oversight. Consistent with its Mission Statement and Charter, the Board of Directors is responsible for overseeing the effectiveness of FICC’s risk management. In furtherance of this oversight, the Board is responsible for approving the overall risk tolerance for the organization. Risk tolerance reports are regularly provided to the Board and the appropriate Board Committees to enable the Board to assess the effectiveness of management’s oversight of such risks.

Internal Audit. As a third line of defense, the internal auditing function provides assurance to the Board and senior management on the effectiveness with which the organization assesses and manages its risks, including the manner in which the first and second lines of defense operate. The General Auditor reports directly to the Board’s Audit Committee, reinforcing the independence and objectivity of the internal audit function. IAD provides independent validation of the business area’s risk and control environment and reviews the adequacy of internal controls, procedures and records of the company with respect to operational risks (through the audit process).

Information and Incentives for Member Management of Risk

Members are provided with a significant amount of information, and incentives, to enable them to monitor and manage the risks they pose to FICC. First, the GSD Rules and MBSD Rules, which are publicly available, establish Membership responsibilities, including Members’ daily responsibilities to meet Clearing Fund requirements and complete settlement. While FICC does not impose trading limits, on a daily basis FICC provides GSD Members and MBSD Members an entire suite of reports showing their activity in all phases of the settlement cycle; this includes transaction messages and reports, consolidated trade summaries, Clearing Fund requirements and settlement reports/accounting summaries.

To assist firms in understanding FICC’s services and applications, FICC provides a number of tools, including user guides and handbooks, as well as training courses through DTCC Learning. Topics covered include not only functional and operational aspects of securities clearing through FICC, but also risk management practices and methodologies.

Each GSD Member and MBSD Member is required to meet its Clearing Fund requirements, which are based on the Member’s outstanding positions as well as its intraday trading and settlement activity. Clearing Fund reports help Members manage their market risk on an ongoing basis. The resizing of a Member’s margin requirement (at least twice a day for GSD Members and once per day for MBSD Members) and its close correlation with the amount of risk created by a Member’s trade activity provide incentives for Members to carefully monitor and manage the risks that they pose to FICC. Members have a vested interest in monitoring their Clearing Fund requirements continuously, as these requirements have a direct impact on the amount of collateral and liquidity at their disposal.
FICC also has the ability to require additional Clearing Fund deposits or other adequate assurances (such as limitations on their activity), as a risk mitigant from those firms it considers may pose a risk to GSD or MBSD, as applicable, or its membership.

Further, as all GSD Members and MBSD Members are required to comply with the GSD Rules and MBSD Rules, respectively, FICC has a number of disciplinary tools at its disposal, including monetary fines, the consequence of reporting certain incidents to regulators, and, in some cases, limitation on access to one or more services or limitation on activities, which could ultimately result in termination of membership should a Member fail to meet its requirements to FICC.

**Material Interdependency Risks**

Given its central role in the U.S. securities markets, FICC potentially poses a number of risks to other entities, while it is also exposed to risks that may originate from other entities.

As regards to risk that may be posed by Members, FICC has established clear and objective membership requirements for each category of membership, which provide fair and open access for firms seeking membership, while maintaining prudent risk management standards that enable FICC to manage the material risks resulting from Members’ activities. As described more fully under Principle 4 (Credit risk), FICC monitors GSD Members and MBSD Members on an ongoing basis and assesses credit risk through the use of a Credit Risk Rating Matrix designed to focus the level of scrutiny and ongoing monitoring in a manner consistent with a Member’s internal risk rating.

In a similar manner, FICC has established credit standards for entities providing settling bank services, and investment and custody services. While settling banks are selected by, and act on behalf of, Members, entities providing such services are held to strict operational standards, and are subject to fines and other disciplinary measures (in their capacity as Members or Settling Bank Only Members) should they fail to abide by such requirements.

FICC manages investment risk, including the custody and overnight investment of Clearing Fund cash, through the Board-approved DTCC corporate investment policy (“Investment Policy”), which establishes credit and concentration exposure limits on FICC’s investment counterparties. Custody and investment risk is discussed in more detail in Principle 16 (Custody and investment risks).

As described in the General Background section of this Disclosure Framework, 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—BNY and JPM. GSD Rule 12 and MBSD Rule 9 provide that FICC shall notify each GSD Member and MBSD Member, as applicable (prior to the entity activating its membership) of the clearing bank or banks that FICC 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 FICC of the clearing bank or banks that the Member has designated to act on its behalf in the delivery and receipt of securities to or from GSD or MBSD, as applicable. 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 GSD’s GCF Repo® service requires dealer GSD Members to have an account with either or both of BNY or JPM. It should be noted that for non-GCF Repo® activity, members are not limited to BNY and JPM. As described more fully in the General Background section of this Disclosure Framework, the clearing banks have an integral role in the GCF Repo® service.
Material service providers are subject to a comprehensive vendor review and vetting process that covers both credit and operations risk reviews and controls. Mitigants may take the form of contractual protections, or additional or backup providers where deemed appropriate and feasible. For example, FICC utilizes price feeds from multiple vendors as an additional risk mitigant, and further employs price review and data scrubbing procedures to minimize the risk of using inaccurate prices.

FICC uses the central bank model with a tiered settlement arrangement for GSD’s and MBSD’s funds-only settlement process. The funds-only settlement process is a cash pass-through process (i.e., those members who are in a debit position submit payments that are then used to pay Members in a credit position). The settlement ultimately occurs via the Federal Reserve’s NSS, with DTC acting as a settling agent, and funds transfers are final when effected on the NSS. Similarly, 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. FICC confirms that fund transfers have been effected twice each business day with respect to GSD and once each business day with respect to MBSD. With respect to securities settlement, the GSD Rules and the MBSD Rules clearly set forth its obligations with respect to securities settlement. Every securities delivery, whether to or from GSD and MBSD, as applicable, is made against full payment.

As described in the General Background section of this Disclosure Framework, in the CME Arrangement, GSD offsets each cross-margining participant’s residual margin amount (based on related positions) at GSD against the offsetting residual margin amounts of the participant (or its affiliate) at the CME. GSD and the CME may then reduce the amount of collateral that they collect to reflect the offsets between the cross-margining participant’s positions at GSD and its (or its affiliate’s) positions at the CME.

Given the interdependent nature of financial markets and FICC’s role as a SIFMU, risks of the various types identified in the Corporate Risk Framework may occur at a magnitude or in combinations with the potential of creating “systemic” impact. Such systemic-type risks and potential mitigants are evaluated by the Systemic Risk Office and discussed with management, the Board of Directors and, through outreach, with GSD Members and MBSD Members.

Scenarios that may prevent an FMI from providing critical operations and services

FICC identifies scenarios that may potentially prevent it from providing its critical operations and services as part of regular and reverse stress-testing exercises and capital adequacy review, and through the development of recovery and resolution plans. As part of these efforts, FICC has conducted Member failure stress-testing to determine the number of Member failures that FICC can sustain before a disruption of its critical operations would likely occur. FICC maintains financial resources—the Clearing Fund (which, in the aggregate currently serves as the default fund for loss mutualization purposes) and a portion of FICC’s retained earnings—designed to enable it to cover losses resulting from the failure of the Member or Member family to which it has the largest credit exposure (a “Cover 1” standard). These tests, in general, show that such resources are sufficient to handle the default of several GSD Members and

35 The GSD Rules refers to this process as the “funds-only settlement” process, and the MBSD Rules refers to this process as the “cash settlement” process.

36 FICC is in the process of developing a proposal to establish a guaranty fund to cover tail risk. The proposal is in the development stage, and will be subject to Member outreach and the Rule Filing process. If such a structure is implemented, it (and not the Clearing Fund) would serve as the financial resource for mutualization.
MBSD Members. Each Division’s loss waterfall is discussed under Principle 13 (Participant-default rules and procedures).

In addition, Business Continuity Management (“BCM”) maintains plans that address the loss of people, premises and/or technology as an additional element to ensure the continuing operation of critical services. This is discussed in Principle 17 (Operational risk).

**Recovery or orderly wind-down plans**

FICC has developed a draft plan to address the continued operation of critical services and operations and has reviewed the feasibility of orderly wind-down options. The plan has been drafted, reviewed by senior management and discussed with the Board and with FICC’s supervisors. It is an evolving approach that will be reviewed (and modified, as appropriate), as applicable regulations are proposed, services are altered or initiated and new risk management tools are developed.

The recovery strategy for FICC critical services and operations focuses on identifying tools available to management in scenarios where critical services and operations of FICC could be at risk due to multiple Member defaults either simultaneously or in quick succession, or due to an idiosyncratic market or operational event. The plan sets forth steps FICC’s management can take for the continuity of its services, and includes proposed initiatives to enhance its recovery and resolution capabilities, which are in initial stages of development.

FICC will update the plans annually after they are finalized and upon significant changes to one or more critical operations.
Principle 4: Credit risk

An FMI should effectively measure, monitor, and manage its credit exposure to participants and those arising from its payment, clearing, and settlement processes. An FMI should maintain sufficient financial resources to cover its credit exposure to each participant fully with a high degree of confidence. In addition, a CCP that is involved in activities with a more-complex risk profile or that is systemically important in multiple jurisdictions should maintain additional financial resources sufficient to cover a wide range of potential stress scenarios that should include, but not be limited to, the default of the two largest participants and their affiliates that would potentially cause the largest aggregate credit exposures to the CCP in extreme but plausible market conditions. All other CCPs should maintain, at a minimum, total financial resources sufficient to cover the default of the one participant and its affiliates that would potentially cause the largest aggregate credit exposures to the CCP in extreme but plausible market conditions.

Key consideration 1: An FMI should establish a robust framework to manage its credit exposures to its participants and the credit risks arising from its payment, clearing, and settlement processes. Credit exposure may arise from current exposures, potential future exposures, or both.

Key consideration 2: An FMI should identify sources of credit risk, routinely measure and monitor credit exposures, and use appropriate risk management tools to control these risks.

Key consideration 3: A payment system or SSS should cover its current and, where they exist, potential future exposures to each participant fully with a high degree of confidence using collateral and other equivalent financial resources (see Principle 5 on collateral). In the case of a DNS payment system or DNS SSS in which there is no settlement guarantee but where its participants face credit exposures arising from its payment, clearing, and settlement processes, such an FMI should maintain, at a minimum, sufficient resources to cover the exposures of the two participants and their affiliates that would create the largest aggregate credit exposure in the system.

Not applicable, as FICC is not a payment system or SSS.

Key consideration 4: A CCP should cover its current and potential future exposures to each participant fully with a high degree of confidence using margin and other prefunded financial resources (see Principle 5 on collateral and Principle 6 on margin). In addition, a CCP that is involved in activities with a more-complex risk profile or that is systemically important in multiple jurisdictions should maintain additional financial resources to cover a wide range of potential stress scenarios that should include, but not be limited to, the default of the two participants and their affiliates that would potentially cause the largest aggregate credit exposure for the CCP in extreme but plausible market conditions. All other CCPs should maintain additional financial resources sufficient to cover a wide range of potential stress scenarios that should include, but not be limited to, the default of the participant and its affiliates that would potentially cause the largest aggregate credit exposure for the CCP in extreme but plausible market conditions. In all cases, a CCP should document its supporting rationale for, and should have appropriate governance arrangements relating to, the amount of total financial resources it maintains.

Key consideration 5: A CCP should determine the amount and regularly test the sufficiency of its total financial resources available in the event of a default or multiple defaults in extreme but plausible market conditions through rigorous stress testing. A CCP should have clear procedures to report the results of its stress tests to appropriate decision makers at the CCP and to use these results to evaluate the adequacy of and adjust its total financial resources. Stress tests should be
performed daily using standard and predetermined parameters and assumptions. On at least a monthly basis, a CCP should perform a comprehensive and thorough analysis of stress testing scenarios, models, and underlying parameters and assumptions used to ensure they are appropriate for determining the CCP’s required level of default protection in light of current and evolving market conditions. A CCP should perform this analysis of stress testing more frequently when the products cleared or markets served display high volatility, become less liquid, or when the size or concentration of positions held by a CCP’s participants increases significantly. A full validation of a CCP’s risk management model should be performed at least annually.

Key consideration 6: In conducting stress testing, a CCP should consider the effect of a wide range of relevant stress scenarios in terms of both defaulters’ positions and possible price changes in liquidation periods. Scenarios should include relevant peak historic price volatilities, shifts in other market factors such as price determinants and yield curves, multiple defaults over various time horizons, simultaneous pressures in funding and asset markets, and a spectrum of forward-looking stress scenarios in a variety of extreme but plausible market conditions.

Key consideration 7: An FMI should establish explicit rules and procedures that address fully any credit losses it may face as a result of any individual or combined default among its participants with respect to any of their obligations to the FMI. These rules and procedures should address how potentially uncovered credit losses would be allocated, including the repayment of any funds an FMI may borrow from liquidity providers. These rules and procedures should also indicate the FMI’s process to replenish any financial resources that the FMI may employ during a stress event, so that the FMI can continue to operate in a safe and sound manner.

Framework for Management of Credit Risk

The measurement, monitoring and management of credit risk are part of the overall risk management framework described under Principle 3 (Framework for the comprehensive management of risk). As noted in that section, FICC manages its credit exposures through strict membership admission criteria, ongoing Member surveillance and regular margining.

FICC’s credit risk vis-à-vis Members consists of the risk that a Member defaults in the performance of its obligations to FICC. FICC addresses this risk through its membership requirements, ongoing monitoring and surveillance and margining methodologies.

Membership requirements. FICC has established participation criteria and requirements relating to financial resources, creditworthiness and operational capability. Rule 2, Rule 2A and Rule 3 of the GSD Rules and Rule 2, Rule 2A and Rule 3 of the MBSD Rules set forth the specific requirements for each level of membership in each Division. Members must meet minimum financial and other criteria for membership, including minimum capital requirements. All applicants for membership must provide FICC with certain information, which is reviewed by ERM and other relevant departments as necessary to confirm, among other matters, that the applicant has (1) sufficient financial ability to make anticipated contributions to the Clearing Fund and to meet obligations to the respective Division; (2) either an established business history, or personnel with sufficient operational background and experience to ensure the ability of the firm to conduct such a business and (3) appropriate settling and clearing bank arrangements. FICC employs a robust membership process that entails a thorough review prior to approval by the Board Risk Committee or through its delegated authority to the Management Risk Committee. Details regarding the application process are set forth in response to Principle 18 (Access and participation requirements).
Each Division has a limited purpose membership category for Settling Banks. Each GSD Member and each MBSD Member is required to appoint a settling bank to perform their funds-only/cash settlement obligations. The review and ongoing monitoring of Settling Banks is discussed more fully under Principle 9 (Money Settlement). In FICC, all GSD Members and MBSD Members are required to designate a clearing bank for purposes of delivering securities to, and receiving securities from, FICC in satisfaction of settlement obligations.

**Ongoing monitoring and surveillance.** FICC monitors its credit exposures with respect to the risk that a Member defaults through the ongoing surveillance of its Members’ financial strength and default risk. On an ongoing basis, Members are required to provide financial and other information to FICC, as outlined in GSD Rule 3 and MBSD Rule 3, to ensure that they meet the membership standards on an ongoing basis. ERM reviews earnings releases, equity prices, news and other publicly available information as part of its Member surveillance. FICC utilizes a credit risk rating model to evaluate and rate the credit risk of FICC’s U.S. bank and broker-dealer Members. ERM uses a credit risk rating model to rank Members based upon their relevant financial information (including information contained in regulatory Call or FOCUS reports). These rankings are used to set surveillance levels and inform the calculation of certain Clearing Fund component charges. All Members are subject to a credit review at least annually.

**Clearing Fund.** FICC collects Clearing Fund deposits from its Members using a risk-based margin methodology. These amounts operate, individually, as the Member’s margin, and the aggregate of all such Members’ deposits is referred to collectively as the Clearing Fund, which operates as FICC’s default fund. This risk-based methodology enables FICC to identify the risks posed by a Member’s unsettled portfolio and to quickly adjust and collect additional deposits as needed to cover those risks. Each Member’s required Clearing Fund deposit (“Required Fund Deposit”) is calculated at least twice daily for GSD Members and at least once daily for MBSD Members pursuant to a formula set forth in GSD Rule 4 and MBSD Rule 4, respectively, each of which is designed to provide sufficient funds to cover FICC’s exposure to the Member fully with a high degree of confidence. In addition, FICC maintains financial resources sufficient to cover a wide range of potential stress scenarios (discussed more fully below); including the default of the Member and its affiliated Members that would cause the largest aggregate credit exposure to the respective Division in extreme, but plausible, market conditions. The Clearing Fund formula, discussed more fully under Principle 6 (Margin), takes account of a variety of risk factors through the application of a number of components.

**Measurement, Monitoring and Management of Credit Risk**

FICC Members are monitored on a daily, monthly/quarterly and annual basis. FICC monitors Members’ credit risk through review and analysis of financial and operational information and through regular market, news and regulatory monitoring. Members are required under the Rules to (i) provide the respective Division with regulatory reports and data relating to their financial condition on a monthly or quarterly basis (depending on the reporting frequency of the entity), (ii) provide the respective Division with audited financial statements on an annual basis and (iii) promptly notify FICC of material events or changes in their business or financial condition. Members’ ongoing reporting and information requirements are set forth in GSD Rule 3 and MBSD Rule 3.

The credit risk rating matrix is produced systemically from data contained in the Members’ regulatory reports. ERM uses a rating scale of 1 to 7, with 1 being the strongest and 7 being the weakest. The key financial elements used to set a Member’s credit rating focus on that firm’s capital, leverage, liquidity and profitability. Once this rating is generated, it is reviewed by an assigned analyst within ERM, and qualitative factors (e.g., regulatory history, type of audit opinion issued and material management changes) are assessed before a final rating is assigned. The resulting rating determines the level of
financial review that will be performed on that Member and may impact the Member’s Clearing Fund requirement. Members with a weaker internal credit rating (rated a 5, 6 or 7 on the credit risk rating matrix) are placed on the respective Division’s Watch List. Members on the Watch List may be subject to additional surveillance and monitored more closely than Members with a stronger credit rating.

GSD calculates a Clearing Fund requirement for each GSD Member twice a day, and MBSD calculates the Clearing Fund requirement for each MBSD Member once a day. The calculation is based upon each Member’s unsettled and pending transactions. The formula uses a risk-based methodology, and includes a number of components as described below. In addition, each Division may impose, as applicable, a premium charge when a Member’s required Clearing Fund deposit exceeds its excess net capital. Any shortfalls in a Member’s required deposit must be paid each business day by 9:30 a.m. ET and 2:45 p.m. ET with respect to GSD and 9:30 a.m. ET with respect to MBSD. In addition, FICC may call for additional Clearing Fund on an intraday basis, as needed. Any such amounts must be satisfied within one hour of demand.

In order to mitigate counterparty exposure to each Member, each Division calculates the VaR of the unsettled obligations of each Member to a 99 percent confidence interval with a three-day liquidation/hedge horizon, as the basis of its Clearing Fund requirement. For its VaR model, FICC uses historical market price volatility to simulate potential market risk of unsettled positions. Each Division has additional margin charges for each Member’s total Clearing Fund requirement.

With respect to GSD, in addition to VaR, the primary additional components that are included in a Member’s Required Fund Deposit are the coverage component and implied volatility charge (“IVC”). The coverage component is a charge based on the realized back-test experience of each Member. GSD’s IVC adjusts the VaR Charge to account for periods where market implied volatility is greater than realized volatility. Other charges may be applicable to reflect additional exposure for reasons such as late submission of requisite financial statements.

Separate and apart from collecting Clearing Fund, marking to market is conducted to reflect the difference between the contract value of a trade and the current market value of the security. Twice each business day, each GSD Member must pay (or is entitled to collect) an aggregate funds-only settlement amount across all CUSIPs in which it has outstanding positions. 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. GSD’s funds-only settlement process is a cash pass-through process; i.e., those GSD Members that are in a debit position submit payments that are then used to pay GSD Members in a credit position.

With respect to MBSD, in addition to VaR, the primary additional components are the margin requirement differential (“MRD”) and the coverage component. MBSD also includes mark-to-market components and other charges that may be applicable to reflect additional exposure for reasons such as late submission of requisite financial statements.

The Clearing Fund is designed to cover risk spanning from today’s margin collection until tomorrow’s collection. During this period, a Member’s portfolio will change due to settlement and new trade activities. The MRD is designed to address this risk by estimating the shortfall of end-of-day VaR and mark-to-market compared with the next day’s intraday risk and the risk that the next margin call will not be satisfied. Similar to GSD, the coverage component is a charge based on a back-test experience of each Member.
On a daily basis, the FICC/MBSD collects mark-to-market components as part of the Clearing Fund. These components consist of charges to offset the difference between the contract price and current market prices, interest and other cash items when the Member’s end-of-day positions are marked at end-of-day market prices.

The Divisions employ back-testing and stress-testing to determine the adequacy of their Clearing Fund requirements. The back tests compare the Clearing Fund requirements with actual price changes in a portfolio. The portfolio values are calculated by using the actual positions in a Member’s portfolio and the observed security price changes over the following three days. Each Division employs stress-testing to determine whether there will be adequate coverage levels for potential losses in a portfolio incurred during extreme, but plausible, market conditions. The scenarios used in the stress tests fall into two broad categories—historical scenarios and hypothetical or “what-if” scenarios. FICC maintains policies and procedures, in accordance with the SEC’s Clearing Agency Standards, that address the process for conducting these tests and calculating the resulting metrics. Back-testing and stress-testing are discussed more fully under Principle 6 (Margin).

As a further mitigant of credit risk, under GSD Rule 3 and MBSD Rule 3, the Divisions may seek additional assurances of financial responsibility (as well as operational capability) from a Member as they deem necessary or advisable. This may include, for example, increased Clearing Fund deposits.

**Coverage of current and potential future exposures to Members and Financial Resources**

The Clearing Fund formula is designed to calculate individual Member Clearing Fund (margin) requirements at a 99 percent confidence level, assuming a three-day liquidation/hedge period. The adequacy of these amounts is measured through back-testing.

In addition, FICC maintains additional prefunded financial resources sufficient to cover a wide range of potential stress scenarios, including the default of the Member and its affiliated Members that would cause the largest aggregate credit exposure to FICC in extreme but plausible market conditions (referred to as a “Cover 1” standard).

GSD clears and settles securities issued or guaranteed by the United States, U.S. government agencies or instrumentalities, or U.S. government-sponsored corporations. The securities are correlated with the cost of funding to the U.S government. In the U.S., MBSD clears and settles mortgage-backed pass-through securities guaranteed by Ginnie Mae, Freddie Mac and Fannie Mae. MBSD trades and positions are guaranteed at the to-be-announced (“TBA”) level. The securities are correlated with the cost of funding to the U.S government. FICC does not consider these securities to have a more complex risk profile of the type contemplated by Key Consideration 4 or the accompanying explanatory notes to the PFMI Report. Moreover, FICC is not systemically important in multiple jurisdictions. Accordingly, each Division maintains financial resources in amounts required, at a minimum, to meet a Cover 1 standard; this is consistent, and in accordance, with the requirements of Exchange Act Rule 17Ad-22 (b)(3).

