THE DEPOSITORY TRUST COMPANY

Disclosure under the Principles for Financial Market Infrastructures

December 2014
Responding Institution: The Depository Trust Company ("DTC")
Jurisdiction: State of New York, United States of America
Authorities: U.S. Securities and Exchange Commission; Federal Reserve
Bank of New York; New York State Department of Financial Services

The information provided in this Disclosure Framework 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
# Table of Contents

I. Executive Summary ............................................................................................................................................. 4  
II. Summary of Major Changes since the Last Update of the Disclosure .......................................................... 5  
III. General Background of DTC and Key Metrics ............................................................................................... 6  
IV. Principle-by-Principle Summary Narrative Disclosure .......................................................................................... 14  
   Principle 1: Legal basis ....................................................................................................................................... 14  
   Principle 2: Governance .................................................................................................................................... 24  
   Principle 3: Framework for the comprehensive management of risks .............................................................. 33  
   Principle 4: Credit risk ....................................................................................................................................... 39  
   Principle 5: Collateral ......................................................................................................................................... 45  
   Principle 6: Margin .............................................................................................................................................. 49  
   Principle 7: Liquidity risk .................................................................................................................................... 50  
   Principle 8: Settlement finality .............................................................................................................................. 56  
   Principle 9: Money settlements ........................................................................................................................... 59  
   Principle 10: Physical deliveries .......................................................................................................................... 63  
   Principle 11: Central securities depositories ......................................................................................................... 65  
   Principle 12: Exchange-of-value settlement systems .......................................................................................... 71  
   Principle 13: Participant-default rules and procedures ...................................................................................... 72  
   Principle 14: Segregation and portability ............................................................................................................ 77  
   Principle 15: General business risk ..................................................................................................................... 78  
   Principle 16: Custody and investment risks ........................................................................................................... 82  
   Principle 17: Operational risk ............................................................................................................................. 85  
   Principle 18: Access and participation requirements .......................................................................................... 98  
   Principle 19: Tiered participation arrangements ................................................................................................. 103  
   Principle 20: FMI links ......................................................................................................................................... 105  
   Principle 21: Efficiency and effectiveness .......................................................................................................... 111  
   Principle 22: Communication procedures and standards .................................................................................... 114  
   Principle 23: Disclosure of rules, key procedures, and market data ................................................................... 115  
   Principle 24: Disclosure of market data by trade repositories ........................................................................ 119  
V. Definitions of Key Terms and Abbreviations ................................................................................................. 120  
VI. Additional Publicly Available Resources ....................................................................................................... 123
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 central securities depositories (“CSDs”), securities settlement systems, central counterparties (“CCPs”), payment systems 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.

A CSD, such as The Depository Trust Company (“DTC”), provides a central location in which securities may be immobilized, or through which securities may be dematerialized, and interests in those securities reflected in accounts maintained for members. DTC also provides for the settlement of book-entry transfer and pledge of interests in eligible deposited securities and net funds settlement. A financially strong and well-managed, well-designed CSD, with appropriate risk management arrangements, can reduce the risk faced by participants, contributing to the goal of systemic financial stability. CPSS-IOSCO has recognized that, while properly managed FMIs contribute to maintaining and promoting financial stability and economic growth, they also have the potential to concentrate risk. Therefore, it is important that FMIs, such as DTC, 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 (although Principles 6, 14 and 24 do not apply to CSDs and Principle 24 applies only to trade repositories). 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 DTC, a wholly-owned subsidiary of The Depository Trust & Clearing Corporation (“DTCC