The documentation and governance processes that support this approach include annual asset class reviews of the securities that are cleared by FICC. This is an assessment of key risk dimensions (credit, market, liquidity, operational, strategic) and mitigants/controls to minimize these risks. Each asset class review is presented to the Management Risk Committee for a final approval of the overall risk rating.
**Additional financial resources**

With respect to each Division, in the event of a Member default, the amounts on deposit to the Clearing Fund from the defaulting Member (along with any other resources of, or attributable to, the defaulting Member that FICC may access under the GSD Rules or MBSD Rules, as applicable, including under available Clearing Agency Cross Guarantee arrangements) is the first source of funds that each Division would use to cover any losses that may result from the closeout of the defaulting Member’s guaranteed positions.

To address potential tail losses, FICC maintains additional prefunded resources. These consist of (i) the Clearing Fund, which, in the aggregate, currently serves as FICC’s default fund, and (ii) a portion of FICC’s retained earnings. The Rules of each Division state that, in the event of a Member’s impairment, before applying the Clearing Fund deposits of non-defaulting Members to cover any resulting loss, the Division will apply up to 25 percent of FICC’s retained earnings existing at the time of the Member impairment.

As regards to the composition of the Clearing Fund at each Division, Clearing Fund deposits are cash, but a portion of a Member’s Required Fund Deposit may be evidenced by open account indebtedness, secured by certain eligible U.S. government and agency securities, as described in more detail under Principle 5 (Collateral). Not less than 40 percent of a Member’s Required Fund Deposit must be in cash and U.S. Treasury securities. As regards to the portion of FICC’s retained earnings, that it maintains available to satisfy potential losses arising from a Member default, FICC maintains sufficient liquid net assets to fund such amounts. All of the prefunded financial resources that FICC thus relies upon to cover default losses are liquid and readily available to meet its obligations.

FICC is in the process of developing a proposal to establish a guaranty fund to cover tail risk. The proposal is in the development stage, and will be subject to Member outreach and the Rule Filing process. If such a structure is implemented, it (and not the Clearing Fund) would serve as the financial resource for mutualization.

**Stress-testing and back-testing**

As described above, FICC employs stress-testing to evaluate whether it will have adequate financial resources to cover potential losses during extreme, but plausible, market conditions, and employs back-testing to determine the adequacy of its Clearing Fund requirements as applied to Members individually.

FICC employs stress-testing to determine whether it will have sufficient prefunded financial resources to cover potential losses in a wide range of scenarios including, at a minimum, on a Cover 1 standard, during extreme, but plausible, market conditions. The scenarios used to conduct these stress tests fall into two broad categories: historical scenarios and hypothetical or “what-if” scenarios. The historical scenario set includes 50 stress scenarios selected from a rolling look-back period of 10 years. In addition, FICC supplements the scenarios with historical stresses outside the 10-year period, such as the volatile market situation in the fall of 1987. The hypothetical scenarios are constructed according to potential market conditions. Current positions in a portfolio are used in the stress tests. The appropriateness of both the historical and hypothetical scenarios are reviewed periodically by ERM management, and escalated for review by the Management Risk Committee and the Board Risk Committee on a quarterly basis. The stress-testing model is subject to an annual assessment review in accordance with DTCC’s Model Risk Management Policy. Additionally, an internal Model Risk Governance Committee, comprised of ERM management, is responsible for oversight of all risk models. This group meets regularly and discusses any identified issues that might impact model efficacy.
FICC maintains written policies and procedures that describe its process related to the calculation and monitoring of the following stress test metrics: (i) maximum Member-level daily historical and hypothetical stress-test results run daily and reported on a monthly basis; (ii) maximum family-level daily historical and hypothetical stress-test results run daily and reported on a monthly basis; and (iii) as a record of the financial resources necessary to meet a Cover I standard in accordance with Exchange Act Rule 17Ad-22(c)(1), the maximum observed family-level historical stress deficiency/to total aggregate Clearing Fund requirement, in each case on the last business day of each month.

FICC also employs back-testing to determine the adequacy of its Clearing Fund requirement. The back tests compare the Clearing Fund requirements with the actual price changes on the portfolio. The portfolio values are calculated by using the actual positions in a FICC Member’s portfolio and the observed security price changes over three days.

Back tests and stress tests are conducted daily, and the results are reviewed monthly by ERM. Exceptions identified in the back tests and substantial changes in stress-test results are reviewed by ERM management in order to identify the causes and formulate responses, as needed. The results of this review and related metrics are reported and discussed monthly with the Management Risk Committee, and shared regularly with the Board Risk Committee and FICC’s supervisors.

**Allocation of credit losses and replenishment of resources**

In the event of a Member default, the amounts on deposit to the Clearing Fund and Eligible Clearing Fund Securities pledged from the defaulting Member (along with any other resources of, or attributable to, the defaulting Member (or certain permitted margin affiliates) that FICC may access under each Division’s Rules, such as funds-only settlement amounts and other collateral held by the Division securing the defaulting Member’s obligations to the Division), are the first source of funds and collateral that FICC would use to cover any losses that may result from the closeout and liquidation of the defaulting Member’s guaranteed positions.

FICC has also entered into a multilateral netting contract and limited cross-guaranty agreement with DTC, NSCC 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. Under this arrangement, no party ever needs to pay “out of pocket” and no party can receive more than its loss.

GSD also has a cross-margining agreement with the CME which may also provide for additional funds if the defaulting member was a cross-margining participant.\(^{37}\)

If these amounts are not sufficient to cover all losses incurred, including the repayment of any amounts borrowed for liquidity purposes, then the Division will apply the following available resources, in the following waterfall order:

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\(^{37}\) If the defaulting member participates in the CME Arrangement, GSD will determine any loss or liability incurred in accordance with that agreement which is part of the GSD’s Rules.
(i) as provided in GSD Rule 4 and MBSD Rule 4, up to 25 percent of FICC’s retained earnings existing at the time of the Member default (or such greater amount as the Board of Directors may determine); and

(ii) if a loss still remains, FICC would satisfy the deficiency by utilizing the Clearing Fund of and assessing its non-defaulting Members as provided for in each Division’s Rules, as applicable. Specifically, FICC will divide the loss ratably between the Tier One Members and the Tier Two Members based on original counterparty activity with the defaulting Member. Then the loss allocation process applicable to Tier One Members and Tier Two Members will proceed via two separate, parallel and simultaneous streams in the manner provided in GSD Rule 4 and MBSD Rule 4. 38

If a Member’s actual Clearing Fund deposit is less than its loss allocation obligation, in order to maintain its status as a member in good standing, it will be required to satisfy the shortfall and also replenish its Required Fund Deposit. In addition, iterative allocations relating to the same default event may be made, if necessary, to fully eliminate any remaining loss.

After payment of the $50,000 noted above, a Tier One Member may cap its loss allocation obligation by voluntarily withdrawing from membership within the specified timeframes in the Rules; the per default capped amount (i.e., the amount that the Member will be required to pay for the loss allocation obligation after it pays the $50,000) will be the Member’s Required Fund Deposit amount on the day on which FICC notified the Member of its loss allocation obligation. If the Member notifies FICC of its election to voluntarily terminate its membership and it continues to have activity on the books of FICC, it must maintain the Required Fund Deposit amount to support such activity. The withdrawing Member may become subject to loss allocation obligations that arise due to subsequent Member defaults to the extent that the Member continues to maintain positions on the books of the applicable Division. To date, FICC has never invoked its participant loss allocation process.

38 With respect to Tier One Members, the process, in general, allocates any remaining liabilities pro rata ratably among the Tier One Members who were non-defaulting Members on the date of default. This includes any Tier One Member who has previously notified FICC of its election to terminate its membership, but whose membership termination is not yet effective per FICC’s Rules because such Member continues to maintain activity on the books of FICC and/or has other obligations owing to FICC on the day of default.

The Division will first assess each Tier One Member on a pro rata basis an amount up to $50,000. If a loss still remains, the Division will allocate the remaining loss ratably among Tier One Members in accordance with the amount of each Tier One Member’s respective average daily Required Fund Deposit over the prior 12 months. If a Tier One Member has not been a Member for 12 months, their loss allocation amount will be based on their average daily Required Fund Deposit over the time period during which such Member did maintain a Required Fund Deposit.

With respect to Tier Two Members, due to regulatory requirements applicable to them, Tier Two Members are only subject to loss allocation to the extent they traded with the defaulting Members and their trades resulted in a liquidation loss. FICC will assess Tier Two Members ratably based on their loss as a percentage of the entire amount of the remaining loss attributable to Tier Two Members. Tier Two Members are required to pay their loss allocation obligation in full and replenish their Required Fund Deposit as needed.
FICC is in the process of developing a proposal to establish a guaranty fund to cover tail risk. The proposal is in the development stage, and will be subject to Member outreach and the Rule Filing process. If such a structure is implemented, it (and not the Clearing Fund) would serve as the financial resource for mutualization.
Principle 5: Collateral

An FMI that requires collateral to manage its or its participants’ credit exposure should accept collateral with low credit, liquidity, and market risks. An FMI should also set and enforce appropriately conservative haircuts and concentration limits.

Key consideration 1: An FMI should generally limit the assets it (routinely) accepts as collateral to those with low credit, liquidity, and market risks.

Key consideration 2: An FMI should establish prudent valuation practices and develop haircuts that are regularly tested and take into account stressed market conditions.

Key consideration 3: In order to reduce the need for procyclical adjustments, an FMI should establish stable and conservative haircuts that are calibrated to include periods of stressed market conditions, to the extent practicable and prudent.

Key consideration 4: An FMI should avoid concentrated holdings of certain assets where this would significantly impair the ability to liquidate such assets quickly without significant adverse price effects.

Key consideration 5: An FMI that accepts cross-border collateral should mitigate the risks associated with its use and ensure that the collateral can be used in a timely manner.

Key consideration 6: An FMI should use a collateral management system that is well-designed and operationally flexible.

Collateral eligibility

GSD and MBSD accept cash (in U.S. dollars) and certain eligible securities as Clearing Fund collateral. Due to the nature of their businesses, GSD and MBSD limit the non-cash securities currently accepted to collateralize a Member’s open account Clearing Fund indebtedness to 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 (collectively, “Eligible Clearing Fund Securities”). Not less than 40 percent of a Member’s required deposit must be in cash or a combination of cash and U.S. Treasury securities.

GSD and MBSD do not accept cross-border collateral.

GSD and MBSD maintain a collateral management system (the “Clearing Fund Management System” or “CFM”) that validates that posted collateral meets security eligibility standards and values aggregate collateral to determine sufficiency of posted amounts.

Collateral haircuts and valuation

GSD and MBSD apply haircuts to Eligible Clearing Fund Securities that reflect the potential of such assets’ value to decline both in normal and in stressed markets. These haircuts are set forth in a Schedule to each Division’s Rules, and include additional concentration charges for pass-through securities posted in amounts above specified levels.

Because GSD and MBSD limit the collateral they accept to 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, they face limited exposure to wrong-way risk with respect to their collateral.

Haircuts are reviewed periodically if ERM determines that the risk of a particular security may have increased significantly. In addition, annual reviews are conducted to determine if the acceptable collateral types have changed. The sufficiency of haircuts is evaluated through use of back tests and stress tests. This review is conducted initially by management within ERM, and any recommended changes are escalated to the Management Risk Committee and the Board Risk Committee. Before making adjustments to the haircuts they apply to such collateral, GSD and MBSD measure the potential impact of such adjustments. However, given the limited nature and high quality of acceptable collateral, adjustment of haircuts is infrequent.

Collateral securities are re-priced every night, from pricing sources utilized by ERM’s Securities Valuation unit. Pricing updates may be performed instantaneously and will update collateral valuations within GSD’s and MBSD’s collateral management system accordingly.

Eligible Clearing Fund Securities are held on deposit at two custodian banks for GSD and one custodian bank for MBSD. With respect to each Division, securities pledged by Members to secure their Clearing Fund open account indebtedness thus are available for immediate access by GSD and MBSD, as applicable, and may be re-pledged by GSD and MBSD, respectively, if there is a need for liquidity to facilitate completion of settlement.39

Collateral management

Clearing Fund management is performed by the Treasury Operations staff, which is part of the Finance Department. This group consists of dedicated staff in multiple locations to facilitate the management of GSD’s and MBSD’s Clearing Fund collateral using the CFM system in order to ensure smooth operations even during times of market stress.

Under GSD’s and MBSD’s Rules, Members are required to make Clearing Fund deposits within specified timeframes (generally, Required Fund Deposits must be satisfied by 9:30 a.m. ET and 2:45 p.m. ET for GSD Members and 9:30 a.m. ET for MBSD Members or, for intraday calls, within one hour of demand), and are permitted to request the return of excess amounts and/or substitute collateral, subject to the review of Clearing Fund Management for collateral sufficiency, prior to specified cutoff times. The CFM system is designed to interface with several internal and external systems in the daily management of the Clearing Fund collateral. ERM’s system calculates Clearing Fund requirements and provides real-time requirements feeds to CFM. Account Administration’s master file stores Member’s repetitive wire instructions, which CFM reads to create delivery instructions for the return of any permitted excess deposits. CFM system validates Clearing Fund parameter rules, to ensure minimum cash levels are maintained, validates security eligibility, applies haircuts on collateral and determines the overall sufficiency of deposited amounts. CFM is utilized by Members to make online requests to withdraw collateral or have the system evaluate collateral substitution values.

Treasury Operations is also responsible for the investment of Clearing Fund cash. DTCC’s Investment Policy governs FICC investments of cash, including the custody and overnight investment of Clearing

39 GSD Rule 4, Section 5 and MBSD Rule 4, Section 5.
Fund cash. The management and investment of cash is described under Principle 16 (Custody and investment risks).
Principle 6: Margin

A CCP should cover its credit exposures to its participants for all products through an effective margin system that is risk-based and regularly reviewed.

Key consideration 1: A CCP should have a margin system that establishes margin levels commensurate with the risks and particular attributes of each product, portfolio, and market it serves.

Key consideration 2: A CCP should have a reliable source of timely price data for its margin system. A CCP should also have procedures and sound valuation models for addressing circumstances in which pricing data are not readily available or reliable.

Key consideration 3: A CCP should adopt initial margin models and parameters that are risk-based and generate margin requirements sufficient to cover its potential future exposure to participants in the interval between the last margin collection and the close out of positions following a participant default. Initial margin should meet an established single-tailed confidence level of at least 99 percent with respect to the estimated distribution of future exposure. For a CCP that calculates margin at the portfolio level, this requirement applies to each portfolio’s distribution of future exposure. For a CCP that calculates margin at more-granular levels, such as at the subportfolio level or by product, the requirement must be met for the corresponding distributions of future exposure. The model should (a) use a conservative estimate of the time horizons for the effective hedging or close out of the particular types of products cleared by the CCP (including in stressed market conditions), (b) have an appropriate method for measuring credit exposure that accounts for relevant product risk factors and portfolio effects across products, and (c) to the extent practicable and prudent, limit the need for destabilising, procyclical changes.

Key consideration 4: A CCP should mark participant positions to market and collect variation margin at least daily to limit the build-up of current exposures. A CCP should have the authority and operational capacity to make intraday margin calls and payments, both scheduled and unscheduled, to participants.

Key consideration 5: In calculating margin requirements, a CCP may allow offsets or reductions in required margin across products that it clears or between products that it and another CCP clear, if the risk of one product is significantly and reliably correlated with the risk of the other product. Where two or more CCPs are authorised to offer cross-margining, they must have appropriate safeguards and harmonised overall risk-management systems.

Key consideration 6: A CCP should analyse and monitor its model performance and overall margin coverage by conducting rigorous daily backtesting and at least monthly, and more-frequent where appropriate, sensitivity analysis. A CCP should regularly conduct an assessment of the theoretical and empirical properties of its margin model for all products it clears. In conducting sensitivity analysis of the model’s coverage, a CCP should take into account a wide range of parameters and assumptions that reflect possible market conditions, including the most-volatile periods that have been experienced by the markets it serves and extreme changes in the correlations between prices.

Key consideration 7: A CCP should regularly review and validate its margin system.
Overview of margin methodology

Each Division calculates and collects Clearing Fund from its Members using a risk-based margin methodology. These amounts (a Member’s “Required Fund Deposit”) operate as the Member’s margin, and the aggregate of all such Members’ deposits is, collectively, the Clearing Fund of each Division, which operates as FICC’s default fund with respect to each Division. This risk-based methodology enables FICC to identify the risks posed by a GSD Member’s or MBSD Member’s unsettled portfolio and to quickly adjust and collect additional deposits as needed to cover those risks. Each GSD Member’s Required Fund Deposit is calculated at least twice daily, and each MBSD Member’s Required Fund Deposit is calculated at least once daily pursuant to a formula that is outlined in Rule 4 of each Division’s Rules. Each Division’s formula is designed to provide sufficient funds to cover this risk of loss. The Clearing Fund formula accounts for a variety of risk factors through the application of a number of components, each described in Rule 4 of each Division’s Rules.

A Member’s Required Fund Deposit will vary daily based on its trading activity and financial status. The calculated requirement is based upon the total unsettled (fails) and pending (future settling) transactions of the Member. The amount due, payable via Fedwire®, is the difference between the Member’s calculated Required Fund Deposit and the amount currently on deposit. This amount is due by 9:30 a.m. ET and 2:45 p.m. ET for GSD Members and by 9:30 a.m. ET for MBSD Members, regardless of the time zone the Member operates in. Intraday calls, which are described below, are due within one hour of demand. Failure to submit payment by the deadline may subject the Member to a warning letter or a fine, according to the schedule provided in each Division’s Rules. Such fines are reported to the SEC. Repeated lateness may result in additional penalties or disciplinary action, including termination of membership pursuant to each Division’s Rules, as applicable.

Required fund deposit components

Government Securities Division

The formula used for calculating a GSD Member’s Required Fund Deposit includes the following major component charges:

1. Volatility Charge (VaR)—The VaR Charge is the largest component of the Required Fund Deposit. It is based on the potential price volatility of unsettled positions using a yield-based Value-at-Risk model. The VaR methodology provides an estimate of the possible losses for a given portfolio based on: (1) historical market volatility; (2) a time horizon and (3) a confidence level.

The VaR methodology is calculated at a 99 percent confidence level. FICC assumes a portfolio will take three days to liquidate in normal market conditions. The end-of-day VaR component of the Required Fund Deposit addresses the risk presented by a Member’s end-of-day positions. GSD also calculates VaR for intraday collection, which reflects the changes in positions and thus risk profile due to the submission of new trades and completed settlement activity, since the prior end of day. Two hundred fifty-two days of historical pricing is utilized. Where a price history is not complete, a haircut is applied in lieu of VaR, and haircut levels are also set at least at a 99 percent coverage level.

The sum of the VaR value and any haircut applied in lieu of VaR is used to cover the uncertainty of market volatility for the portfolio. This approach assumes no diversification benefit between securities margined with VaR and those with haircuts applied. To account for extreme future risks and to ensure data quality and consistency, VaR results undergo daily back-testing and are subject to stress-testing.
2. **Implied Volatility Charge**—The VaR model uses historical simulation, and is therefore limited in its ability to quickly reflect sudden changes in market volatility. Accordingly, in response to the severe volatility spikes that occurred in the third quarter of 2011, when market conditions caused GSD’s VaR based margin requirement to fall below the target coverage of 99 percent, in 2012, GSD began applying a multiplier (i.e., the “augmented volatility multiplier”) to the VaR charge. The augmented volatility multiplier incorporates implied market volatility indicators derived from financial products with future maturity dates. The augmented volatility multiplier is designed to enhance the performance of the model and enable GSD to more effectively achieve and maintain the confidence level targeted by GSD.

3. **Coverage Component**—The Coverage Component is a back-test-like component that is meant to address potential model deficiencies.

4. **Other Charges**—GSD may assess additional charges to the Required Fund Deposit, including but not limited to the following:

   **GCF Premium Charge**: This premium is assessed to account for the differences in haircut values applied by the GCF Clearing Agent Banks on GCF Repo® participants’ net free equity-related accounts and GSD’s determined haircuts for the same accounts.

   **Special Charges**: FICC may increase a GSD Member’s Required Fund Deposit by assessing additional charges aimed at mitigating perceived risks in excess of those systemically addressed (and discussed above). The imposition of such “special charges” is addressed and authorized in GSD Rules 3 and 4. Examples of special charges include additional requirements due to recurring back-test deficiencies, concerns around market volatility and/or credit matters, etc. Furthermore, GSD can apply Clearing Fund premiums for items such as a Member’s late submission of requisite financial information and/or such Member’s failure to maintain minimum required financial resources in accordance with the GSD Rules.

Finally, the Required Fund Deposit for GSD Members, and hence the size of the Clearing Fund, may be reduced through the CME Arrangement, which is described above in the General Background Section. Pursuant to this arrangement, which became effective in 2000, eligible positions at CME are offset against eligible positions at GSD for purposes of calculating margin requirements. The arrangement is limited to joint members of the two clearinghouses or their affiliates.

**Funds-Only Settlement Amounts**

As described in Principle 4, separate and apart from collecting the Required Fund Deposit, marking to market is conducted to reflect the difference between the contract value of a trade and the current market value of the security. Twice each business day, each GSD Member must pay (or is entitled to collect) an aggregate funds-only settlement amount across all CUSIPs in which it has outstanding positions. 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. GSD’s funds-only settlement process is a cash pass-through process; i.e., those GSD Members that are in a debit position submit payments that are then used to pay GSD Members in a credit position.
The formula used for calculating a MBSD Member’s Required Fund Deposit includes the following major component charges:

1. **Volatility Charge (VaR)**—The VaR Charge is the largest component of the Required Fund Deposit. It is based on the potential price volatility of unsettled positions using a yield-based Value-at-Risk model. The VaR methodology provides an estimate of the possible losses for a given portfolio based on: (1) historical market volatility; (2) a time horizon and (3) a confidence level.

For unregistered investment pool members, the VaR methodology is calculated at a 99.5 percent confidence level; the VaR methodology is calculated at 99 percent for all other Member categories. FICC assumes a portfolio will take three days to liquidate/hedge in normal market conditions. The end-of-day VaR component of the Required Fund Deposit addresses the risk presented by a Member’s end-of-day positions. Two hundred fifty-two days of historical pricing is utilized. Where a haircut is applied in lieu of VaR, haircut levels are also set at least at a 99 percent coverage level.

The sum of the VaR value (for liquid securities) and any haircut applied in lieu of VaR is used to cover the uncertainty of market volatility for the portfolio. This approach assumes no diversification benefit between securities margined with VaR and those with haircuts applied. To account for extreme future risks and to ensure data quality and consistency, VaR results undergo daily back-testing and are subject to stress-testing.

2. **Coverage Component**—The Coverage Component is a back-test-like component that is meant to address potential model deficiencies.

3. **Margin Requirement Differential (MRD)**—MRD is a component designed to address the risk of unobserved positions, including fluctuations of intraday positions.

4. **Deterministic Risk Component (“DRC”)**—DRC is a component that reflects mark-to-market results on outstanding positions, regardless of settlement date, cash items and adjustments that are the result of netting, and P&I exposure on failed positions.

5. **Other Charges**—FICC may increase a MBSD Member’s Required Fund Deposit by assessing additional charges aimed at mitigating perceived risks in excess of those systemically addressed (and discussed above). The imposition of such “special charges” is addressed and authorized in MBSD Rules 3 and 4. Examples of special charges include additional requirements due to recurring back-test deficiencies, concerns around market volatility and/or credit matters, etc. Furthermore, MBSD can apply Clearing Fund premiums for items, such as a Member’s late submission of requisite financial information and/or a Member’s failure to maintain minimum required financial resources, in accordance with the MBSD Rules.

**Mark-to-Market included in the Clearing Fund**

As noted, on a daily basis, MBSD collects mark-to-market components as part of the Clearing Fund. These components consist of charges to offset the difference between the contract price and current market prices, interest and other cash items when the Member’s end-of-day positions are marked at end-of-day market prices.
Ad Hoc Intraday Margin Charges

With respect to each Division, FICC may require additional (“ad hoc”) intraday margin should FICC deem it necessary or appropriate. Intraday market moves and positions are tracked and additional Clearing Fund monies are collected, as deemed necessary. Ad hoc intraday margin calls are typically due within one hour of request. Security pricing is monitored intraday, and additional Clearing Fund charges may be collected to cover the price movement from those Members with a significant exposure in an identified security or net portfolio. ERM systems also include routines that enable ERM 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. These reports are reviewed, and if ERM concludes that action is warranted, it may impose an ad hoc charge.

The components of each Division’s margining methodology are set forth in Rule 4 of each Division’s Rules, available on the DTCC website at www.dtcc.com. FICC also has prepared a Member Handbook for each Division that is made available to Members and applicants. The Member Handbook provides a description of each Division’s risk management measures, including the calculation of its Clearing Fund.

Pricing and data sources

FICC utilizes multiple third-party vendors to price its eligible securities, and uses a pricing hierarchy to determine a price for each cleared security; generally, that is the prior day’s closing price. ERM monitors each pricing file and performs rigorous exception reporting (large variance, stale, missing, off-the-market reports) to ensure that the prices are accurate, and uses a “default logic” to generate prices for securities when vendor information may not be readily available or reliable. Generally, the default is to apply the last previously used, valid price.

FICC also uses historical price data that is incorporated into the historical look-back period of the VaR margin model.

Model inputs, assumptions and parameters

As noted above, with respect to each Division, FICC calculates margin requirements assuming a three-day liquidation/hedge period for unsettled positions. The Clearing Fund requirement is calculated to achieve a confidence level of 99 percent, and this is evidenced with regular back-testing studies.

The liquidation periods are conservative based on the types of securities to be liquidated and the availability of options to “hedge” the portfolio to be liquidated essentially in “real time.” Hedging strategies may be used shortly after the failure of a Member in order to minimize market risk. This allows sufficient time to liquidate the portfolio in an orderly manner and minimize market impact.

Certain attributes of the product type such as liquidity are taken into account, including but not limited to industry research and scenario development. In addition, past insolvencies affecting each product type are reviewed, and “lessons learned” from past events may be incorporated into the model. Simulated closeout exercises are performed to understand the profit and loss of a portfolio under various stressed conditions, including market liquidity, limits on average daily volume and significant price changes due to stressed conditions.

As regards the historical data used in the VaR model, 252 days is the current look-back period. FICC bases its determination of the sample periods for historical data on mathematically sound principles that
result in a stable base for providing projected returns, supported by continual back-testing. The appropriate sample period is also discussed with industry experts and FICC’s independent model validators.

**Procyclicality and specific wrong-way risk**

In times of stress, market volatility may cause the Clearing Fund to increase, which is inherent in the risk management process of FICC. The choice of the VaR look-back period reflects a balance between stability of the VaR calculation and appropriate responsiveness to changing market conditions. FICC addresses the procyclicality of the formula through ongoing Member outreach, seeking to increase Member awareness of this impact.

FICC currently mitigates wrong-way risk (defined as the risk that counterparty exposures will increase when the creditworthiness of a counterparty deteriorates) by limiting eligible Clearing Fund collateral to cash and U.S. government and agency securities.

**Back-testing, sensitivity analysis and model validation**

FICC confirms the robustness of its margining methodologies through rigorous back and stress tests, and validation of its risk models by independent third-party experts.

FICC conducts back-testing on a daily basis on individual Member portfolios to determine: (a) the efficacy of the underlying VaR model and (b) the sufficiency of the calculated Required Fund Deposit (which includes all component charges). For the sufficiency test, coverage is defined as the number of test events without deficiencies divided by the total number of events in the testing period. The back tests compare the Clearing Fund requirements with actual price changes in a portfolio. The portfolio values are calculated by using the actual positions in a Member’s portfolio and the observed security price changes over the following three days.

FICC employs daily stress-testing to determine whether there will be adequate coverage levels for potential losses in a portfolio incurred during extreme market events. While the VaR component of FICC’s Clearing Fund formula is intended to provide coverage at a 99 percent confidence interval (assuming a three-day period to liquidate or hedge the relevant portfolio), it is possible under certain historical or stressed situations that the collateral on deposit with FICC could be insufficient to provide complete coverage for losses realized as a result of a Member’s failure. Stress tests facilitate FICC’s determination of the possibility where the funds on deposit would be insufficient in this regard.

The scenarios used in the stress tests fall into two broad categories: historical-based scenarios and hypothetical scenarios. The historical scenario set includes 50 stress events selected from a rolling look-back period of 10 years. This set is further augmented by special events such as those that occurred on September 11. FICC also utilizes hypothetical scenarios to supplement its risk management practices. Hypothetical stress events are constructed for testing outlier events, which are considered less likely but plausible market movements.

Back-test and stress-test results are reviewed by ERM management monthly. Exceptions identified in back tests and substantial changes in stress-test results are reviewed in order to identify causes and formulate responses, as needed. The results of this review and related metrics are reported to and discussed with the Management Risk Committee monthly, and shared with the Board Risk Committee and FICC’s supervisors in accordance with their regularly scheduled meetings. Members with repeated deficiencies, subject to certain criteria, may be contacted as well.
In accordance with the DTCC Model Validation Management Policy, all new models (including changes to existing models) must be internally reviewed and subject to independent validation prior to their implementation in production. The margin models are also reviewed annually by an independent external validator. The results of these reviews are provided to the Management Risk Committee, the Board Risk Committee and FICC’s supervisors. If a model weakness is detected, deficiencies would be escalated through FICC’s Model Validation team and additional mitigation strategies would be discussed with the MRC and BRC.
Principle 7: Liquidity risk

An FMI should effectively measure, monitor, and manage its liquidity risk. An FMI should maintain sufficient liquid resources in all relevant currencies to effect same-day and, where appropriate, intraday and multiday settlement of payment obligations with a high degree of confidence under a wide range of potential stress scenarios that should include, but not be limited to, the default of the participant and its affiliates that would generate the largest aggregate liquidity obligation for the FMI in extreme but plausible market conditions.

Key consideration 1: An FMI should have a robust framework to manage its liquidity risks from its participants, settlement banks, nostro agents, custodian banks, liquidity providers, and other entities.

Key consideration 2: An FMI should have effective operational and analytical tools to identify, measure, and monitor its settlement and funding flows on an ongoing and timely basis, including its use of intraday liquidity.

Key consideration 3: A payment system or SSS, including one employing a DNS mechanism, should maintain sufficient liquid resources in all relevant currencies to effect same-day settlement, and where appropriate intraday or multiday settlement, of payment obligations with a high degree of confidence under a wide range of potential stress scenarios that should include, but not be limited to, the default of the participant and its affiliates that would generate the largest aggregate payment obligation in extreme but plausible market conditions.

Not applicable, as FICC is not a payment system or an SSS.

Key consideration 4: A CCP should maintain sufficient liquid resources in all relevant currencies to settle securities-related payments, make required variation margin payments, and meet other payment obligations on time with a high degree of confidence under a wide range of potential stress scenarios that should include, but not be limited to, the default of the participant and its affiliates that would generate the largest aggregate payment obligation to the CCP in extreme but plausible market conditions. In addition, a CCP that is involved in activities with a more-complex risk profile or that is systemically important in multiple jurisdictions should consider maintaining additional liquidity resources sufficient to cover a wider range of potential stress scenarios that should include, but not be limited to, the default of the two participants and their affiliates that would generate the largest aggregate payment obligation to the CCP in extreme but plausible market conditions.

Key consideration 5: For the purpose of meeting its minimum liquid resource requirement, an FMI’s qualifying liquid resources in each currency include cash at the central bank of issue and at creditworthy commercial banks, committed lines of credit, committed foreign exchange swaps, and committed repos, as well as highly marketable collateral held in custody and investments that are readily available and convertible into cash with prearranged and highly reliable funding arrangements, even in extreme but plausible market conditions. If an FMI has access to routine credit at the central bank of issue, the FMI may count such access as part of the minimum requirement to the extent it has collateral that is eligible for pledging to (or for conducting other appropriate forms of transactions with) the relevant central bank. All such resources should be available when needed.
Key consideration 6: An FMI may supplement its qualifying liquid resources with other forms of liquid resources. If the FMI does so, then these liquid resources should be in the form of assets that are likely to be saleable or acceptable as collateral for lines of credit, swaps, or repos on an ad hoc basis following a default, even if this cannot be reliably prearranged or guaranteed in extreme market conditions. Even if an FMI does not have access to routine central bank credit, it should still take account of what collateral is typically accepted by the relevant central bank, as such assets may be more likely to be liquid in stressed circumstances. An FMI should not assume the availability of emergency central bank credit as a part of its liquidity plan.

Key consideration 7: An FMI should obtain a high degree of confidence, through rigorous due diligence, that each provider of its minimum required qualifying liquid resources, whether a participant of the FMI or an external party, has sufficient information to understand and to manage its associated liquidity risks, and that it has the capacity to perform as required under its commitment. Where relevant to assessing a liquidity provider’s performance reliability with respect to a particular currency, a liquidity provider’s potential access to credit from the central bank of issue may be taken into account. An FMI should regularly test its procedures for accessing its liquid resources at a liquidity provider.

Key consideration 8: An FMI with access to central bank accounts, payment services, or securities services should use these services, where practical, to enhance its management of liquidity risk.

Key consideration 9: An FMI should determine the amount and regularly test the sufficiency of its liquid resources through rigorous stress testing. An FMI should have clear procedures to report the results of its stress tests to appropriate decision makers at the FMI and to use these results to evaluate the adequacy of and adjust its liquidity risk management framework. In conducting stress testing, an FMI should consider a wide range of relevant scenarios. Scenarios should include relevant peak historic price volatilities, shifts in other market factors such as price determinants and yield curves, multiple defaults over various time horizons, simultaneous pressures in funding and asset markets, and a spectrum of forward-looking stress scenarios in a variety of extreme but plausible market conditions. Scenarios should also take into account the design and operation of the FMI, include all entities that might pose material liquidity risks to the FMI (such as settlement banks, nostro agents, custodian banks, liquidity providers, and linked FMIs), and where appropriate, cover a multiday period. In all cases, an FMI should document its supporting rationale for, and should have appropriate governance arrangements relating to, the amount and form of total liquid resources it maintains.

Key consideration 10: An FMI should establish explicit rules and procedures that enable the FMI to effect same-day and, where appropriate, intraday and multiday settlement of payment obligations on time following any individual or combined default among its participants. These rules and procedures should address unforeseen and potentially uncovered liquidity shortfalls and should aim to avoid unwinding, revoking, or delaying the same-day settlement of payment obligations. These rules and procedures should also indicate the FMI’s process to replenish any liquidity resources it may employ during a stress event, so that it can continue to operate in a safe and sound manner.
**Liquidity Risk Management Framework**

With respect to each Division, FICC maintains a liquidity risk management framework for the measurement, monitoring and management of its liquidity needs. Liquidity risk is managed by ERM, and is governed and subject to oversight by the Management Risk Committee and the Board Risk Committee. The program is designed for each Division to ensure that FICC maintains sufficient liquid resources to timely meet its payment (principally settlement) obligations with a high degree of confidence.

As a central counterparty, each Division’s liquidity needs are driven by the requirement to cover settlement, on an ongoing basis, in the event of a failure of a Member. As a cash market CCP, if a Member defaults, FICC will need to complete settlement of guaranteed transactions on the failing Member’s behalf from the date of insolvency (referred to as “DOI”) through the settlement date. FICC measures and manages its liquidity risk by performing daily simulations that measure the amount of liquidity that would be required by FICC in a number of scenarios, including amounts required over the settlement cycle in the event that the Member or Member family with the largest aggregate liquidity exposure becomes insolvent (that is, on a Cover 1 standard). With respect to each Division, FICC then seeks to maintain qualified liquidity resources in an amount sufficient to cover this risk. Each Division’s liquidity resources include: (1) the cash in the Clearing Fund; (2) the cash that would be obtained by repoing 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 (3) the cash that would be obtained by repoing the securities underlying the transactions that would have been delivered to the insolvent defaulting Member had it not defaulted. ERM provides an assessment of the repo market capacity that it can access without impacting market prices. In addition to the above, as noted in the Background section of this Disclosure Framework, MBSD maintains a facility referred to as the “CCLF®.” Once MBSD declares a CCLF® event, Members will be required to hold and fund their deliveries to the insolvent Member up to a predetermined cap by entering into repo transactions with FICC until it completes the associated closeout. This facility allows Members to effectively manage their potential financing requirements with predetermined caps. MBSD intends to use the CCLF® process only in the event it is not able to procure its own financing via its existing repo agreements and other funding sources.

Once MBSD issues an Important Notice announcing it is invoking CCLF®, each solvent Member will receive a report that identifies its delivery obligations owed to the Defaulting Member (i.e., positions that would then be liquidated). MBSD will then instruct solvent Members to hold and fund those deliveries (entirely or partially) up to their maximum contribution amount. Solvent Members will be responsible for suppressing securities deliveries to MBSD as appropriate; MBSD will return securities delivered by solvent Members to the extent that they should have suppressed such deliveries. Operationally, Members will then pair off fails with MBSD and set up reverse repos against MBSD as their counterparty for the amount they are funding until MBSD has liquidated the underlying securities. This will allow solvent Members to achieve finality of settlement while closing out any obligations against MBSD and adequately reflecting their financing transactions. In order to finance the long positions established by the

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40 Participation in CCLF® is a membership requirement for all full-service MBSD Members. Members must attest to their ability to participate in CCLF®. Daily reports provide Members with information on their current and potential future commitments. FICC may also seek to obtain a loan from its clearing bank(s) at the discretion of such bank(s).
repo transactions, Members will utilize the lines they have in place for repo, bank loan or potentially the Federal Reserve Bank Discount Window (for Members who have access to this facility).

These repo transactions will remain open until MBSD completes the liquidation of the underlying securities by selling them to a new buyer. At that point, FICC will instruct the funding Member to close the repo trade and deliver the securities to the clearing corporation at the original obligation amount to complete settlement on the contractual settlement date of the liquidating trade. By receiving and delivering securities on the same day, MBSD is able to liquidate positions without any need for liquidity.

MBSD will reimburse Members for the financing costs they incur when funding their own positions. These costs will become part of the liquidation P&L, as they would if MBSD had done the financing. If there are insufficient resources to pay for these costs, they will become part of the loss allocation process.

By establishing a maximum contribution amount for each firm, MBSD effectively establishes a predetermined amount that firms can utilize to size their potential liquidity needs in case a major Member defaults. That, in turn, will help Members assess their potential exposure to liquidity risks in various scenarios. MBSD uses two algorithms to establish the maximum contribution for each Member—one for Members that are banks or have bank affiliates, and a second model for all other Members. These maximum contributions are revised on a regular basis. Both algorithms determine each Member’s largest potential liquidity need for a given period by reviewing its associated sell positions versus original buyers on a bilateral basis within each CUSIP.

MBSD will accept securities delivered by a solvent Member to the insolvent Member in excess of the solvent Member’s maximum contribution on a DVP basis. MBSD will seek to fund these deliveries via its Clearing Fund cash deposits. If these cash deposits are insufficient, MBSD will seek to fund itself by routing these securities to other Members. This redistribution of securities, which will occur in the form of repo transactions, will be limited to Members that are banks or that have bank affiliates. In addition, the combined amount of suppressed and redistributed deliveries will not exceed a Member’s maximum contribution amount. All positions funded by Members will continue to be guaranteed by MBSD. The sizing of the CCLF® is based on similar assumptions to the daily liquidity calculations.

As all securities cleared and settled through FICC settle in U.S. dollars, FICC has no cross currency exposure. As noted above under the discussion of Credit Risk (Principle 4), FICC is not systemically important in multiple jurisdictions, and as a U.S. CCP, its activities do not have a complex risk profile. FICC does not have access to routine credit at the central bank for liquidity; as such, it does not account for this option in its liquidity planning.

**Measurement and monitoring of liquidity risk and needs**

ERM and FICC’s Settlement Operations groups monitor settlement flows and projected debit obligations on a daily basis. Each Member’s incoming credits and debits are reviewed to estimate the size of cash outflow required to satisfy settlement needs. In addition, automated risk systems are utilized to measure and monitor liquidity demands.

ERM performs daily liquidity studies to understand if its current available liquidity resources are sufficient to satisfy the single-largest family default under stressed but plausible conditions.

In the event that a GSD Member or MBSD Member, as applicable, defaults on its open obligations, FICC’s liquidity needs are driven by the Member’s settlement obligations on the date of its insolvency (DOI), plus the failed Member’s security purchases on each day of the settlement cycle. To the extent that
a Member’s open portfolio to be closed out is “net-long.” FICC is responsible for the receipt of securities and payment of cash. As such, “buy” settlement positions drive the potential liquidity risk that is posed to FICC, since FICC would be responsible for the payment of cash required to settle those purchases.

Accordingly, FICC calculates its liquidity needs per individual Member at a legal entity level and further aggregates amounts at a family level (that is, including all affiliated entities41 that are also FICC Members, under the assumption that all such affiliates fail simultaneously). Members’ total liquidity needs are based on the sum of their aggregate daily debit positions on a per CUSIP basis, less any applicable offsets in the portfolio (that is, if the Member has transacted a securities purchase and sale in the same CUSIP, a settlement credit can be generated). These positions represent the securities that FICC would have an obligation to receive and pay for in the event of a Member default.

Based on the results of the calculation, for each Division, FICC determines its aggregate financial resources that would be available to satisfy the largest peak aggregate settlement obligation of a Member or Member family on the day of the simulated default. The review includes a number of stress scenario assumptions or conditions, among which are the following:

1. **Jump to Default.** The relevant entities within each Division’s Member family simultaneously default, without warning, and they fail to satisfy cash settlement on date of failure. The defaulting firms trade on the day of default at peak historical trading levels.

2. **Market Volatility remains low.** With respect to each Division, the failure of a systemically important Member family will normally result in a significant upswing in market volatility, which will lead to an increase to Clearing Fund requirements (the funds from which could be used in a liquidity event). However, for purposes of these daily calculations, FICC assumes no increase in each Division’s Clearing Fund requirements.

3. **No fails to deliver.** FICC assumes that all long positions due to be delivered to each Division by Member counterparties, and hence from each Division to the failing firms, are allocated and delivered on their originally scheduled settlement dates; that is, there are no delivery fails. As a result, each Division pays for the deliveries on the scheduled contractual settlement date and payment is not deferred.

The results of these daily studies and calculations are reviewed by ERM management on a daily basis; the resultant metrics are reported to and discussed with the Management Risk Committee monthly, and reviewed with the Board Risk Committee and FICC’s supervisors at their regularly scheduled meetings.

**Size and composition of qualifying liquid resources; reporting**

Each Division’s Rules specifically permit borrowings from the Clearing Fund to facilitate settlement; in addition, Clearing Fund amounts and collateral may be pledged for the purpose of securing loans to facilitate settlement.42 Clearing Fund cash is maintained in accounts with creditworthy commercial banks

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41 “Affiliated entities” means collectively, each GSD Member or MBSD Member, as applicable, which 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% of the voting securities or other voting interests of any organization, entity or person.

42 GSD Rule 4, Sections 5 and 11, and MBSD Rule 4, Sections 5 and 11.
and other overnight investments in accordance with DTCC’s Investment Policy (as more fully described under Principle 16 (Custody and investment risks)) and, on an intraday basis, in a sub-account of DTC at the FRBNY; these amounts can be made available to draw to complete settlement as needed.

Reliability of liquidity providers and others

Automated risk systems are utilized to measure and monitor each Division’s liquidity demands. In addition, Members also receive daily reporting on the settlement obligations, and with respect to MBSD, CCLF® reporting is made available to MBSD Members. The CCLF® reports enable Members to monitor their potential maximum liquidity obligation under an extreme default in MBSD.

The results from the liquidity stress tests are distributed to each Division’s internal staff along with FICC’s regulators. In addition, metrics are prepared and distributed on a regular basis to FICC’s Management Risk Committee and the Board’s Risk Committee.

Stress scenarios, review and validation

As discussed above, the daily liquidity study that ERM performs includes a number of stress scenarios and assumptions so as to evaluate each Division’s liquidity needs on a conservative basis and ensure the maintenance of sufficient liquid resources to timely meet its settlement obligations with a high degree of confidence.

The stress assumptions used in the daily liquidity studies have been reviewed, for reasonableness, by an independent industry expert.

As part of the liquidity risk framework, ERM also runs additional scenarios that take into account more severe market price variation and resource constraints. Stresses applied during these tests may include (1) substantial price swings of the defaulting Member’s portfolio, (2) multiple default scenarios and (3) haircut increases or resource stresses. Results for selected scenarios are provided to the Management Risk Committee on a quarterly basis and escalated to the Board Risk Committee as necessary. The results of these studies are used, for informational purposes, to evaluate the impact of extreme market moves and the potential changes in resource availability that may follow. To the extent that stress tests indicate a potential impact on the sufficiency of FICC’s liquidity resources, management may consider options available to supplement resources. ERM continually evaluates additional stresses that may be appropriate for inclusion in future testing, and reviews potential market developments that could lead to increased strain on its liquidity resources, evaluating those developments in conjunction with the stress-testing results.

Replenishment of liquidity resources; uncovered liquidity shortfalls

As the liquidation of a defaulting Member’s portfolio completes (including the sale of collateral used to secure a borrowing), the proceeds from the closeout would be used to repay liquidity borrowings, thus replenishing each Division’s liquidity resources. Should closeout proceeds be insufficient to fully repay a liquidity borrowing, then FICC would look to its loss waterfall (described under Principles 4 (Credit risk) and 13 (Participant-default rules and procedures) to repay any outstanding borrowings.

FICC continues to evaluate additional options for liquidity, particularly to address unforeseen and potentially uncovered liquidity shortfalls in extreme scenarios. DTCC has established a standing member-based advisory group, the Clearing Agency Liquidity Council (“CALC”), to provide a forum for the discussion of liquidity and liquidity-related financing issues and trends, along with developing approaches to address such scenarios. The CALC is comprised of a diverse cross section of NSCC and FICC
participants, including: (a) custodian banks, (b) investment banks, (c) retail broker-dealers, (d) clearing firms, (e) government securities dealers and (f) mortgage-backed securities dealers. As FICC develops additional liquidity alternatives, the CALC will be a forum through which these alternatives can be discussed and evaluated, including the potential funding obligations any such liquidity solutions may pose on Members.
Principle 8: Settlement finality

*An FMI should provide clear and certain final settlement, at a minimum by the end of the value date. Where necessary or preferable, an FMI should provide final settlement intraday or in real time.*

Key consideration 1: An FMI’s rules and procedures should clearly define the point at which settlement is final.

Key consideration 2: An FMI should complete final settlement no later than the end of the value date, and preferably intraday or in real time, to reduce settlement risk. An LVPS or SSS should consider adopting RTGS or multiple-batch processing during the settlement day.

Key consideration 3: An FMI should clearly define the point after which unsettled payments, transfer instructions, or other obligations may not be revoked by a participant.

**Funds-Only Settlement—GSD and MBSD**

For both GSD and MBSD, the transfer of cash with regard to funds-only settlement (see GSD Rule 13 and MBSD Rule 11) is processed through the Federal Reserve’s NSS. FICC has indirect access to the NSS service via DTC. All entries processed via NSS are final and irrevocable when posted as per the Federal Reserve’s Operating Circular 12. Each Division’s funds-only settlement process is further described in Principle 9.

**Settlement of Securities and Related Payment Obligations—GSD**

For all GSD CCP services other than the GCF Repo® service described below, securities settlement occurs on a delivery-versus-payment (DVP) basis via Fedwire® or on the books of one of FICC’s clearing banks, BNY and JPM. Securities settlement that occurs on Fedwire® is final and irrevocable when the transfer of securities and related funds is made as per the Federal Reserve’s Operating Circular 7. Similarly, securities settlement that occurs on the books of one of FICC’s clearing banks is final when the transfer of securities and related funds occurs per the agreements between FICC and each of its clearing banks.

The GCF Repo® service uses the tri-party settlement model. Dealer members of the GSD who participate in this service are required to have an account with either one or both of the participating clearing banks, BNY and JPM. Since the net GCF Repo® settlement obligations are established after the securities Fedwire® has closed, FICC and its two clearing banks have established a tri-party-like settlement mechanism to allocate securities to dealer members’ GCF Repo® obligations. Funds movement occurs once a dealer member with a net GCF Repo® obligation (cash borrower) has fully satisfied and completely collateralized its GCF Repo® obligation. GCF Repo® settlement can be either intra-clearing bank (where net cash borrower and net cash lender are at the same clearing bank) or inter-clearing bank (where net cash borrower and net cash lender are at different clearing banks). For inter-clearing bank specifically, the two clearing banks have agreed to allow the securities to be held under a subcustodial

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43 Offering Circular No. 12 is available at www.frbservices.org.

44 Offering Circular No. 7 is available at www.frbservices.org.
relationship (where FICC is the subcustodian) in lieu of receiving the securities via Fedwire®. All principal payments related to GCF Repo® settlement occur at the clearing banks. Interest settlement related to GCF Repo® is collected through the GSD funds-only settlement process. For inter-clearing bank GCF Repo®, payment is made once collateral is received from the other clearing bank. Here the clearing bank representing the dealers in the net funds lender position reviews the file of securities sent by the other clearing bank and releases the funds once it is satisfied with the securities file. The funds move before the close of the funds Fedwire®.

**Settlement of Securities and Related Payment Obligations—MBSD**

The MBSD becomes the settlement counterparty only to those obligations that are eligible for Pool Netting. For such obligations, securities settlement occurs on a DVP basis via Fedwire® or on the books of one of FICC’s clearing banks, and finality is achieved in the same manner as for the GSD settlement services (other than the GCF Repo® service), as described above.

Obligations that are not eligible for Pool Netting are not settled directly with FICC, but rather are settled outside of FICC directly between the parties to the trade. As such, the finality of the settlement of this activity is determined in accordance with the relevant settlement mechanism established by the counterparties bilaterally.

**Settlement instructions**

Pursuant to each Division’s Rules, Members cannot revoke their securities settlement obligations to FICC. Each Division’s Rules state that “reversal codes shall not be used to identify any delivery of securities to [FICC] without the express prior permission of [FICC].” FICC may accept a revocation of an instruction or obligation under limited circumstances. In order for a revocation to be accepted, FICC must receive revocation instructions from both Members, and FICC must be certain that removing the affected positions from the settlement process will not affect other Members.

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45 GSD Rule 12, Section 1 and MBSD Rule 9, Section 1.
Principle 9: Money settlements

An FMI should conduct its money settlements in central bank money where practical and available. If central bank money is not used, an FMI should minimise and strictly control the credit and liquidity risk arising from the use of commercial bank money.

Key consideration 1: An FMI should conduct its money settlements in central bank money, where practical and available, to avoid credit and liquidity risks.

Key consideration 2: If central bank money is not used, an FMI should conduct its money settlements using a settlement asset with little or no credit or liquidity risk.

Key consideration 3: If an FMI settles in commercial bank money, it should monitor, manage, and limit its credit and liquidity risks arising from the commercial settlement banks. In particular, an FMI should establish and monitor adherence to strict criteria for its settlement banks that take account of, among other things, their regulation and supervision, creditworthiness, capitalisation, access to liquidity, and operational reliability. An FMI should also monitor and manage the concentration of credit and liquidity exposures to its commercial settlement banks.

Key consideration 4: If an FMI conducts money settlements on its own books, it should minimise and strictly control its credit and liquidity risks.

Key consideration 5: An FMI’s legal agreements with any settlement banks should state clearly when transfers on the books of individual settlement banks are expected to occur, that transfers are to be final when effected, and that funds received should be transferable as soon as possible, at a minimum by the end of the day and ideally intraday, in order to enable the FMI and its participants to manage credit and liquidity risks.

Introduction

With respect to GSD, there are three types of money settlements that occur: (i) the funds-only settlement process that occurs pursuant to GSD Rule 13 and consists of 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, GCF Repo® interest, billing and other adjustments, (ii) the fund payments associated with securities deliveries pursuant to GSD’s DVP/RVP settlement process and (iii) the fund payments associated with the settlement of GCF Repo® transactions.

With respect to MBSD, there are two types of money settlements that occur: (i) the cash settlement process that occurs pursuant to MBSD Rule 11 and consists of a mark-to-market amount for every netted pool settlement position and netted TBA position, Clearing Fund interest, principle and interest payments, TMPG fail charges, billing and other adjustments and (ii) the fund payment associated with securities deliveries pursuant to MBSD’s DVP/RVP settlement process.

Fund payments in connection with each Division’s DVP/RVP service and GSD’s GCF Repo® service are discussed further in Principle 8.
Settlement Arrangements

Funds-Only Settlement

FICC uses the central bank model with a tiered settlement arrangement for its GSD funds-only settlement process (GSD Rule 13) and its MBSD cash settlement process (MBSD Rule 11). These processes occur via the Federal Reserve’s National Settlement System (“NSS”) with DTC acting as a settlement agent for FICC. Members are required to engage a settling bank that meets FICC’s settling bank limited membership criteria to effect money settlement via NSS on behalf of the Members. 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). FICC confirms that fund transfers have been effected on each business day with respect to the funds-only settlement process.

Fund-only settlement is a daily process of generating a net credit or debit cash amount for each Member and settling those cash amounts between Members and GSD or MBSD, as applicable. The funds-only settlement process is a cash pass-through process; i.e., those Members that are in a debit position submit payments that are then used to pay Members in a credit position. Cash debits and credits are executed over the Federal Reserve’s NSS with DTC acting as a settlement agent for FICC. The individual debits and credits of all Members using the same settling bank are totaled. Once the net debits/credits are approved at the bank level, the Federal Reserve debits or credits each bank. The banks then debit or credit the Members’ accounts for which they settle.

GSD processes funds-only settlement debit and credit payments simultaneously via the NSS twice daily at 10:00 a.m. and 3:15 p.m. The timing of the payments is set to lag behind the Clearing Fund margin calls, so if a Member has not made its Clearing Fund call, any funds-only credit payment can be withheld (up to the amount of the late Clearing Fund call). MBSD processes funds-only settlement debits in the morning at 10:00 a.m. and credits in the afternoon at 2:45 p.m. in each case via NSS.

Designation of Settling Bank

Members at each Division are obligated to designate a settling bank to effect daily money settlement on their behalf. Members may designate a settling bank of their own choosing (and FICC does not intervene in that relationship), provided the bank meets certain financial criteria, is a Federal Reserve member and agrees to settle through use of NSS. The settling banks are “Funds-Only Settling Bank Members” with respect to GSD and “Cash Settling Bank Members” with respect to MBSD (collectively, referred to herein as “Settling Bank Members” or “Settling Bank”) and agree to abide by the requirements applicable

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46 NSS is a multilateral settlement service owned and operated by the Federal Reserve Banks (FRBs). The service is offered to depository institutions that settle for participants in clearinghouses, financial exchanges and other clearing and settlement groups. Settlement agents, acting on behalf of those depository institutions in a settlement arrangement, electronically submit settlement files to the FRBs. Files are processed on receipt, and entries are automatically posted to the depository institutions’ Federal Reserve Bank accounts. DTC maintains an account at the FRB and acts as agent for FICC for Funds-Only Settlement.

47 The GSD Rules refer to this process as “funds-only settlement”; however, the MBSD Rules refer to this process as “cash settlement.” For ease of review, the term “funds-only settlement” is used in this principle.
to that class of membership; this includes timely adherence to daily settlement protocols. (Settling Bank standards and monitoring are described below.) The settling bank may or may not have a credit relationship with the Member—it is not expected or required to guarantee the obligations of the Member or to advance funds on the Member’s behalf. 48 If a settling bank does not settle on behalf of one or more Members, each of those Members nevertheless remains obligated to pay its net settlement obligation through alternative funding arrangements.

**DTC Acts as Settlement Agent for FICC**

As described above, FICC has a settlement interface with its affiliate, DTC. DTC acts as Settlement Agent for FICC. In submitting the NSS file, DTC, as FICC’s settlement agent, submits instructions to cause the Federal Reserve accounts of the settling banks to be charged for their net-net debit balances and credited with their net-net credit balances.

**Settling Bank Requirements and Monitoring**

FICC settling banks are required to maintain accounts at the Federal Reserve, and meet minimum financial and operational criteria, including minimum capital requirements and a minimum Tier 1 Risk-Based Capital Ratio for regulatory purposes. Settling Banks are subject to supervision and regulation by their federal and state regulators, depending on their form of organization.

ERM monitors the settling banks for their compliance with each Division’s Rules (in their capacity as Members, or as settling bank members). In this regard, ERM obtains information from Settlement Operations regarding settlement exposures, and any operational problems experienced by these banks. Settling Bank operational capabilities are monitored on an ongoing basis; banks may be subject to fines for failure to timely acknowledge settlement balances.

ERM reviews the financial condition of settling banks, at least quarterly. Financial statements filed with regulatory agencies (CALL reports), information obtained from other self-regulatory organizations and information gathered from various financial publications is analyzed to confirm that each settling bank continues to be financially stable.

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48 Each Division’s Rules include protections such as allowing the Settling Bank to refuse to settle for a Member.
Principle 10: Physical deliveries

An FMI should clearly state its obligations with respect to the delivery of physical instruments or commodities and should identify, monitor, and manage the risks associated with such physical deliveries.

Key consideration 1: An FMI’s rules should clearly state its obligations with respect to the delivery of physical instruments or commodities.

Key consideration 2: An FMI should identify, monitor, and manage the risks and costs associated with the storage and delivery of physical instruments or commodities.

FICC does not have any obligations with respect to physical instruments or commodities. Accordingly, Principle 10 does not apply to FICC.
Principle 11: Central securities depositories

A CSD should have appropriate rules and procedures to help ensure the integrity of securities issues and minimise and manage the risks associated with the safekeeping and transfer of securities. A CSD should maintain securities in an immobilised or dematerialised form for their transfer by book entry.

FICC is not a CSD. Accordingly, Principle 11 does not apply to FICC.
**Principle 12: Exchange-of-value settlement systems**

*If an FMI settles transactions that involve the settlement of two linked obligations (for example, securities or foreign exchange transactions), it should eliminate principal risk by conditioning the final settlement of one obligation upon the final settlement of the other.*

**Key consideration 1:** An FMI that is an exchange-of-value settlement system should eliminate principal risk by ensuring that the final settlement of one obligation occurs if and only if the final settlement of the linked obligation also occurs, regardless of whether the FMI settles on a gross or net basis and when finality occurs.

**Settlement System—GSD**

Settlement of the transactions processed by GSD involves the delivery of securities against payment of funds.

With respect to GSD, FICC’s CCP services can be divided into two segments for purposes of this Principle: (1) the GCF Repo® service and (2) all non-GCF Repo®, which is generally referred to as the DVP service. From a legal and contractual perspective, these services are described in the GSD Rules to which Members are subject by the provisions of their membership agreements with the FICC. There are also relevant contractual provisions between FICC and its clearing banks that govern the clearance and settlement services provided by the clearing banks with respect to each of these services.

The DVP service encompasses all non-GCF Repo® activity (both repo and buy-sell activity). All of this activity is done on a delivery-versus-payment (DVP) basis, and in this way FICC ensures that principal risk is eliminated. The framework is as follows: On each business day, FICC makes available to each GSD Member output (i.e., a report) that provides information (i.e., type of obligation (deliver or receive), name and reference number of the clearing bank, CUSIP number, settlement date, par value, final dollar value and other information descriptive of an eligible netting security) that FICC deems sufficient to enable the Member to settle its net settlement positions on that business day. Each GSD Member, based on the information provided by FICC, then provides appropriate instructions to its clearing bank to deliver to FICC, and/or to receive from FICC, on behalf of the GSD Member, eligible netting securities against payment or receipt of funds at the appropriate settlement value. Obligations are either settled within a clearing bank (that is, on the books of a clearing bank) or using Fedwire®. All deliveries are made against full payment.

The GCF Repo® service essentially functions on a tri-party basis. The legal, contractual, technical and risk management frameworks are as follows: As stated in the GSD Rules, dealer GSD Members who participate in this service are required to have an account with either one or both of the participating clearing banks—BONY and JPM.

Dealer Members participating in the service are permitted to engage in GCF Repo® trading on an inter-clearing bank basis, meaning that dealers using different clearing banks (e.g., one clears at BONY and one 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 securities Fedwire® has closed, FICC and its two clearing banks have established a tri-party-like settlement mechanism to permit the movement of 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 issue because the funds Fedwire® stays open later and the funds movement is accomplished prior to the close of the funds Fedwire®). Instead of sending securities over
the securities Fedwire®, the clearing bank that is obligated to send securities carries the securities as custodian for FICC who, in turn, carries the securities on behalf of the receiving clearing bank. The clearing bank holding the securities sends a report to the receiving clearing bank listing the relevant securities and, once the receiving clearing bank is satisfied with such report, the funds move from the receiving clearing bank to the other clearing bank over the funds Fedwire®. Any settlements that occur on an intra-clearing bank basis occur on a DVP basis on the books of the clearing banks.

**Settlement System—MBSD**

Settlement of transactions processed by MBSD involves the delivery of securities against payment of funds. This activity is done on a DVP basis, and in this way FICC ensures that principle risk is eliminated. The framework is as follows: On each business day, FICC makes available to each MBSD Member output (i.e., a report) that provides information (i.e., type of obligation (deliver or receive), CUSIP number, settlement date, par value, final dollar value and other information descriptive of an eligible security) that FICC deems sufficient to enable to the Member to settle its net pool positions on that business day. Each MBSD Member, based on the information provided by FICC, then provides appropriate instructions to its clearing bank to deliver to FICC, and/or to receive from FICC, 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 (that is, on the books of the clearing bank) or using Fedwire®. All deliveries are made against full payment. FICC becomes the settlement counterparty to those obligations that are generated via Pool Netting. For such obligations, settlement occurs on a DVP basis via Fedwire® or on the books of one of FICC’s clearing banks. Obligations that are not eligible for Pool Netting are not settled directly with FICC, but rather settled outside of FICC directly between the parties to the trade. As such, the finality of the settlement of this activity will be determined under the rules of the relevant settlement mechanism. FICC processes the settlement information of such trades as part of its nightly batch process. Both parties to the settlement submit NOS to FICC, which indicates that settlement has occurred. The NOS includes the value of the settlement and relevant trade terms such as contraside, pool number, price, etc. Once FICC receives the bilaterally matching NOS, it updates the trade record with the settlement information.

**Each Division’s Reliance on the Fedwire®**

Each Division relies on another FMI—the Federal Reserve’s Fedwire®. FICC is not permitted to have a direct contractual relationship with the Federal Reserve for access to the Fedwire® system because it is not a type of institution that may be a “Fedwire® participant,” which generally includes banking institutions; BONY and JPM, FICC’s clearing banks, have the direct relationship with the Fedwire® systems. The terms of the Fedwire® service are governed by the Federal Reserve’s Operating Circular No. 7.49

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49 Offering Circular No. 7 is available at www.frbservices.org.
Principle 13: Participant-default rules and procedures

An FMI should have effective and clearly defined rules and procedures to manage a participant default. These rules and procedures should be designed to ensure that the FMI can take timely action to contain losses and liquidity pressures and continue to meet its obligations.

Key consideration 1: An FMI should have default rules and procedures that enable the FMI to continue to meet its obligations in the event of a participant default and that address the replenishment of resources following a default.

Key consideration 2: An FMI should be well prepared to implement its default rules and procedures, including any appropriate discretionary procedures provided for in its rules.

Key consideration 3: An FMI should publicly disclose key aspects of its default rules and procedures.

Key consideration 4: An FMI should involve its participants and other stakeholders in the testing and review of the FMI’s default procedures, including any close-out procedures. Such testing and review should be conducted at least annually or following material changes to the rules and procedures to ensure that they are practical and effective.

Rules and procedures relating to default management

Each Division’s Rules allow FICC to take timely action to continue to meet its obligations and contain losses in the event of a Member default.

Each Division’s Rules clearly state what constitutes a Member default. Under GSD Rule 21 (Restrictions on Access to Services), and MBSD Rule 14 (Restrictions on Access to Services), the Board of Directors may suspend a Member or prohibit or limit a Member’s access to FICC’s services in enumerated circumstances. These circumstances include a Member’s expulsion or suspension from a regulatory or self-regulatory organization, default in delivering funds or securities to FICC, and a Member’s experiencing such financial or operational difficulties that FICC determines, in its discretion, that restriction on access to its services is necessary for its protection and for the protection of its membership. Each Division’s Rules provide FICC with some discretion in determining what constitutes adequate cause to cease to act for a Member. GSD Rule 22 (Insolvency of a Member) and MBSD Rule 16 (Insolvency of a Member) enumerate the circumstances under which a Member will be treated as insolvent.

If any of the enumerated circumstances arise, depending upon the facts and situation, FICC may suspend a Member from any service provided by FICC either with respect to a particular transaction or transactions or with respect to transactions generally, or it may prohibit or limit such Member’s access to services offered by FICC. When FICC restricts a Member’s access to services generally, FICC is said to have “ceased to act” for the Member.

The determination as to whether or not to cease to act for a Member is not automatic; rather under GSD Rule 21 and MBSD Rule 14 an affirmative determination to do so must be made. The Board of Directors has delegated authority to make such determinations to the Board Risk Committee. 50 To ensure that action

50 This authority is reflected in the Charter of the Board Risk Committee, which is available on DTCC’s website.
may be taken timely, the Board Risk Committee Charter also provides for delegated authority to the Chair of the BRC and/or certain corporate officers if a quorum of the BRC is not timely available, such action would be confirmed by the BRC within three business days.

When FICC ceases to act for a Member, or suspends or limits its access to services, FICC notifies the Member and furnishes it with a written statement, pursuant to GSD Rule 21 and MBSD Rule 14, of the grounds for the decision, and of the Member’s right to request a hearing with respect to that determination. 51 FICC will also notify the defaulter’s regulator and FICC’s own supervisors of any decision to cease to act promptly after such decision is made, and will issue an Important Notice to all Members informing them of the cease to act. 52

Closeout process

Once FICC has ceased to act for a Member, each Division’s Rules provide it with the authority to promptly close out and manage the positions of a defaulter and to apply the defaulter’s collateral. GSD Rule 22A (Procedures for When the Corporation Ceases to Act) and MBSD Rule 17 (Procedures for When the Corporation Ceases to Act) describe the procedures, including actions FICC may take, when it ceases to act for a Member; this includes provisions for the treatment of core services where Members may have transactions pending with a defaulting Member. The rules identify which actions are automatic, and which are discretionary, and detail how the unsettled transactions of the defaulting Member are to be processed. In this regard, unless the BRC has determined otherwise, FICC will generally exclude from further processing any trade that, at the time FICC declined or ceased to act for the Member, had not compared upon receipt pursuant to the Rules or that had not been reported by FICC to Members as compared. 53 Any transactions so excluded are to be settled between the parties and not through FICC.

FICC communicates all such actions and determinations to its membership (including Members’ responsibilities with respect thereto) via Important Notices, which are posted on the DTCC website. Members are responsible for retrieving Important Notices daily.

As discussed in Principle 14 (Segregation and portability), as a cash market CCP in the U.S., the legal regime provides for protection of customer securities at the broker/dealer level. As a result, FICC does not maintain separate “house” and “client” accounts for its Members, nor is it able to distinguish between proprietary and customer activity. Accordingly, the closeout of pending transactions will include all of the defaulter’s pending transactions that are not otherwise exited from FICC’s systems.

As a cash market CCP, the process of closing out open positions typically involves effecting market purchases and sales, that is, buying in securities the defaulter was obligated to deliver to FICC, and selling out securities the defaulter was obligated to receive from FICC and pay for, or otherwise liquidating the position. FICC utilizes the services of one or more investment advisors and executing brokers to facilitate such transactions promptly following its determination to cease to act. FICC may

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51 Notices are provided for in GSD Rule 45 and MBSD Rule 35; hearing procedures are provided pursuant to GSD Rule 37 and MBSD Rule 28. As provided in GSD Rule 21 and MBSD Rule 14, in certain cases FICC may summarily suspend a Member, with the Member having a right to a hearing after the fact; in other cases, the action is subject to the Member’s prior right to request a hearing.

52 GSD Rule 45, Section 3 and MBSD Rule 35, Section 3.

53 GSD Rule 22A, Section 2 and MBSD Rule 17, Section 2.
engage in hedging transactions or otherwise take action to minimize market disruption as a result of such purchases and sales.

**Use of financial resources to contain liquidity pressures and losses**

As described more fully in Principle 7 (Liquidity risk), FICC maintains liquidity resources to enable it to complete settlement in the ordinary course notwithstanding the default of a Member. Each Division’s liquidity resources include: (1) the cash in the Clearing Fund; (2) the cash that would be obtained by repoing 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 (3) the cash that would be obtained by repoing the securities underlying the transactions that would have been delivered to the insolvent defaulting Member had it not defaulted. In addition to the above, MBSD maintains the CCLF®. Each Division’s Rules empower it to draw promptly on these resources as needed, while it proceeds to complete the closeout and liquidation of the defaulter’s positions.

Each Division’s Rules specifically permit borrowings from the Clearing Fund to facilitate settlement; in addition, Clearing Fund collateral may be pledged for the purpose of securing loans to facilitate settlement.

As the liquidation of a defaulting Member’s portfolio completes (including the sale of collateral used to secure a borrowing), the proceeds from the closeout would be used to repay liquidity borrowings, thus replenishing FICC’s liquidity resources. Should closeout proceeds be insufficient to fully repay a liquidity borrowing, then FICC would look to its loss waterfall to repay any outstanding borrowings.

**Loss waterfall**

To address potential tail losses, each Division maintains additional prefunded resources. These consist of (i) the Clearing Fund, which, in the aggregate, currently serves as FICC’s default fund, and (ii) a portion of FICC’s retained earnings.

Each Division’s Rules address how uncovered credit losses are to be covered. GSD Rule 4 (Clearing Fund and Loss Allocation) and MBSD Rule 4 (Clearing Fund and Loss Allocation) address the use of FICC’s Clearing Fund amounts to satisfy losses that may be incurred as a result of a Member default.

If, after closing out and liquidating a defaulting Member’s positions, FICC were to suffer a loss, such loss would be satisfied as follows:

(1) First, apply the defaulting Member’s resources.

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54 Once MBSD declares a CCLF® event, Members will be required to hold and fund their deliveries to the insolvent Member up to a predetermined cap by entering into repo transactions with FICC until it completes the associated closeout. This facility allows Members to effectively manage their potential financing requirements with predetermined caps. MBSD intends to use the CCLF® process only in the event it is not able to procure its own financing via its existing repo agreements and other funding sources.

55 GSD Rule 4, Sections 5 and 11; and MBSD Rule 4, Sections 5 and 11.
In the event of a Member default, the amounts on deposit to the Clearing Fund and Eligible Clearing Fund Securities pledged from the defaulting Member (along with any other resources of, or attributable to, the defaulting Member (or certain permitted margin affiliates) that FICC may access under each Division’s Rules, such as funds-only settlement amounts and other collateral held by the Division securing the defaulting Member’s obligations to the Division), are the first source of funds and collateral that FICC would use to cover any losses that may result from the closeout and liquidation of the defaulting Member’s positions.

FICC has also entered into a multilateral netting contract and limited cross-guaranty agreement with DTC, NSCC 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 Member. Under this arrangement, no party ever needs to pay “out of pocket” and no party can receive more than its loss.

GSD also has a cross-margining agreement with the CME, which may also provide for additional funds if the defaulting member was a cross-margining participant.56

(2) Next, use of retained earnings.

Pursuant to Rule 4 in each Division’s Rules, in the event of a Member impairment, before applying the Clearing Fund deposits of non-defaulting Members to cover any resulting loss, it will apply up to 25 percent of FICC’s retained earnings existing at the time of the Member impairment (or such greater amount as the Board of Directors may determine).

(3) Finally, access and replenish Clearing Fund (i.e., Member loss allocation).

If a loss still remains, FICC would satisfy the deficiency by utilizing the Clearing Fund of and assessing its non-defaulting Members as provided for in each Division’s Rules, as applicable.

Specifically, FICC will divide the loss ratably between the Tier One Members and the Tier Two Members based on original counterparty activity with the defaulting Member. Then the loss allocation process applicable to Tier One Members and Tier Two Members will proceed via two separate, parallel and simultaneous streams.

Tier Two Members:

Due to regulatory requirements applicable to them, Tier Two Members are only subject to loss allocation to the extent they traded with the defaulting Members and their trades resulted in a liquidation loss. FICC will assess Tier Two Members ratably based on their loss as a percentage of the entire amount of the remaining loss attributable to Tier Two Members. Tier Two Members are required to pay their loss allocation obligation in full and replenish their Required Fund Deposit as needed.

56 If the defaulting Member participates in the CME Arrangement, GSD will determine any loss or liability incurred in accordance with that agreement which is part of the GSD’s Rules.
Tier One Members:

With respect to Tier One Members, the process, in general, allocates any remaining liabilities ratably among the Tier One Members who were non-defaulting Members on the date of default. This includes any Tier One Member who has previously notified FICC of its election to terminate its membership, but whose membership termination is not yet effective per FICC’s Rules because such Member continues to maintain activity on the books of FICC and/or has other obligations owing to FICC on the day of default.

The Division will first assess each Tier One Member on a pro rata basis an amount up to $50,000. If a loss still remains, the Division will allocate the remaining loss ratably among Tier One Members in accordance with the amount of each Tier One Member’s respective average daily Required Fund Deposit over the prior 12 months. If a Tier One Member has not been a Member for 12 months, their loss allocation amount will be based on their average daily Required Fund Deposit over the time period during which such Member did maintain a Required Fund Deposit.

If a Member’s actual Clearing Fund deposit is less than its loss allocation obligation, in order to maintain its status as a member in good standing, it will be required to satisfy the shortfall and also replenish its Required Fund Deposit. In addition, iterative allocations relating to the same default event may be made, if necessary, to fully eliminate any remaining loss.

After payment of the $50,000 noted above, a Tier One Member may cap its loss allocation obligation by voluntarily withdrawing from membership within the specified timeframes in the Rules; the per default capped amount (i.e., the amount that the Member will be required to pay for the loss allocation obligation after it pays the $50,000) will be the Member’s Required Fund Deposit amount on the day on which FICC notified the Member of its loss allocation obligation. If the Member notifies FICC of its election to voluntarily terminate its membership and it continues to have activity on the books of FICC, it must maintain the Required Fund Deposit amount to support such activity. The withdrawing Member may become subject to loss allocation obligations that arise due to subsequent Member defaults to the extent that the Member continues to maintain positions on the books of the applicable Division.

To date, FICC has never invoked its Member loss allocation process.

FICC is in the process of developing a proposal to establish a guaranty fund to cover tail risk. If such a structure is implemented, it (and not the Clearing Fund) would serve as the financial resource for loss mutualization. The proposal is in the development stage and will be subject to Member outreach and the Rule Filing process.

**Implementation of default rules and procedures**

FICC maintains internal plans outlining the roles and responsibilities for addressing a Member default. These include internal procedures of the involved departments (such as, for example, Settlement Operations, and ERM) that outline the actions that may be taken in the event of a default of a Member and the various roles and responsibilities associated with these actions. Each instance where FICC would determine to cease to act is unique, and the internal procedures take this into consideration. FICC also maintains arrangements with one or more investment advisors and executing brokers to facilitate an actual closeout and liquidation.

As noted above, FICC will notify the defaulting Member, as well as the Member’s regulator, of any decision to cease to act promptly after such decision is made. FICC will also issue an important notice to all Members informing them of the cease to act. If a trustee (or other insolvency official) is appointed for
the defaulting Member, FICC will notify them as well. Finally, FICC will also notify other FMIs that are party to clearing agency cross-guaranty or other link arrangements, as applicable.

The FICC 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. Material changes to FICC’s internal plans are presented to the Management Risk Committee and the Board Risk Committee for approval.

**GSD Rules and MBSD Rules are publicly available**

The key aspects of the closeout procedures are in each Division’s Rules, which are available to Members and to the public generally on DTCC’s website. In addition, if FICC were to make a determination to cease to act on behalf of a Member, FICC would provide notice of the 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 the DTCC website, and are available to the public. Members are responsible for retrieving notices daily from the website.57

**Testing and engagement with participants**

FICC conducts a simulated closeout at least annually, where members of the Board, FICC’s supervisors and certain other stakeholders are invited to attend. The closeout simulations cover a wide range of hypothetical fact patterns that may represent extreme, but plausible, situations, and include testing arrangements with FICC’s investment advisor(s). In addition, ERM conducts internal “tabletop” closeout exercises to enable relevant staff across the DTCC enterprise to become familiar with processes and procedures that would be utilized in the event of an actual cease to act. Both the simulation results and the tabletop reviews are used to review—and, where appropriate, improve—default management processes and procedures. Results are shared with the Board of Directors, the Board Risk Committee, FICC’s supervisors and, as appropriate, relevant stakeholders.

As noted above, as a cash market CCP, the process by which FICC liquidates and closes out Member positions is typically through purchases and sales into the market. Unlike derivatives CCPs, the successful implementation of FICC’s default management processes thus does not require the active participation of Members (through, for example, an auction process). As such, Members are not generally included as part of FICC’s testing processes. However, FICC does provide Members with information—including instructions—as to how transactions will be handled in the event of an actual closeout via Important Notices. It also makes available training materials, including a Member Handbook for each Division, which provides a description of the closeout process and other relevant information.

57 GSD Rule 45, Section 1 and MBSD Rule 35, Section 1.
Principle 14: Segregation and portability

A CCP should have rules and procedures that enable the segregation and portability of positions of a participant’s customers and the collateral provided to the CCP with respect to those positions.

Key Consideration 1: A CCP should, at a minimum, have segregation and portability arrangements that effectively protect a participant’s customers’ positions and related collateral from the default or insolvency of that participant. If the CCP additionally offers protection of such customer positions and collateral against the concurrent default of the participant and a fellow customer, the CCP should take steps to ensure that such protection is effective.

Key Consideration 2: A CCP should employ an account structure that enables it readily to identify positions of a participant’s customers and to segregate related collateral. A CCP should maintain customer positions and collateral in individual customer accounts or in omnibus customer accounts.

Key Consideration 3: A CCP should structure its portability arrangements in a way that makes it highly likely that the positions and collateral of a defaulting participant’s customers will be transferred to one or more other participants.

Key Consideration 4: A CCP should disclose its rules, policies, and procedures relating to the segregation and portability of a participant’s customers’ positions and related collateral. In particular, the CCP should disclose whether customer collateral is protected on an individual or omnibus basis. In addition, a CCP should disclose any constraints, such as legal or operational constraints, that may impair its ability to segregate or port a participant’s customers’ positions and related collateral.

As explained in the explanatory notes and footnotes to this principle in the FMI Principles report, cash market CCPs, like FICC, operate in legal regimes that facilitate segregation and portability in order to achieve the protection of customer assets by alternate means that offer the same degree of protection as the approach recommended by this Principle. In the case of FICC, as an SEC-registered cash market clearing agency, the applicable customer protection regime is the SEC’s net capital rules, promulgated by the SEC under the Exchange Act in 1972. This regulation applies to broker-dealers, and provides for customer segregation requirements with respect to transactions processed through FICC to be accounted for on the books and records of the broker-dealer, and not at the clearing agency level.

Under this regime, customer ownership generally occurs upon or after settlement, and “in flight” transactions and Clearing Fund deposited by Members do not belong to the customer. As such, there is no customer trade or position entered into FICC. As a result, Members provide Clearing Fund deposits with respect to pending transactions regardless of whether the Member is acting in a principal or agent basis, and FICC is not able to identify positions or possess the assets of its Members’ customers. Accordingly, FICC does not, as a general matter, maintain separate “house” and “client” accounts for Members.

60 The GSD Rules do, however, permit FICC to offer certain market professional customers of GSD Members the ability to cross-margin FICC cleared cash positions against positions cleared by another clearing organization pursuant to a cross-margining arrangement between FICC and the relevant clearing organization.
Principle 15: General business risk

An FMI should identify, monitor, and manage its general business risk and hold sufficient liquid net assets funded by equity to cover potential general business losses so that it can continue operations and services as a going concern if those losses materialise. Further, liquid net assets should at all times be sufficient to ensure a recovery or orderly wind-down of critical operations and services.

Key consideration 1: An FMI should have robust management and control systems to identify, monitor, and manage general business risks, including losses from poor execution of business strategy, negative cash flows, or unexpected and excessively large operating expenses.

Key consideration 2: An FMI should hold liquid net assets funded by equity (such as common stock, disclosed reserves, or other retained earnings) so that it can continue operations and services as a going concern if it incurs general business losses. The amount of liquid net assets funded by equity an FMI should hold should be determined by its general business risk profile and the length of time required to achieve a recovery or orderly wind-down, as appropriate, of its critical operations and services if such action is taken.

Key consideration 3: An FMI should maintain a viable recovery or orderly wind-down plan and should hold sufficient liquid net assets funded by equity to implement this plan. At a minimum, an FMI should hold liquid net assets funded by equity equal to at least six months of current operating expenses. These assets are in addition to resources held to cover participant defaults or other risks covered under the financial resources principles. However, equity held under international risk-based capital standards can be included where relevant and appropriate to avoid duplicate capital requirements.

Key consideration 4: Assets held to cover general business risk should be of high quality and sufficiently liquid in order to allow the FMI to meet its current and projected operating expenses under a range of scenarios, including in adverse market conditions.

Key consideration 5: An FMI should maintain a viable plan for raising additional equity should its equity fall close to or below the amount needed. This plan should be approved by the board of directors and updated regularly.

General Business Risk and Capital Planning Overview

The capital management strategy of FICC’s parent company, DTCC, as well as its approach to financial planning and management, allow DTCC to effectively identify, monitor and manage the general business risks for each of its subsidiaries, including FICC, as well as for the DTCC group as a whole.

DTCC considers those general business risks to include potential impairment to FICC’s financial position that could result in a loss that consequently would be charged against capital. The potential for financial impairment could be affected by a variety of factors, including, but not limited to, an unexpected downturn in business volumes or in the economic cycle; external market events with adverse systemic consequences; competitive forces, such as new market participants in the clearance and settlement space; changes in regulatory requirements that may adversely impact FICC and/or FICC’s Members; unexpectedly large operating expenses; and operational risk events.

In order to identify, monitor and manage these risks, the capital management strategy for FICC focuses on the following key objectives:
• Provide financial resources that are sufficient to support FICC’s business, in terms of both current and forecasted needs;
• Allow FICC to maintain adequate capital to protect against risks that may arise under adverse scenarios;
• Satisfy current and anticipated regulatory capital requirements in light of evolving global risk management standards for financial market utilities in markets in which FICC operates;
• Support a strong credit rating for FICC; and
• Maintain access to financial resources to be able to take advantage of strategic/growth opportunities, as well as for business continuity purposes.

DTCC maintains a disciplined approach to financial planning and management, which it views as a critical element to ensuring sustainability of the operations of FICC and its other subsidiaries, and to its overall capital planning process. Key aspects of this approach include the annual budget process, through which comprehensive and detailed operating plans are developed for each business line and functional area. These business plans, which are updated periodically throughout the year, include an assessment of the relevant market/operating environment, a business assessment, a strategic plan and a financial plan. Additionally, business performance reviews are conducted regularly, tracking month-to-month volume data, trends and financial performance, thereby facilitating ongoing assessment and monitoring of business risk. DTCC’s financial planning approach also includes development of a three-year, long-range financial plan; monthly cash flow projections based on earnings estimates and financial forecasting; and regular review of estimated capital requirements at the individual subsidiary level, as well as for DTCC in the aggregate.

The detailed and comprehensive nature of the annual budget process and related business plans, coupled with the monthly frequency of the ongoing business reviews and other tools as mentioned above, allow FICC to quickly identify relevant events and emerging trends, and to assess their potential financial impact. Based on this information, management is able to take appropriate tactical and strategic measures in order to minimize business risk. These measures may include, among other actions, making changes to existing products and services, introducing new products or services, reprioritizing planned or ongoing projects and reallocating resources accordingly, taking cost-reduction measures, modifying fee structures and adjusting the level of capital and liquid net assets that DTCC maintains at FICC. These elements are brought together to create a comprehensive financial plan that projects FICC’s ability to generate the required level of earnings and cash flows to manage and protect against business risks and to support overall business strategies.

This robust framework for assessing capital needs occurs under the oversight of the Finance/Capital Committee of the Board of Directors, which was established to facilitate the oversight of DTCC’s financial strategy and assess performance against that strategy. The Committee is authorized by the Board to oversee all capital and finance matters. FICC’s capital management strategy and financial plan are reviewed and updated on an ongoing basis by DTCC’s Finance group, and are reviewed at each meeting of the Finance/Capital Committee, or approximately six times a year. Proposed changes to DTCC’s capital structure or decisions regarding funding in general must be reviewed and approved by the Finance/Capital Committee and, as appropriate, the DTCC Board.
**Liquid Net Assets Funded by Equity**

In identifying and quantifying its capital needs, FICC determines its capital requirement as the sum of three comprehensive components:

(i) a general business risk component equivalent to six months of FICC’s projected cash operating expenses, taking into account both retrospective and prospective operating expense requirements in this determination;

(ii) a credit risk component equivalent to an amount that would allow FICC to be in a position to make available up to 25 percent of its retained earnings existing at the time of a Member default to cover any losses that may result from the closeout of a defaulting Member’s guaranteed positions, as required by GSD Rule 4 and MBSD Rule 4, respectively. Such amount would be used only if the loss experienced is not otherwise covered by the amounts on deposit to the Clearing Fund from the defaulting Member, along with any other resources of, or attributable to, the defaulting Member that FICC may access under its Rules, including resources available under applicable Clearing Agency Cross Guaranty arrangements (see Principle 13, Participant-default rules and procedures); and

(iii) a buffer component, representing an additional amount of capital held to protect resources available for recovery and wind-down. The amount of buffer that FICC expects to hold is a function of the analysis of various factors, including the volatility of FICC’s net income and liquid cash resources or liquid net assets; a potential amount related to an extended time horizon stress scenario review of FICC’s financial results under adverse business and economic conditions; and an anticipated incremental requirement associated with the inclusion of an early warning threshold that would exceed the six months of cash operating expenses determined under the general business risk component described in (i) above.

In addition to the capital calculation described above, DTCC has also developed its own internal economic capital framework, which estimates capital requirements for each major business and on a consolidated basis across core risk categories, specifically, business risk, market risk, credit risk and operational risk. Management believes that an economic risk-based capital view of DTCC’s total business portfolio is an important assessment tool to complement regulatory mandates. This methodology enables DTCC to more fully assess its capital requirements, and the requirements of FICC, in terms of economic realities during potential periods of market downturns and contraction.

As of June 30, 2014, FICC maintained liquid net assets funded by equity in an amount exceeding six months of its projected operating expenses. Further, FICC is actively pursuing additional measures that will result in raising additional equity capital and liquid net assets to satisfy its three-part capital requirement. One of the ways DTCC is seeking to raise additional capital is through the issuance of

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61 The SEC has proposed amendments to the Clearing Agency Standards, including a new Rule 17Ad-22(e)(15), which, when implemented, would require FICC to hold “sufficient liquid net assets funded by equity” to cover potential general business losses so that it can continue to provide operations and services as a going concern. The minimum amount of liquid net assets funded by equity to be held by FICC would have to equal the greater of: (i) six months’ current operating expenses, or (ii) the amount determined by its board to be sufficient to ensure a recovery or orderly wind-down of critical operations as contemplated by its recovery and resolution plan. See Release 34-71699; File No. S7-03-14 (March 12, 2014).
additional DTCC common shares to DTCC’s common shareholders, who are participants of DTCC’s clearing agency subsidiaries. A portion of the equity raised thereby would be available for contribution to FICC.62

Pursuant to DTCC’s Investment Policy (described in Principle 16 (Custody and investment risks)), FICC’s liquid net assets are invested conservatively in order to maximize liquidity and mitigate both credit and market risk. As such, liquid net assets, which are represented by cash and cash equivalents, owned by FICC, are typically invested in the following financial instruments: tri-party custody reverse repurchase agreements, triple-A rated money market mutual funds, interest-earning deposits with creditworthy financial institutions where credit limits have been pre-established, U.S. Government securities and commercial paper bank sweep deposits. Additionally, the DTCC Investment Policy is reviewed annually with the Finance/Capital Committee of the Board for approval.

As of June 30, 2014, FICC has applied to the Board of Governors of the Federal Reserve for account and service arrangements with the FRBNY. The requested account, if approved, would allow FICC to place its corporate funds/liquid net assets with the FRBNY, thereby further diversifying its investment opportunities.

**Plans to Raise Additional Capital**

FICC’s comprehensive financial plan, as described above, is designed, in part, to project FICC’s ability to generate the required level of capital to manage and protect against business risks. FICC has in place, and is focused on developing, further strategies to bolster its capital in the event its equity falls close to or below the amount needed. DTCC, the parent holding company of FICC, should prove a source of strength to raise and contribute additional capital, as may be approved by the Finance/Capital Committee of the Board.

**Recovery or Orderly Wind-Down Plan**

FICC’s Recovery and Resolution Program was launched in January 2013 as a multiyear effort that will include close engagement with each Division’s Members, FICC’s supervisors and other financial market utilities. As part of this program, FICC developed a draft plan to address the continued operation of critical services and operations and has reviewed the feasibility of orderly wind-down options. The plan has been drafted, reviewed by senior management and discussed with the Board and FICC’s supervisors. It is an evolving approach that will be further reviewed (and modified, as appropriate), as applicable regulations are proposed, services are altered or initiated and new risk management tools are developed.

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62 This proposed approach requires: (i) the amendment and restatement of DTCC’s Shareholders Agreement (ii) the amendment of DTCC’s Certificate of Incorporation, (iii) approval by DTCC shareholders and (iv) related changes to MBSD Rule 39 and GSD Rule 49, related to the amendment and restatement of the Shareholders Agreement. An Advance Notice describing the amendment and restatement of the Shareholders Agreement was published in the Federal Register on December 11, 2014 (Release No. 34-73755 (December 5, 2014), 79FR73665) and, together with the amendment of the Certificate of Incorporation, should be approved at a special DTCC Shareholders Meeting on January 27, 2015. The amendment to GSD Rule 49 and MBSD Rule 39 was filed with the SEC for immediate effectiveness, published in the Federal Register on November 25, 2014 (Release No. 34-73642 (November 19 2014), 79FR70258).
Principle 16: Custody and investment risks

An FMI should safeguard its own and its participants’ assets and minimise the risk of loss on and delay in access to these assets. An FMI’s investments should be in instruments with minimal credit, market, and liquidity risks.

Key consideration 1: An FMI should hold its own and its participants’ assets at supervised and regulated entities that have robust accounting practices, safekeeping procedures, and internal controls that fully protect these assets.

Key consideration 2: An FMI should have prompt access to its assets and the assets provided by participants, when required.

Key consideration 3: An FMI should evaluate and understand its exposures to its custodian banks, taking into account the full scope of its relationships with each.

Key consideration 4: An FMI’s investment strategy should be consistent with its overall risk management strategy and fully disclosed to its participants, and investments should be secured by, or be claims on, high-quality obligors. These investments should allow for quick liquidation with little, if any, adverse price effect.

Introduction

With respect to each Division, FICC safeguards its own assets (cash, cash equivalents and marketable investment securities), and Clearing Fund Securities and cash, in a well-established structure designed to minimize the risk of loss on and delay in access to these assets. FICC investments are subject to the GSD Rules and MBSD Rules, as applicable, and the DTCC Investment Policy, as it applies to FICC. Under these requirements, FICC may only invest in instruments with minimal credit, market and liquidity risks, as further described below. Clearing Fund Securities and cash, and proprietary assets, are maintained and accounted for separately, so there is no commingling.

Maintenance of Eligible Clearing Fund Securities

As described under Principle 5 (Collateral), with respect to each Division, Members may satisfy a portion of their required Clearing Fund deposit by delivering and depositing the Eligible Clearing Fund Securities to GSD or MBSD custody accounts as applicable. With respect to each Division, Eligible Clearing Fund Securities that Members deposit as collateral for their Clearing Fund obligations are held at FICC’s clearing banks.

FICC invests cash safely under each Division’s Rules and Procedures, as applicable, and the DTCC Investment Policy. Cash investments for each Division of FICC must be made in accordance with FICC Rules and the DTCC Investment Policy as applicable to each Division, in liquid investments that are readily available, as further described below. FICC holds proprietary general operating funds cash as well as cash in each Division’s Clearing Fund. FICC does not hold cash for its Members or maintain deposit accounts. Clearing Fund cash, as further described in Principle 7 (Liquidity risk), is maintained as a liquidity and loss resource to cover settlement in the event of a Member default and to cover potential losses due to such an event.
Clearing Fund cash is invested overnight

The FICC Clearing Fund cash, which is a key liquidity resource for FICC, must be available intraday for application to complete settlement as the FICC Rules provide, and may be invested overnight. As each Division’s Rules provide, such investments of Clearing Fund cash are generally limited to “securities issued or guaranteed as to principal and interest by the United States or agencies or instrumentalities of the United States repurchase agreements relating to such securities or, certificates of deposit or deposit accounts or otherwise pursuant to the investment policy adopted by the Corporation.” FICC currently maintains deposit accounts with several creditworthy financial institutions. Deposits with commercial financial institutions are subject to their agreement that any funds so received and assets in which such funds are invested shall not be subject to set-off or lien of these financial institutions. FICC remits to its Members interest at the rate that FICC earns on those investments.

Investment criteria and monitoring

DTCC’s Investment Policy outlines the parameters for FICC’s investments including, among other things, permitted investments and limitations on investments. The Investment Policy is reviewed with the Finance/Capital Committee of DTCC’s Board of Directors and requires annual approval by the full Board. DTCC’s Treasury group is responsible for the investment of available firm-wide funds, including FICC funds.

Pursuant to the Investment Policy, each Division’s Clearing Fund cash and FICC proprietary funds are invested conservatively in order to maximize liquidity and mitigate both credit and market risk. As such, assets are held by regulated and creditworthy financial institution counterparties and generally invested in the following types of financial instruments:

- Collateralized reverse repurchase agreements;
- Money market mutual funds;
- Interest-earning deposits with banks63;
- Direct obligations of the U.S. Government and
- Commercial paper bank sweep deposits.

Investments in collateralized reverse repurchase agreements (reverse repos) are generally secured by debt obligations of the U.S. Government or those U.S. Government Agencies guaranteed by the U.S. Government, and collateral must have a market value greater than or equal to 102 percent of the cash invested. Investments may also include money market mutual funds, pursuant to Rule 2a-7 of the Investment Company Act of 1940, and having a AAA/Aaa credit rating from recognized rating agencies; interest-bearing bank deposits with creditworthy financial institutions; direct debt obligations of the U.S. Government and commercial paper bank sweep deposits with creditworthy financial institutions, which

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63 FICC has applied to the Board of Governors of the Federal Reserve for account and service arrangements with the FRBNY. The requested account, if approved, would allow FICC to place Clearing Fund cash and proprietary funds with the FRBNY, thereby further diversifying its investment opportunities.
provide for an overnight sweep investment of residual cash balances into the financial institution’s commercial paper. Investments in money market mutual funds, bank deposits and commercial paper bank sweep deposits are unsecured. All of FICC’s investments are short term and can be readily accessed for liquidity, should the need arise; as such, market risk is minimal.

As part of its risk management process, evaluations are performed at least quarterly on the relative credit standing of the financial institutions with which FICC places funds. Investments are generally placed with financial institutions having a credit rating of A-/A3 or better from recognized rating agencies, as set forth in the Investment Policy. In addition, approved custodial banks, including custodial banks named in tri-party reverse repurchase agreements, must be members of the Federal Reserve System, subject to oversight of the Board of Governors of the Federal Reserve.

Approved financial institutions are monitored by ERM on a quarterly basis for review of their financial condition, and approved counterparties and counterparty credit limits may be revised based on these periodic reviews. Additionally, and based on its ongoing monitoring process, to the extent that ERM determines that a change in a counterparty’s financial condition warrants a change in FICC’s investment limits with the counterparty, ERM would notify Treasury promptly as to any change, so that Treasury can implement any required adjustment to the investment strategy.

An element of ERM’s ongoing custody/investment counterparty monitoring process includes the review of audited financial statements, including audit opinions verifying that the counterparty’s financial statements were prepared in accordance with generally accepted accounting principles. Beyond the scope of its internal review practices, FICC takes additional comfort from the regulatory framework that governs its investment counterparties (which includes oversight and examination by U.S. banking regulators and the SEC), in evaluating the safety and accessibility of its investments. This includes regulation regarding the protection of customer securities from theft, loss, or misuse and in the event of insolvency.

**Exposure and Concentration Risk**

The acceptable levels of exposure to financial institution counterparties are governed by the Investment Policy, which establishes the overall framework for the investment of funds, as well as ERM’s criteria for determining credit limits to appropriately facilitate diversification and mitigate concentration across counterparties. On a daily basis, DTCC’s Treasury group adheres to the policy guidelines and reports investment activity compared to established credit limits for each of the respective counterparties. This reporting is distributed to management, ERM and Finance.
Principle 17: Operational risk

An FMI should identify the plausible sources of operational risk, both internal and external, and mitigate their impact through the use of appropriate systems, policies, procedures, and controls. Systems should be designed to ensure a high degree of security and operational reliability and should have adequate, scalable capacity. Business continuity management should aim for timely recovery of operations and fulfillment of the FMI’s obligations, including in the event of a wide-scale or major disruption.

Key consideration 1: An FMI should establish a robust operational risk management framework with appropriate systems, policies, procedures, and controls to identify, monitor, and manage operational risks.

Key consideration 2: An FMI’s board of directors should clearly define the roles and responsibilities for addressing operational risk and should endorse the FMI’s operational risk management framework. Systems, operational policies, procedures, and controls should be reviewed, audited, and tested periodically and after significant changes.

Key consideration 3: An FMI should have clearly defined operational reliability objectives and should have policies in place that are designed to achieve those objectives.

Key consideration 4: An FMI should ensure that it has scalable capacity adequate to handle increasing stress volumes and to achieve its service-level objectives.

Key consideration 5: An FMI should have comprehensive physical and information security policies that address all potential vulnerabilities and threats.

Key consideration 6: An FMI should have a business continuity plan that addresses events posing a significant risk of disrupting operations, including events that could cause a wide-scale or major disruption. The plan should incorporate the use of a secondary site and should be designed to ensure that critical information technology (IT) systems can resume operations within two hours following disruptive events. The plan should be designed to enable the FMI to complete settlement by the end of the day of the disruption, even in cases of extreme circumstances. The FMI should regularly test these arrangements.

Key consideration 7: An FMI should identify, monitor, and manage the risks that key participants, other FMIs, and service and utility providers might pose to its operations. In addition, an FMI should identify, monitor, and manage the risks its operations might pose to other FMIs.

Operational risk management framework and identification of risks

The Operational Risk Management Policy and DTCC Corporate Risk Framework Policy describe the framework employed by ORM to identify, assess, manage, monitor and report operational risks. This is done through internal incident data collection, external loss data collection, operational risk profile risk assessments, scenario analysis, testing by internal and external parties, metrics and key risk indicators, issue tracking and reporting.

ORM is responsible for the aggregation, analysis, escalation and reporting of operational risk to the management of business units, senior management and Board of Directors. ORM maintains an operational risk management program that enables the identification, assessment, management, monitoring and reporting of the risks encountered during the course of the day-to-day business of DTCC’s clearing agency subsidiaries, including FICC. The program establishes DTCC’s overall strategy
for identifying internal and external sources of risks, assessing the implications, prioritizing and
developing plans to address such risks and working, jointly with the relevant business units, for the
remediation of such risks, to the extent practicable.

ORM policies and procedures serve as the guiding principles to support the business units to monitor
operational control effectiveness through: (1) identification and assessment of operational risks, (2)
management and mitigation of operational risks, (3) monitoring of operational risk and (4) reporting of
operational risk.

Each business unit implements an operational risk management program and related elements in
accordance with the standards established by ORM as set forth in the ORM Policy and the related
supporting procedure documents. At least annually, the policies and procedures are reviewed by ORM
management and updated as needed; the updated procedures are then reviewed and approved by the MRC
and the BRC.

The operational risks that DTCC has identified in its Corporate Risk Framework are:

- **Human Capital/People Risk**
- **Processing and Operations Risk**
- **Information Security, Technology and Privacy Risk**
- **Financial Risk**
- **Legal and Regulatory Compliance Risk**
- **Business Continuity Risk**

To determine how to address these risks, ORM regularly conducts operational risk profile assessments,
which includes a thorough analysis of FICC’s business functions and how each of these risk categories
may be implicated in the business operations. The data collected informs the organization’s business
planning and helps guide decision making with respect to the need for additional investments that may
further reduce risk or the readjustment of risk tolerance. Furthermore, to enhance the current risk
framework, ORM has developed a Reverse Stress-testing framework as a forward-looking risk
management tool to enable the enterprise to identify and consider scenarios that may materially impact a
business to an extent that threatens everyday viability of the business/organization. This framework
allows the organization to identify possible vulnerabilities in critical functions and critical external
dependencies across the enterprise, and understand more fully the risks and the potential impact of
stressful events and circumstances on FICC’s financial condition.

**Management of operational risk**

DTCC has several ways in which it identifies and manages its operational risks, each underscored by the
“three lines of defense” strategy:

- The first line of defense is the businesses and functional units, including Product Management,
  Operations, Finance, Technology, Legal, Human Resources and others. Their mandate is to
  proactively manage risk.
• The second line of defense is comprised of the control functions, including ORM, ERM, the Compliance Department, TRM, Privacy and certain elements of Operations and Technology such as the Testing Support Group. Their mandate is to establish standards for risk management for the enterprise, to provide advice and guidance to the first line of defense in adhering to the standards and to monitor compliance with the standards.

• The third line of defense is Internal Audit.

ORM is an independent risk management function that operates as part of the “second line of defense.” It is primarily responsible for:

• the company-wide establishment and implementation of the operational risk framework;

• ongoing monitoring of company-wide adherence to the operational risk framework by the business units;

• analysis and reporting to senior management and the Board of Directors, on a company-wide basis, the operational risk exposures, including the timely escalation of risk exposures identified under the framework and

• supporting the business units with respect to the ongoing roll-out and application of the framework.

Policies, processes and controls

DTCC’s operational risk framework is, in part, designed in accordance with industry standards and best practices, including the operational risk measurement rules under Basel II,64 and has evolved based on the changing needs of DTCC’s businesses and regulatory guidance. These standards are incorporated into the methodology and tools used by ORM to identify, assess, manage and report on operational risks. ORM’s systems, policies, procedures and controls are reflected within the ORM policies and procedures, including those relating to risk incident collection and reporting.

With respect to human capital and people risk, DTCC defines job responsibilities in order to recruit qualified talent into the organization and compensates them competitively based on market data and internal equity. Employees have access to a range of in-house, online and external learning offerings and programs to support risk management capabilities, professional/leadership development and business/functional knowledge. DTCC regularly tracks voluntary attrition, conducts exit interviews to identify trends and takes appropriate action to mitigate the impact of turnover. Succession and replacement plans are in place to address key-person risk for Managing Directors and other key jobs.

Additionally, DTCC’s Employee Code of Ethics sets the parameters of acceptable employee conduct, which includes, but is not limited to, fraud prevention.

The New Initiative Approval Policy and the related Framework provide the basis on which management proposes, evaluates and approves initiatives; criteria for involving FICC’s supervisors and other

64 http://www.bis.org/publ/bcbs195.htm.
stakeholders in the review of initiatives; and escalation and other standards for review and approval of initiatives by the Board of Directors or Board committees. The policy and related framework also provide the necessary governance and oversight structure to enable FICC to bring initiatives to market in a timely and efficient manner, while helping to ensure, where relevant, that these initiatives are designed in a way that appropriately mitigates risk to FICC, each Division’s membership and the financial markets.

The New Initiatives Office oversees adherence to the New Initiatives Approval Process, which is the process for proposing, evaluating and approving initiatives. This process is DTCC’s product development and enhancement methodology, based on the Stage-Gate® process and product development best practices. It provides a framework to manage initiatives including defined stages, milestones, gate approval criteria and governance process. The New Initiatives Approval Process is used for all initiatives, including those without technology development. The methodology is designed to integrate with DTCC’s IT development processes as well as external software development providers and alternative software implementation methodologies.

The New Initiatives Office tracks initiative exceptions and reports them to the Operating Committee on a monthly basis. Policy conformance for material initiatives is also reflected on the Quarterly Risk Tolerance Dashboard for New Initiatives Risk, a strategic risk that is a component of the Corporate Risk Framework.

**Roles, responsibilities and framework; review and audit**

As described under Principle 3 (Framework for the comprehensive management of risks), the Board has delegated to management the responsibility for the day-to-day management of risk, as articulated through individual risk tolerance statements. The risk tolerance statements are provided to the Board Risk Committee for its approval at least annually. The Board requires management to distribute regular risk tolerance reporting to the Board and the appropriate Board Committees to provide assurance of management’s effective oversight of such risks.

To fulfill the Board and management’s risk oversight responsibilities, the Corporate Risk Framework has been designed to provide information on DTCC’s key risks (including those applicable to FICC) and the processes used to identify, assess, measure, monitor, mitigate and report those risks. The Corporate Risk Framework utilizes two primary risk management processes to consolidate reporting: (1) operational risk profiles created for each business and functional area, and (2) the risk tolerance reporting for each risk

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65 Created by Stage-Gate® International.

family. In addition, ORM reports, on a quarterly basis, on the status of operational risk across the enterprise, providing an overview of the key risks and associated mitigation plans, if applicable.

The operational risk management framework is contained in the ORM Policy, which is reviewed and approved by the Board Risk Committee at least annually.

Internal Audit performs independent testing and reviews the effective implementation of the operational risk framework by both ORM and the business units. The audit frequencies range from 12 months to every five years, based on periodic assessments of inherent risk and control environments. In addition, as a regulated entity and designated SIFMU, FICC is subject to continuous monitoring by the SEC and the FRB, which includes review and monitoring of the effectiveness of FICC’s operational risk management policies and procedures.

**Operational reliability**

FICC monitors operational reliability through multiple processes, including an Annual Risk Assessment, a Risk Controls Self-Assessment, incident reporting, monitoring for lifecycle processing, system availability and data reporting; a metrics review of incidents-related key risk indicators that have been identified for event processing, settlement processing, data reporting, system availability and other key processes. These monitoring activities are performed regularly and evaluated by management as required, with appropriate procedures and controls applied as needed.

To continuously maintain high levels of quality, DTCC uses several concurrent improvement methodologies that, when integrated, provide the company with a powerful quality management toolkit. These tools, which help to streamline processes and develop new business practices using a customer-centric, metrics-driven approach, include:

- **Six Sigma**: a data-driven methodology that strives for near-perfection to deliver world-class performance, reliability and value to each Division’s customers;

- **Kaizen**: a set of principles to facilitate rapid improvement in all aspects of the organization;

- **Capability Maturity Model Integration (“CMMI”)**: an internationally recognized collection of best practices and standardized processes that companies follow to gain better control over their software development process and

- **The Information Technology Infrastructure Library (ITIL)**: a customizable framework of best practices that offers guidance and techniques to align technology services with business requirements.

DTCC utilizes a formalized internal Service Level Agreement (“SLA”) process across the enterprise; this provides a more precise measurement of system performance against specified benchmarks. Within DTCC, SLAs are agreements between the service provider (IT) and their customers (Product Management) that identify the critical business services and underlying Information Technology services provided to fulfill them, their service performance targets, the metrics associated with these services, a definition of acceptable and unacceptable levels of performance and actions to be taken when service levels are breached. These measures and metrics are re-evaluated on an annual basis as part of DTCC’s continuous improvement process. Any SLA breaches are noted, and timely reports, with appropriate detail, are distributed to various levels within the organization including senior management. The reports are used to track performance against service levels. In addition, a “post-mortem” analysis is performed.
for any service delivery issues that impact an SLA to identify root cause for the avoidance of future issues. In addition, DTCC produces balanced business scorecards and SLA measurement scorecards that are utilized to drive performance and highlight (and address) any emerging concerns.

**Capacity planning**

DTCC’s Corporate Capacity Planning and Performance Management Framework provides a governance structure for meeting the requirements of ordinary course business, and for responding to events that may arise as a result of extraordinary market events.

The Corporate Capacity Planning and Performance Management Framework utilizes trend analysis, augmented by annual reviews of business application changes, to forecast the following year’s capacity demand for both processor and storage capacity for all data centers. The Framework incorporates business forecasts, application throughput, current capacity and scalability, SLAs, performance management, capacity utilization, and capacity modeling and forecasts. The annual reviews encompass business defined factors (i.e., growth, new product lines, new applications, etc.) to adjust the trend projection. Furthermore, the Framework’s scope gives priority to and addresses the largest business areas and the associated production processing environments.

DTCC has dedicated capacity planning staff. The Capacity and Performance group is specifically responsible for forecasting and monitoring infrastructure capacity and utilization. Among the area’s responsibilities are:

- supporting performance testing in the quality assurance environment in collaboration with the Test Support Group;
- reporting defects found during performance testing;
- researching and recommending tools to improve the efficiency, quality and accuracy of capacity and performance reporting, monitoring and testing;
- reviewing incidents and problems that have a direct impact on capacity or performance;
- measuring and reporting monthly on DTCC mainframe and distributed systems’ usage trends for computer processing unit utilization, memory utilization, persistent storage utilization and traffic and
- recording and reporting available capacity information for mainframe and distributed systems.

The Capacity and Performance group monitors capacity resulting in daily, weekly and monthly usage reports for review by IT Management, and utilizes several real-time performance monitoring tools to identify anomalies and opportunities for efficiency improvements. New systems are stress tested prior to being placed into production. Capacity management information and metrics are provided to the Operating Committee on a quarterly basis, with management presenting capacity planning to the Committee for discussion no less than two times per year. FICC performs stress tests periodically to affirm the ability to process at least two times historical peak volumes. This includes testing prior to implementation of significant application changes and in other circumstances where significant volume increases may be anticipated.
Physical security

The Internal Security Department utilizes a comprehensive security assessment tool as part of an overall program aimed at developing and maintaining a consistent, structured and integrated methodology for identifying, monitoring, managing and reporting on security risks across physical sites and locations throughout the organization.

The process consists of several components, which include: (a) a Security Vulnerability Assessment checklist that is “risk-specific” and facilitates the analysis and reporting of risk information using a common language, and (b) quantitative information, including internal theft events and security breaches, area threat analysis (from a Federal and local perspective) and local area crime statistics to ascertain the effectiveness of current security control structures.

Because of the vast differences in the types of federal and non-public facilities and the variety of risks associated with each of them, there is no single relevant international, national or industry-level standard for physical security by which guidance can be solely taken. Accordingly, select guidance is taken from a number of applicable resources, including:

- GSA Physical Security Handbook 440-2-H, Chap 3;\(^\text{67}\) and
- American Society for Industrial Security international\(^\text{68}\)

  - Business Continuity Guideline—A Practical Approach for Emergency Preparedness Crisis Management and Disaster Recovery-BC01,
  - Chief Security Officer Guideline-CSO04, Facilities Physical Security Measures Guideline-FPSM,
  - General Security Risk Assessment Guideline-GSRA,
  - Information Asset Protection Guideline-IAP05,
  - Pre-employment Background Screening Guideline-PBS,
  - Private Security Officer Selection and Training Guideline-PSO,
  - Threat Advisory System Response Guideline-TASR04,
  - Workplace Violence Prevention and Response Guideline-WPV 09,

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From these and other similarly applied standards, basic risk management steps are employed to fundamentally determine security priorities and implement appropriate solutions.

**Information Security**

TRM manages information security within DTCC, including the clearing agency subsidiaries. This includes responsibility to:

- establish and maintain an information security management framework and an organization with the resources, expertise and training to support DTCC’s security strategy;
- define roles, responsibilities and accountabilities for information security and coordinate information security efforts throughout the enterprise;
- establish, maintain, communicate and periodically reassess information security policies and a comprehensive information security program that is approved by management and the Board of Directors, and that (1) incorporates relevant industry information security standards and (2) is published and communicated to all DTCC employees and relevant external parties;
- review security policy and security control standard exception requests and approve (or reject) them based on a risk assessment that includes a review of the secondary controls;
- coordinate and periodically assess the implementation of information security across DTCC;
- be the source of information security advice for new implementations of, and changes to existing, information assets;
- provide annual information security awareness, education, training and communication for DTCC employees and relevant external parties;
- identify current and potential legal and regulatory issues affecting information security;
- perform enterprise-wide threat/vulnerability assessments to facilitate the determination of TRM’s investment and remediation priorities;
- establish and maintain contacts with external security specialists or groups, including relevant authorities, to keep up with industry trends, monitor standards and assessment methods and provide suitable liaison points when handling information security incidents and

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• establish metrics to evaluate the effectiveness of the security program and alignment to risk
tolerance statements, and report overall status quarterly to the Management Risk Committee and
the DTCC Board.

The objective of the DTCC Information Security Policy is to provide management direction and support
for information security in accordance with business requirements and relevant laws and regulations. As
there is no single relevant international, national or industry-level standard by which guidance can be
solely taken, select guidance is taken, as applicable, from a number of recognized information security
standards, including:

• the internationally recognized standard “ISO/IEC 27001:2013—Information technology—Security
  techniques—Information security management systems—requirements”; 71

• the FFIEC Information Technology (IT) Examination Handbook, which is comprised of several
  booklets covering a variety of technology and technology-related risk management guidance for financial
  institutions and examiners; 72 and

• the NIST cyber security framework consisting of standards, guidelines and practices to promote
  the protection of critical infrastructure. 73

Business continuity

BCM is concerned with the governance and implementation of proactive and reactive measures that help
ensure that enterprise and business functions have resilience and recovery capabilities to continue, should
a serious event occur. This is done through the: (1) integration and alignment with the various risk
functions throughout the organization and sector, (2) development of guidance and standards relating to
business continuity and environmental risk, (3) monitoring of compliance and (4) promotion of awareness
and education. DTCC’s Global Business Continuity Management Policy establishes requirements for how
DTCC as a whole, including FICC, will effect and maintain controls that address defined threats that, if
not otherwise implemented, could result in a high level of risk to the continuity of enterprise operations.
This policy defines the governance structure, high-level roles and responsibilities and framework for
DTCC’s BCM process.

Given the nature and breadth of significant business disruptive events, BCM aligns its controls at the
regional, enterprise, business and support levels, including alignment with each of DTCC’s clearing
agency subsidiaries. DTCC provides a set of core business processes for each clearing agency subsidiary,
including FICC. The business processes have a relative importance based on the service they provide.
FICC falls into the Tier 1/Severe ranking. The ability to deploy sensible and balanced controls, as well as
to triage recovery efforts, is based on this relative importance.

On an annual basis, Business Continuity Plans are updated and include a Business Impact Analysis (BIA). The BIA validates the criticality of business areas to ensure the appropriate level of controls. The key elements of an effective BIA are:

- Assessment of product line criticality to the enterprise and clearing agency subsidiary based on a potential impact
- Assessment and prioritization of product line functions and processes, including their internal and external dependencies
- Estimation of maximum allowable downtime (MAD) associated with the institution’s business functions and processes
- Estimation of recovery time objectives, recovery point objectives and recovery of the critical path
- Identifying dependencies that a product line has and ranking them to align with the process criticality for recovery
- Product lines are ranked based on their criticality to the enterprise:
  - Tier 0 High Availability—require an infrastructure with virtually no downtime.
  - Tier 1 Severe—required resumption of operations is within two hours.
  - Tier 2 High—required resumption of operations is within four hours.
  - Tier 3 Moderate—required resumption of operations is next day.
  - Tier 4 Low—required resumption of operations is three days.
  - Tier 5 Immaterial—reserved for support functions that have non-essential recovery timeframes greater than five days.

In support of FICC’s business, DTCC has multiple data centers, including in-region and out-of-region sites. In-region sites utilize synchronous data replication between them, maintaining multiple exact copies of core production data in separate locations. Production processing is spread across the in-region data centers. Specifically, primary and secondary sites are within 10 miles of each other, and the tertiary site is approximately 1,500 miles from primary/secondary sites. 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 timed 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, standby generators and dual path telecommunications. All sites are operational and have sufficient capacity to process the entire core production workload so any data center can function as the sole production site within two hours in case one or more data centers experience an outage.
Operating centers are deployed in three geographic regions throughout the United States. DTCC uses these sites to deploy various work area recovery (“WAR”) strategies to mitigate the loss of primary workspace and/or associated desktop technology as well as for social distancing. It provides a means by which DTCC is able to recover its most critical functions in the most efficient and cost-effective manner. The allocation of WAR solutions is based on the relative criticality of the product line to the enterprise as defined by the BIA. Business functions regarded as Tier 0 or Tier 1 will have a need for more stringent controls than those with a less critical offering. The more critical the offering, the more diverse the staff, leading to a greater ability to sustain operations through a disruptive event.

In order 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 “Command Centers.” During a disaster where data center operations are forced out of region, this process is augmented with steps outlined in a recovery guide issued to participants and managed by the operations staff.

In addition, all critical clearance and settlement transactions utilize private non-Internet networks such as the Securely Managed and Reliable Technology (“SMART”), BT Radianz and the NYSE Secure Financial Transaction Infrastructure (“SFTI”) networks. SMART is the primary network that provides connectivity between DTCC and its customers. SMART is a seamless, end-to-end, securely 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. External traffic is split between these connections, which are always active with each having sufficient capacity for the entire traffic volume.

The BCM plan enables DTCC to effectively and efficiently assess the impact of the disruption, organize communication and decision making and coordinate the company’s response effort. The BCM Policy includes definitions of the types of communications necessary, the methodology and some template text to execute the plans. Moreover, BCM is typically responsible for the actual declaration of a crisis event, and its duties internally are to implement the crisis management procedures.

In addition, individual product line and support units are responsible for working with BCM and include a cross section of individuals from various departments throughout the organization, including senior management (decision making), facilities management (locations and safety), human resources (personnel issues and travel), marketing (media contact), finance/accounting (funds disbursement and financial decisions), Operations (Settlement) and Risk Management (Collection of Clearing Fund), among others. In a crisis, BCM will immediately disseminate a message to internal and external audiences to ensure consistent communication to key audiences.

**Review and testing**

Contingency arrangements are reviewed throughout the year but at a minimum once per product line or support unit. DTCC also conducts facility specific work area recovery exercises throughout the year, but at a minimum once annually.

DTCC works with its customers and other industry infrastructure organizations to discuss the industry’s business continuity preparations and DTCC’s expectations regarding customers’ own business continuity capabilities. Furthermore, DTCC conducts regular “tabletop” exercises to validate how its command teams would respond in the event of a catastrophic loss of the company’s headquarters or other locations. As with real events, these various exercises involve debriefing sessions and checklists that are used to identify weaknesses or opportunities for improvement.
DTCC also engages in the following:

- **Ensuring connectivity**—DTCC has telecommunication networks with major participants to ensure continued connectivity for all of DTCC’s data processing. This includes the participant’s primary locations as well as the participant’s backup locations. DTCC has met with several of its larger participants to review geographic diversity of their telecommunications and will continue to meet with others.

- **Connectivity testing**—Each year, DTCC’s clearing agency subsidiaries issue Important Notices that establish telecommunications connectivity requirements for major customers. With respect to each Division, FICC now requires its larger-volume Members to test their connectivity with FICC at least once a year. This includes testing of connectivity from the Member’s primary and backup locations to several of the DTCC data processing locations.

- **Industry testing**—DTCC participates in industry-wide testing with the Securities Industry and Financial Markets Association and the Financial Services Authority, as well as tests conducted by SWIFT, the FRB’s Fedwire® Securities Service and other critical vendors. In addition, DTCC representatives participate in several industry committees that focus on business continuity issues at the industry level.

**Risks to the FMI’s operations and risks posed to other FMIs**

As discussed more fully in Principle 3 (Framework for the comprehensive management of risks), given its central role in the U.S. securities markets, FICC potentially poses a number of risks to other entities, while it is also exposed to risks that may originate from other entities.

FICC’s material service providers are subject to a comprehensive vendor review and vetting process that covers both credit and operations risk reviews and controls. Mitigants may take the form of contractual protections, or additional or backup providers where deemed appropriate and feasible. For example, FICC utilizes price feeds from multiple vendors as an additional risk mitigant, and further employs price review and data scrubbing procedures to minimize the risk of using inaccurate prices.

As regards to risks that FICC might pose to other FMIs (where applicable), FICC has agreed communication and escalation processes in the event of system issues to facilitate prompt resolution.

Along with other financial industry organizations, DTCC is an active participant in the Financial Services Sector Coordinating Council for Critical Infrastructure Protection and Homeland Security (“FSSCC”), a private sector group that interfaces with the U.S. Department of Treasury and the Financial Banking Information Infrastructure Committee on infrastructure protection issues. The FSSCC works to coordinate the financial services industry’s initiatives to protect critical financial services infrastructure. The goal is to ensure that these efforts focus on complementary objectives and contribute to achieving the highest possible level of overall industry resiliency.

DTCC staff actively participates in SIFMA industry-wide business continuity testing. Some of these tests include FEMA pandemic, cyber security and backup site testing.
Principle 18: Access and participation requirements

An FMI should have objective, risk-based, and publicly disclosed criteria for participation, which permit fair and open access.

Key consideration 1: An FMI should allow for fair and open access to its services, including by direct and, where relevant, indirect participants and other FMIs, based on reasonable risk-related participation requirements.

Key consideration 2: An FMI’s participation requirements should be justified in terms of the safety and efficiency of the FMI and the markets it serves, be tailored to and commensurate with the FMI’s specific risks, and be publicly disclosed. Subject to maintaining acceptable risk control standards, an FMI should endeavor to set requirements that have the least-restrictive impact on access that circumstances permit.

Key consideration 3: An FMI should monitor compliance with its participation requirements on an ongoing basis and have clearly defined and publicly disclosed procedures for facilitating the suspension and orderly exit of a participant that breaches, or no longer meets, the participation requirements.

FICC’s Access and Participation Requirements

With respect to each Division, FICC has established participation criteria and requirements relating to financial resources, creditworthiness and operational capability. These requirements are designed to limit the risks a Member may present to FICC or to each Division’s respective membership, while facilitating fair and open access by market participants; they are objective and risk-based, and are set forth in each Division’s Rules, which are publicly available on DTCC’s website at www.dtcc.com.

In general, FICC participation requirements are set forth in GSD Rule 2A (Initial Membership Requirements) and MBSD Rule 2A (Initial Membership Requirements) as well as GSD Rule 3 (Ongoing Membership Requirements) and MBSD Rule 3 (Ongoing Membership Requirements). As indicated in the General Background of FICC in part III of this Disclosure Framework, each Division has several categories of membership. GSD Rule 2A and MBSD Rule 2A provide that an applicant must either be a specified type of legal (regulated) entity or must otherwise demonstrate to the Board of Directors that its business and capabilities are such that it could reasonably expect material benefit from direct access to FICC’s services.

Members within the same membership category are subject to the same requirements, and membership types at each Division differ in terms of their level of reporting requirements, admission and continuance standards and their Clearing Fund requirements.

With respect to each Division, FICC reviews its risk-based membership criteria regularly, and changes to these criteria would be subject to the Proposed Rule Change Process, which is subject to public comment.

Membership Application Requirements

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74 Described in detail under Principle 1 (Legal risk).
All applicants for membership must provide FICC with certain information, which is reviewed by ERM to ensure that the applicant has (1) sufficient financial ability to make anticipated contributions to the Clearing Fund and to meet obligations to FICC; (2) either 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 its business with FICC; and (3) appropriate settling and clearing bank arrangements.

1. Type of Legal Entity. As set forth in GSD Rule 2A and MBSD Rule 2A, an applicant must be a specified type of legal entity (such as a broker-dealer, bank or other specified entity that, under its regulatory regime, as applicable, may engage in the transactions that will be processed through FICC).

With respect to GSD, an applicant must either be (i) a bank or trust company chartered as such under the laws of the United States, or a State thereof, or a bank or trust company established or chartered under the laws of a non-U.S. jurisdiction and participates in GSD through its U.S. branch or agency; (ii) a registered government securities dealer; (iii) a futures commission merchant; (iv) an inter-dealer broker; (v) a government securities issuer; (vi) a registered clearing agency; (vii) a registered investment company or (viii) an entity may apply to be a foreign member in one of the existing categories if FICC, in its sole discretion, has determined that the entity: (a) has a home country regulator that has entered into a memorandum of understanding with the SEC regarding the sharing or exchange of information, and (b) maintains a presence in the United States, either directly or through a suitable agent.

With respect to MBSD, an applicant must either be (i) a bank or trust company chartered as such under the laws of the United States, or a State thereof, or a bank or trust company established or chartered under the laws of a non-U.S. jurisdiction and participates in MBSD through its U.S. branch or agency; (ii) a registered securities dealer; (iii) an inter-dealer broker; (iv) an unregistered investment pool; (v) a government securities issuer; (vi) an insurance company; (vii) a registered clearing agency; (viii) a registered investment company or (ix) an entity may apply to be a foreign member in one of the existing categories if FICC, in its sole discretion, has determined that the entity: (a) has a home country regulator that has entered into a memorandum of understanding with the SEC regarding the sharing or exchange of information, and (b) maintains a presence in the United States, either directly or through a suitable agent.

Each Division may make its services available to persons in such other categories as FICC may from time to time determine, subject to approval of such categories and their minimum membership standards by the SEC.

2. Financial Responsibility. FICC sets financial requirements for establishing and continuing membership that are based on the type of legal entity (such as broker/dealers, banks, trust companies, etc.). In addition, GSD Rule 4 (Clearing Fund and Loss Allocation) and MBSD Rule 4 (Clearing Fund and Loss Allocation) each provide that all Members are required to make a deposit to the Division’s Clearing Fund, as applicable, with the amount of each Member’s required deposit being fixed by FICC in accordance with the formula in Rule 4 of each Division’s Rules.

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75 Specific requirements for insurance companies would need to be defined through a rule filing.
3. **Operational Capability.** FICC will assess its Members’ operational capability both in connection with the application process as well as during periodic reviews. FICC’s Operations group, in conjunction with the Relationship Management group, confirms that the applicant will be able to satisfactorily communicate with FICC and to fulfill anticipated commitments to and to meet the operational requirements of FICC with necessary promptness and accuracy, and is able to establish appropriate arrangements to effect obligations to FICC. This includes designating a settling bank that meets FICC’s settling bank requirements and designating a clearing bank. Prior to activating membership, FICC applicants are required to conduct testing with FICC (i.e., connectivity testing) to ensure that they are able to transmit files to, and receive files from, FICC.

Finally, all applicants must execute a membership agreement, and submit other required membership application documents, under which they agree, among other things, to be bound by FICC’s Rules and meet all anticipated financial obligations to FICC.

Upon the Board’s or FICC’s denial of a membership application, FICC 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.

**Ongoing Compliance with Membership Requirements**

FICC monitors its Members’ ongoing compliance with access criteria through review and analysis of financial and operational information and through regular market, news and regulatory monitoring. Pursuant to Rule 3 (Ongoing Membership Requirements) of each Division’s Rules, Members are required to provide FICC with regulatory reports and other required financial information on a timely basis. This includes annual audited financial statements and monthly or quarterly regulatory reports (i.e., FOCUS or CALL reports), depending on the reporting frequency of the Member, and notification of changes in condition. Members are informed by Important Notice as to the due dates for providing this information.76

Pursuant to its Rules, FICC may fine Members that fail to timely provide such information, and those fines are reported to the SEC, as required by Rule 19h-1 under the Exchange Act.

Through ERM, FICC reviews this information to confirm that applicants and Members meet their applicable minimum financial requirements. ERM monitors Clearing Fund requirements throughout the day, and Operations staff monitors the operational capability of FICC Members, as applicable.

As described in Principle 4 (Credit risk), with respect to each Division, ERM utilizes an internal credit risk rating matrix to risk rate U.S. bank and broker/dealer Members as part of the ongoing monitoring of Member firms. This matrix is produced systematically 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 used to set a Member’s credit rating focus on that firm’s capital, leverage, liquidity and profitability. Once this rating is generated, it is reviewed by an assigned analyst within ERM for possible downgrade due to qualitative factors such as regulatory history or type of audit opinion issued, for example; a final rating is then assigned. The resulting rating determines the level of financial review that will be performed on that Member and may impact the Member’s Clearing Fund requirement.

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76 ERM may receive FOCUS reports on an automated basis from the Member’s designated examining authority, and CALL reports on an automated basis from a third-party vendor.
Members with a weaker internal credit rating (rated a 5, 6 or 7 on the credit risk rating matrix) are placed on FICC’s Watch List. Members on this Watch List may be monitored more closely and subject to enhanced surveillance than those with a stronger credit rating.

**Suspension and Orderly Exit of Members**

Each Division’s Rules contain provisions that facilitate the voluntary termination of membership and the suspension and orderly exit of Members that no longer meet the participation requirements:

- A Member may voluntarily retire from membership by notifying FICC in writing, as provided in GSD Rule 3, Section 13, and MBSD Rule 3, Section 14, as applicable. Notwithstanding any such notification, the Member remains obligated to satisfy any open obligations and liabilities arising out of its membership existing at the time of its notification. A retiring Member will typically designate a retirement date, by which all open activity will be closed out and new activity will no longer be submitted or accepted. FICC issues an Important Notice to Members when a Member voluntarily retires from membership.

- Under GSD Rule 21 A (Wind-Down of a Netting Member) and MBSD Rule 15 (Wind-Down of a Member), FICC can facilitate the orderly wind-down of a Member’s business when FICC is notified by the Member that it intends to wind-down its business. Under this Rule, FICC 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 FICC’s services, and requiring the Wind-Down Member to post increased Clearing Fund deposits. FICC will notify the Member, all other Members (via Important Notice) and the SEC when it implements this Rule and determines that the affected Member is a “Wind-Down Member.”

- Under GSD Rule 21 (Restrictions on Access to Services) and MBSD Rule 14 (Restrictions on Access to Services), as applicable, FICC 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 FICC may do so are clearly set forth in the Rules, and include a determination by Board of Directors or appropriate Board Committee that the Member is no longer in compliance with the membership requirements. If FICC ceases to act for a Member, the Rules provide that FICC must notify the affected Member, other Members (via Important Notice) and the SEC of FICC’s action. The Member may request a hearing to consider the decision, which, depending upon the circumstances on which the action was based (such as insolvency or settlement default), may be after the cease to act or suspension takes effect.
Principle 19: Tiered participation arrangements

An FMI should identify, monitor, and manage the material risks to the FMI arising from tiered participation arrangements.

Key Consideration 1: An FMI should ensure that its rules, procedures, and agreements allow it to gather basic information about indirect participation in order to identify, monitor, and manage any material risks to the FMI arising from such tiered participation arrangements.

Key Consideration 2: An FMI should identify material dependencies between direct and indirect participants that might affect the FMI.

Key Consideration 3: An FMI should identify indirect participants responsible for a significant proportion of transactions processed by the FMI and indirect participants whose transaction volumes or values are large relative to the capacity of the direct participants through which they access the FMI in order to manage the risks arising from these transactions.

Key Consideration 4: An FMI should regularly review risks arising from tiered participation arrangements and should take mitigating action when appropriate.

FICC Members are direct participants of FICC. Indirect participants are firms that rely on the services provided by Members in order to have their activity cleared and settled through FICC’s facilities.

Identification and Monitoring of Indirect Participant Risk

The risks that indirect participants pose to FICC are identified and monitored as part of the application and on-boarding process for FICC Members and as part of FICC’s ongoing Member due diligence process. Among the aims of these processes is for FICC to understand the material dependencies between Members and the indirect participants that rely on them for the clearance and settlement of their transactions, as well as significant Member-indirect participant relationships and the various risk controls and mitigants that Members employ to manage their risks with respect to such relationships.

During the membership on-boarding process, FICC requests and reviews, pursuant to its authority under each of the Division’s Rule 2A (Initial Membership Requirements), information from Member applicants regarding the types of businesses they conduct, including the anticipated activity to be introduced to FICC by such applicants on behalf of indirect participants.

Thereafter, as part of its ongoing Member due diligence process, FICC collects information on a periodic basis, pursuant to its authority under each of the Division’s Rule 3 (On-Going Membership Requirements) from Members in order to understand their overall businesses, condition, risk management practices and financial standing, including information related to the indirect participants that rely on them.

In particular, FICC requires that Members submit information regarding the amount of revenue and settlement activity that significant indirect participants represent to the Members, the criteria and procedures used by the Members for on-boarding indirect participants, as well as the risk management policies and procedures employed by the Members for ongoing monitoring and controlling of indirect participant trading activity, including limits, acceptable levels of concentration and required levels of liquidity in securities traded.
Management of indirect participant risk

Credit Risk Rating. FICC’s review of the information received on indirect participants through its Member on-boarding and periodic Member due diligence processes described above may factor into the qualitative factors that affect FICC’s credit risk rating of a Member. As described in further detail in response to Principle 4 (Credit risk), the resulting credit risk rating of a Member determines the level of financial review that will be performed on that Member.

Monitoring and Margin Collection. As described in further detail in response to Principle 6 (Margin), FICC calculates and collects required Clearing Fund deposits from its Members as set forth in each Division’s Rule 4 (Clearing Fund and Loss Allocation). Such required Clearing Fund deposits are calculated based on, among risk factors, the trading activity that Members submit to FICC on their own behalf and on behalf of any indirect participants that clear through them. FICC may also require additional (“ad hoc”) intraday margin should FICC deem it necessary or appropriate based on intraday market moves and intraday trading activity (whether activity of the Member, or indirect participants who clear through the Member).

Adequate Assurances. FICC also has the authority under each Division’s Rule 3 (On-Going Membership Requirements) to seek adequate assurances from a Member if FICC determines that such adequate assurances are warranted based on its review of such Member’s indirect participant relationships.
Principle 20: FMI links

An FMI that establishes a link with one or more FMIs should identify, monitor, and manage link-related risks.

Key Consideration 1: Before entering into a link arrangement and on an ongoing basis once the link is established, an FMI should identify, monitor, and manage all potential sources of risk arising from the link arrangement. Link arrangements should be designed such that each FMI is able to observe the other principles in this report.

Key Consideration 2: A link should have a well-founded legal basis, in all relevant jurisdictions, that supports its design and provides adequate protection to the FMIs involved in the link.

Key Consideration 3: Linked CSDs should measure, monitor, and manage the credit and liquidity risks arising from each other. Any credit extensions between CSDs should be covered fully with high-quality collateral and be subject to limits.

Key Consideration 4: Provisional transfers of securities between linked CSDs should be prohibited or, at a minimum, the retransfer of provisionally transferred securities should be prohibited prior to the transfer becoming final.

Key Consideration 5: An investor CSD should only establish a link with an issuer CSD if the arrangement provides a high level of protection for the rights of the investor CSD’s participants.

Key Consideration 6: An investor CSD that uses an intermediary to operate a link with an issuer CSD should measure, monitor, and manage the additional risks (including custody, credit, legal, and operational risks) arising from the use of the intermediary.

Key Consideration 7: Before entering into a link with another CCP, a CCP should identify and manage the potential spill-over effects from the default of the linked CCP. If a link has three or more CCPs, each CCP should identify, assess, and manage the risks of the collective link arrangement.

Key Consideration 8: Each CCP in a CCP link arrangement should be able to cover, at least on a daily basis, its current and potential future exposures to the linked CCP and its participants, if any, fully with a high degree of confidence without reducing the CCP’s ability to fulfil its obligations to its own participants at any time.

Key Consideration 9: A TR should carefully assess the additional operational risks related to its links to ensure the scalability and reliability of IT and related resources.

The process used by FICC to identify potential sources of risk arising from prospective links would be dependent on the nature of the link being considered. Typically, prospective links are subject to management and regulatory review and approval, as well as formal risk assessment procedures.

FICC has one established link with the CME.

CME Arrangement

Since 2000, FICC and its predecessors have had in place a cross-margining arrangement with the CME (the “CME Arrangement”). In the CME Arrangement, FICC and the CME each holds and manages its own positions and collateral, and independently determines the amount of margin that it will make available for cross-margining, referred to as the “residual margin amount” that remains after each of FICC and the CME conduct its own internal offset. FICC then computes the amount by which the cross-
margining participant’s margin requirement can be reduced at each clearing organization—i.e., the “cross-margining reduction”—by comparing each cross-margining participant’s residual margin amount (based on related positions) at FICC against the offsetting residual margin amounts of the participant (or its affiliate) at the CME. FICC and the CME may then reduce the amount of collateral that they each collect to reflect the offsets between the cross-margining participant’s positions at FICC and its (or its affiliate’s) positions at the CME.

The margin savings provided to GSD Members pursuant to the CME Arrangement are monitored by FICC on a daily basis. Any significant change to the CME Arrangement would be subject to a risk analysis, including analysis as to whether such change would allow FICC to remain observant with the PFMIs.

**Legal Certainty for Link Arrangements**

Prior to establishing any link arrangement, FICC must enter into the appropriate agreement and conduct all necessary legal analysis and due diligence, operational review and regulatory review and approval.

FICC also consults with its regulators and its outside counsel, as necessary, to ensure that the prospective links have a well-founded legal basis. In addition, FICC reviews changes to relevant laws and regulations as they arise and would make any changes to its existing links (including filing any necessary rule changes with the SEC) if required to do so.

With respect to the CME Arrangement, FICC 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. The cross-margining agreement also provides for FICC and CME to cooperate to effect an orderly termination of the agreement in the event of a default of either clearing organization, so as to manage the potential spill-over effects from the default of such clearing organization and limit adverse effects on members.
Principle 21: Efficiency and effectiveness

An FMI should be efficient and effective in meeting the requirements of its participants and the markets it serves.

[This principle should be reviewed in the context of Principle 17 on operational risk, Principle 18 on access and participation requirements, Principle 22 on communication procedures and standards, and other principles, as appropriate.]

Key consideration 1: An FMI should be designed to meet the needs of its participants and the markets it serves, in particular, with regard to choice of a clearing and settlement arrangement; operating structure; scope of products cleared, settled, or recorded; and use of technology and procedures.

Key consideration 2: An FMI should have clearly defined goals and objectives that are measurable and achievable, such as in the areas of minimum service levels, risk management expectations, and business priorities.

Key consideration 3: An FMI should have established mechanisms for the regular review of its efficiency and effectiveness.

Efficiency and effectiveness in the low cost provision of needed services

FICC is efficient and effective in meeting the requirements of its Members and the markets it serves, providing clearing agency services to promote the prompt and accurate clearance and settlement of securities transactions in U.S. markets. Operating as a low-cost financial market utility, FICC strives for maximum efficiency in its operations and technology, and responsiveness to the needs of its Members in the scope of services provided.

Scope of services responsive to market needs

Through each Division, FICC provides clearing, settlement, risk management and central counterparty services, which are part of its fundamental directive as a registered clearing agency under the Exchange Act. In providing these services, FICC seeks to enhance and expand the scope of services it offers to support an evolving market, often in response to initiatives requested by its membership and other industry parties. One example of this approach is that since 2011, FICC has been making changes to the GCF Repo® service in the form of a pilot program in order to comply with the recommendations made by the Task Force on Triparty Reform (“TPR”), an industry group formed and sponsored by the FRBNY. These changes better align the GCF Repo® service with the TPR recommended changes for the overall

triparty market. This is just one example of FICC’s continuing commitment to the evolving needs of the markets it serves.

FICC engages with the industry and evaluates new initiatives, enhancements, strategic thinking and its performance through the following mechanisms:

- FICC employs a structured approach for the implementation of new initiatives. The New Initiatives Approval Policy and Framework defines the process for proposing, evaluating and approving all initiatives. Among other things, the framework includes a comprehensive risk assessment process.

- FICC and its parent company, DTCC, lead strategic thinking across the industry through their development of various White Papers, which are designed to provoke discussions on relevant topics of note in an effort to continually improve the overall market infrastructure. The White Papers are available at www.dtcc.com.

- FICC actively evaluates whether it is meeting and will continue to meet the requirements and needs of its Members through an annual customer satisfaction survey conducted by DTCC for all of its business lines, including FICC. Customer Account Representatives are product-aligned to better support the membership.

FICC Members have the opportunity to participate in product development through their involvement in advisory boards and/or ad hoc working groups. Advisory Boards are sometimes established to provide guidance, expertise and feedback on various initiatives. FICC also establishes ad hoc working groups, as necessary, in order to assist with more discrete programs, products or processes.

FICC’s management team additionally interacts with the industry through (a) industry associations and committees such as SIFMA and the Asset Managers’ Forum, (b) the annual Executive Forum, consisting of presentations by prominent industry experts for FICC Members’ executive staff, and (c) Regional Forums organized by FICC to inform Members of current and new products and services.

**Low cost pricing for accessibility of services**

FICC’s efficiency is ultimately reflected through its pricing. FICC operates a “low cost” pricing model, continually striving to drive down cost in the industry by providing efficient services. In addition to driving down cost, FICC also strives to drive down risk.

FICC has in place procedures to control costs and to regularly review pricing levels against costs of operation. FICC 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 Businesses and Products Committee of the Board and to the full Board of the price impact. The budget is reviewed by several Board committees and approved annually by the Board, as is any change in service fees. FICC’s fees are cost-based plus a markup as approved by the Board. This markup or “low margin” is applied to recover development costs and operating expenses and to accumulate capital sufficient to meet regulatory and economic requirements. Furthermore, to help promote ongoing efficiency, DTCC maintains a Business Transformation Office (“BTO”), which, for example, employs Quality Reengineering, Six Sigma and Lean techniques to analyze workflows and make appropriate recommendations for further efficiency improvements.
Membership representation in governance

FICC is a wholly owned subsidiary of DTCC, which, as described in Principle 2 (Governance), is owned and governed by the users of DTCC’s three clearing agency subsidiaries. The majority of Directors on the Board are representatives of financial institutions that are significant users of FICC’s services. As further described in Principle 2, in addition to management representatives, the Board also includes non-participant directors with industry, regulatory or academic backgrounds important to shaping institutional goals of DTCC and the clearing agency subsidiaries. The Board and its committees, such as the Businesses and Products Committee, Operations and Technology Committee, Finance/Capital Committee, Audit Committee and Risk Committee, are structured so that FICC’s operations, delivery systems and technologies, services and products meet the needs of FICC’s membership and the markets that FICC serves.

Goals and Objectives

FICC sets corporate goals annually by senior management, which are approved by the Board. The overarching DTCC corporate goals are used as the framework for the annual goals for each business line and/or control function area. Corporate goals encompass a range of benchmarks such as service level goals, financial goals and overall business priorities.

To ensure that the goals are clearly defined, measurable and achievable, corporate goals are reviewed with several levels of management, including the Management Committee; they are then reviewed and approved by the Board of Directors. Historical results may be used as guidelines to set future targets, as appropriate. Results are tracked monthly by the Management Committee and the Board, with specific attention on those metrics that might be performing below target.

A Corporate Balanced Business Scorecard holistically measures corporate performance addressing the strategic direction and health of DTCC and its wholly owned subsidiaries; a distinct Core Balanced Business Scorecard is a management tool focused on DTCC’s clearing agency subsidiaries. It aims to assure continued focus on risk management and execution excellence for FICC, DTC and NSCC. The BBS are drafted annually by management and approved by the Board, and include various metrics across customer service, operational performance, financial performance and human capital performance.

In addition, there are supporting scorecards for Operations and Information Technology that focus on additional metrics in those areas.

Processes and Metrics

DTCC uses a variety of metrics to measure FICC’s efficiency and effectiveness. In addition to the BBS and monitoring against goals, DTCC employs the following:

- DTCC’s Business Transformation Office works with each area of the company to evaluate process efficiency and identify improvement opportunities based on the Lean and Six Sigma methodologies, and reports results to the Management Committee and the Board of Directors.

- DTCC also measures the effectiveness of FICC’s technology process through industry standard methodologies such as CMMI and ITIL.

- DTCC’s Application Development and Maintenance group has been assessed by an independent party on process maturity.
• DTCC’s Enterprise Infrastructure organization uses the ITIL framework for continued improvement with respect to IT service management.

FICC evaluates its efficiency and effectiveness at least monthly. This information is communicated to senior management monthly (via the BBS and other scorecards) and provided to the Board and/or Board Committees as a standing item during their regularly scheduled meetings.
Principle 22: Communication procedures and standards

An FMI should use, or at a minimum accommodate, relevant internationally accepted communication procedures and standards in order to facilitate efficient payment, clearing, settlement, and recording.

Key consideration 1: An FMI should use, or at a minimum accommodate, internationally accepted communication procedures and standards.

Communication procedures and Standards

With respect to each Division, FICC has developed and uses proprietary communication standards and data formats, which, by virtue of their wide acceptance and long-standing usage by each Division’s Members, are an accepted industry standard for domestic transactions processed through FICC. FICC also uses and accommodates internationally accepted communication standards and messaging formats for clearance and settlement.

FICC supports industry standard communications interfaces, for example, through the Internet, and through a direct interface (direct end-to-end line) via DTCC’s SMART network, and through international communication networks SFTI and BT Radianz. These communications interfaces are available for all entities that interface with FICC’s systems, including any linked FMIs. Additionally, each Division’s Members and their service providers are eligible to use any one or a combination of the communications interfaces supported by FICC. Members (or their service providers) identify their communications interface(s) during the on-boarding process, and may modify these elections at any time subsequently, as needed.

FICC’s clearance and settlement systems use internationally accepted file transfer (“FTP”) and message queuing (MQ) standards as well as online interfaces for communications. FICC uses multiple communication formats in its systems, including proprietary messages, and ISO 15022 messaging formats for interacting with its Members and connected parties. FICC uses CUSIPS to identify securities. When necessary, FICC is able to translate a message to its in-house format and can reply back in multiple formats. Conversion is performed by an internal utility within FICC that supports the various message format standards.
Principle 23: Disclosure of rules, key procedures and market data

An FMI should have clear and comprehensive rules and procedures and should provide sufficient information to enable participants to have an accurate understanding of the risks, fees, and other material costs they incur by participating in the FMI. All relevant rules and key procedures should be publicly disclosed.

Key consideration 1: An FMI should adopt clear and comprehensive rules and procedures that are fully disclosed to participants. Relevant rules and key procedures should also be publicly disclosed.

Key consideration 2: An FMI should disclose clear descriptions of the system’s design and operations, as well as the FMI’s and participants’ rights and obligations, so that participants can assess the risks they would incur by participating in the FMI.

Key consideration 3: An FMI should provide all necessary and appropriate documentation and training to facilitate participants’ understanding of the FMI’s rules and procedures and the risks they face from participating in the FMI.

Key consideration 4: An FMI should publicly disclose its fees at the level of individual services it offers as well as its policies on any available discounts. The FMI should provide clear descriptions of priced services for comparability purposes.

Key consideration 5: An FMI should complete regularly and disclose publicly responses to the CPSS-IOSCO disclosure framework for financial market infrastructures. An FMI also should, at a minimum, disclose basic data on transaction volumes and values.

Introduction

With respect to each Division, FICC provides GSD Members and MBSD Members with comprehensive rules and procedures, including its fees. These are readily available on DTCC’s website to Members, supervisors and to the public. Through other publications (including this Disclosure Framework) and Member outreach, FICC also provides sufficient information to enable Members to understand the risks, fees and other material costs they incur through membership at FICC.

GSD Rules and MBSD Rules

The GSD Rules and MBSD Rules, as applicable, are filed with the SEC prior to or concurrent with their effectiveness. As discussed under Principle 1 (Legal basis), all Proposed Rule Changes and Advance Notices are posted on DTCC’s website, and also published by the SEC on the SEC’s website, www.sec.gov, and in the Federal Register (which is published online by the U.S. Government Printing Office). Members are also notified of all Proposed Rule Changes and Advance Notices via Important Notices published on DTCC’s website.

Except when filed for immediate effectiveness, publication of Proposed Rule Changes (and of Advance Notices) allows Members and other interested parties the opportunity to comment on proposals, to
understand what such proposals provide and how stakeholders may be affected.\textsuperscript{78} Rules filed for immediate effectiveness are typically administrative and not controversial. Fee filings may be made immediately effective, but are objective and transparent to Members. Each Division’s Rules as in effect, as well as Proposed Rule Changes and Advance Notices, are available to the public via DTCC’s website, www.dtcc.com.

All rule changes are subject to internal review and governance before they are submitted to the SEC. Changes to the GSD Rules and MBSD Rules, as applicable, may be initiated from a number of sources, including internal review and lessons learned from actual events or simulations, process or product enhancements, Member feedback, and evolving regulatory requirements.

In addition to its Rules, FICC also provides supplementary information on its services through Important Notices and a series of other documents that are made publicly available on www.dtcc.com.

\textit{Design and Operations}

As part of FICC’s on-boarding process, Members are provided with information about the design and operations of FICC’s systems, including record layouts, if applicable, as well as other technical information necessary for Members to establish connectivity with FICC and interact with FICC’s systems.

Information about the design and operations of FICC’s systems is also included in service descriptions and other forms of user documentation that are available on www.dtcc.com.

\textit{Member Rights, Obligations and Risks}

Members’ rights, obligations and risks are reflected in the GSD Rules and MBSD Rules, as applicable with respect to each Division, and include, but are not limited to: (i) initial and ongoing membership requirements; (ii) FICC’s ability to temporarily suspend, or definitively cease to act, on a Member’s behalf with respect to some or all services in enumerated circumstances; (iii) the obligation of Members to make deposits to the Clearing Fund; (iv) the requirement for Members to provide additional assurances of financial responsibility and operational capability, as FICC deems necessary; (v) Members’ rights and obligations under the loss allocation process; (vi) Member obligations in their use of FICC’s services, including with respect to certain indemnifications of FICC; (vii) Members’ obligation for compliance with applicable law; (viii) settlement and payment obligations; (ix) settling bank requirements and (x) disciplinary sanctions (including fines) and a Member’s right to appeal a decision adverse to it. A number of these provisions refer to non-routine, though foreseeable, events, including use of the Clearing Fund for liquidity to complete settlement, and potentially to address uncovered credit losses through the loss allocation process, in the event of a Member failure. Each Division’s Rules also provide for authority and reporting of waivers and/or suspension of the Rules, in the event of such a contingency. These provisions recognize, and provide for, a degree of discretion to management, to enable FICC to address situations as facts and circumstances may require.

\textsuperscript{78} Proposed Rule Changes and Advance Notices follow a format prescribed by the SEC. This includes a narrative description of the relevant proposal, with background information including the statutory basis for the proposal and discussion of its impact on Members and stakeholders.
Training and other resources

FICC offers training to new Members prior to membership activation, which facilitates new Members’ understanding of each Division’s Rules as well as the risks that such Member may face from joining FICC. Additional training tools to help Members learn how to more effectively use FICC’s products and services are made available on www.dtcclearning.com. The GSD Member Handbook and the MBSD Member Handbook are other educational resources that are provided to enhance Members’ understanding of the applicable Division’s Rules and the risks associated with membership. FICC also provides formal training on an ad-hoc basis to existing Members, upon request.

The initial and ongoing membership requirements serve to demonstrate that each Division’s Members are able to: (i) satisfactorily communicate with FICC, (ii) fulfill their anticipated commitments, (iii) meet the operational requirements with necessary promptness and accuracy and (iv) establish appropriate arrangements to effect payment obligations to FICC. Members must demonstrate operational readiness both during the membership on-boarding process before being provided with access to FICC’s systems as well as on an ongoing basis as part of their continuing membership requirements. Each FICC Member is assigned a dedicated Relationship Manager or Account Manager who is able to provide a number of resources or one-on-one education as needed to ensure Members understand the applicable Division’s Rules, procedures and the risks they face from membership in FICC.

If a Member is observed to be lacking appropriate understanding of the GSD Rules or MBSD Rules, as applicable, FICC’s operations or other requirements, the concerned DTCC employee/department will reach out to Relationship Management staff to discuss remedies with relevant firm’s management. Remedial actions to address an apparent lack of understanding of the GSD Rules or MBSD Rules, as applicable, and the obligations and risks of membership may include one-on-one coaching, webinars or other forms of additional training and/or telephone support. FICC also maintains the right to institute disciplinary proceedings, including fines, for a Member’s violation of the GSD Rules or MBSD Rules, as applicable.

Fees

With respect to each Division, FICC publicly discloses the fees for services. This information is included in each Division’s Rules and is available on DTCC’s website, www.dtcc.com.

With respect to each Division, generally, a forecast of fee changes is provided to Members during the third quarter of the year. The fee changes are then finalized, approved by the Board of Directors and filed with the SEC during the fourth quarter of the year with an effective date of the following January 1. FICC notifies Members of all fee and service changes via Important Notices that are available on DTCC’s website. Mid-year fee changes (if applicable) are also filed with the SEC, and Members are provided notice of the changes via Important Notice.

In addition, DTCC discloses information on fees charged for operating and maintaining the SMART communications infrastructure that provides access to DTCC’s (including FICC’s) services. These fees are disclosed in the “Guide to SMART Charges,” which is available on DTCC’s website, www.dtcc.com.
**Disclosure Framework**

This is the first year that FICC has completed the Disclosure Framework under the FMI Principles. FICC intends to update the Disclosure Framework every two years, at a minimum. Previously, FICC posted biennial self-assessments for GSD pursuant to CPSS-IOSCO’s Recommendations for Central Counterparties, the predecessor regime on similar subjects.\(^7^9\)

DTCC discloses other quantitative information regarding FICC in the DTCC Annual Report, which is published annually, and in the FICC financial statements, which are published quarterly. This information, as well as basic data on transaction volumes and values, is available to the public on the DTCC website.

In addition to the information provided above, FICC’s public disclosures include the following:

1. Important Notices,
2. Proposed Rule Changes and Advance Notices filed with the SEC,
3. Management’s Statements Regarding Internal Controls and Reports of Independent Accountants and

Section VI of this Disclosure Framework includes a listing of publicly available resources, including information available on www.dtcc.com, on other public websites, or available to Members on www.dtccelearning.com or upon request. All such information is available in English.

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\(^7^9\) FICC has only published CPSS-IOSCO self-assessments for GSD because MBSD was not approved for CCP services until 2012.
Principle 24: Disclosure of market data by trade repositories

A TR should provide timely and accurate data to relevant authorities and the public in line with their respective needs.

Key consideration 1: A TR should provide data in line with regulatory and industry expectations to relevant authorities and the public, respectively, that is comprehensive and at a level of detail sufficient to enhance market transparency and support other public policy objectives.

Key consideration 2: A TR should have effective processes and procedures to provide data to relevant authorities in a timely and appropriate manner to enable them to meet their respective regulatory mandates and legal responsibilities.

Key consideration 3: A TR should have robust information systems that provide accurate current and historical data. Data should be provided in a timely manner and in a format that permits it to be easily analyzed.

FICC is not a TR. Accordingly, Principle 24 does not apply to FICC.
### V. Definitions of Key Terms and Abbreviations

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Definition</th>
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<tbody>
<tr>
<td>ADM</td>
<td>Application Development and Maintenance Group</td>
</tr>
<tr>
<td>Bankruptcy Code</td>
<td>The U.S. Bankruptcy Code</td>
</tr>
<tr>
<td>BBS</td>
<td>Balanced Business Scorecard is a component of DTCC’s performance management framework; used to assess DTCC’s contributions to the financial industry and markets throughout the year and measured against corporate priorities</td>
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<tr>
<td>BCM</td>
<td>Business Continuity Management</td>
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<tr>
<td>BRC</td>
<td>Risk Committee of the Board of Directors (also referred to as the Board Risk Committee)</td>
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<tr>
<td>CALC</td>
<td>Clearing Agency Liquidity Council</td>
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<tr>
<td>CCP</td>
<td>Central counterparty</td>
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<tr>
<td>CFM</td>
<td>Clearing Fund Management System</td>
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<tr>
<td>Clearing Agency Standards</td>
<td>The minimum requirements for registered Clearing Agencies pursuant to Exchange Act Rule 17Ad-22</td>
</tr>
<tr>
<td>Dodd-Frank</td>
<td>The Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010</td>
</tr>
<tr>
<td>DTC</td>
<td>The Depository Trust Company</td>
</tr>
<tr>
<td>DTCC</td>
<td>The Depository Trust &amp; Clearing Corporation</td>
</tr>
<tr>
<td>DVP</td>
<td>Delivery versus payment</td>
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<tr>
<td>Eligible Clearing Fund Securities</td>
<td>With respect to each Division, certain eligible securities accepted by FICC as Clearing Fund collateral.</td>
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<tr>
<td>ERM</td>
<td>Enterprise Risk Management</td>
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<tr>
<td>FDIA</td>
<td>The Federal Deposit Insurance Act</td>
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<tr>
<td>FDIC</td>
<td>Federal Deposit Insurance Corporation</td>
</tr>
<tr>
<td>Acronym</td>
<td>Description</td>
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<td>-------------------------------------------------------------------------------</td>
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<tr>
<td>FDICIA</td>
<td>The Federal Deposit Insurance Corporation Improvement Act of 1991</td>
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<tr>
<td>FICC</td>
<td>Fixed Income Clearing Corporation</td>
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<tr>
<td>FRBNY</td>
<td>The Federal Reserve Bank of New York</td>
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<tr>
<td>GSD Rules</td>
<td>GSD Rulebook</td>
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<tr>
<td>IAD</td>
<td>Internal Audit Department</td>
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<tr>
<td>MBSD Rules</td>
<td>MBSD Clearing Rules</td>
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<td>MRC</td>
<td>Management Risk Committee</td>
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<td>NIC</td>
<td>New Initiatives Committee</td>
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<tr>
<td>NSS</td>
<td>The Federal Reserve Bank’s National Settlement System</td>
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<td>OCC</td>
<td>The Options Clearing Corporation</td>
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<tr>
<td>OFAC</td>
<td>Office of Foreign Assets Control</td>
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<tr>
<td>OLA</td>
<td>Orderly liquidation authority from Title II of Dodd-Frank</td>
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<tr>
<td>ORM</td>
<td>Operational Risk Management</td>
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<tr>
<td>RTO</td>
<td>Recovery time objective</td>
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<tr>
<td>SEC</td>
<td>U.S. Securities and Exchange Commission</td>
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<tr>
<td>SFTI</td>
<td>NYSE’s Secure Financial Transaction Infrastructure network</td>
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<tr>
<td>Shareholders Agreement</td>
<td>DTCC’s Shareholders Agreement</td>
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<tr>
<td>SIFMU</td>
<td>Systemically Important Financial Market Utility</td>
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<tr>
<td>SIPA</td>
<td>Securities Investor Protection Act of 1970</td>
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<tr>
<td>SIPC</td>
<td>Securities Investor Protection Corporation</td>
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<tr>
<td>SMART</td>
<td>DTCC’s Securely Managed and Reliable Technology network</td>
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<tr>
<td>TRM</td>
<td>Technology Risk Management</td>
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<tr>
<td>UCC</td>
<td>Uniform Commercial Code; the version of the UCC as adopted in the State of New York is sometimes referred to as the NYUCC</td>
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<tr>
<td>VaR</td>
<td>Value-at-Risk</td>
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<tr>
<td>WAR</td>
<td>Work area recovery</td>
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VI. Additional Publicly Available Resources

Unless otherwise stated, all documents in the table below are available at www.dtcc.com.

<table>
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<tr>
<th>Publicly Available Resources</th>
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<tbody>
<tr>
<td><strong>1. Statutes, Laws, Regulations and Reports</strong></td>
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<tr>
<td>Federal Deposit Insurance Corporation Improvement Act, available on the Federal Deposit Insurance Corporation website at <a href="http://www.fdic.gov">http://www.fdic.gov</a></td>
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<tr>
<td>New York Business Corporation Law, available on the New York Department of State website at <a href="http://public.leginfo.state.ny.us">http://public.leginfo.state.ny.us</a></td>
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<tr>
<td>New York Uniform Commercial Code Articles [4A], 8 and 9, available on the New York Department of State website at <a href="http://public.leginfo.state.ny.us">http://public.leginfo.state.ny.us</a></td>
</tr>
<tr>
<td>The Dodd-Frank Wall Street Reform and Consumer Protection Act, available at <a href="http://www.gpo.gov/">http://www.gpo.gov/</a>, especially Title II regarding orderly liquidation authority, and Title VIII regarding Clearing and Settlement</td>
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<thead>
<tr>
<th><strong>2. FICC and DTCC Documents</strong></th>
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<tbody>
<tr>
<td>Board Code of Ethics</td>
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<tr>
<td>Board of Directors Committee Charters</td>
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<tr>
<td>Board of Directors Mission Statement and Charter</td>
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<tr>
<td>DTCC By-laws</td>
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<tr>
<td>DTCC Mission and Vision Statement</td>
</tr>
<tr>
<td>FICC Important Notice with Nominations Solicitations Letter and Procedures for the Annual</td>
</tr>
</tbody>
</table>
### Nomination and Election of Directors

- GSD Member Handbook (available on DTCC Learning at dtcclearning.com)
- GSD Rulebook
- Identification of Board of Directors
- Identification of Senior Management Team
- Important Notices
- Management Committee Structure
- MBSD Clearing Rules
- MBSD Member Handbook (available on DTCC Learning at dtcclearning.com)
- Nominations Policy
- Principles of DTCC Governance
- Procedures for the Annual Nomination and Election of the Board of Directors
- Rule Filings, Advance Notices and related Regulatory Approval Orders
- White Papers and Industry Reports

#### 3. Financial Statements and Reports

- DTCC Annual Reports, including Consolidated Audited Financial Statements
- FICC Audited Financial Statements
- FICC Interim (Unaudited) Financial Statements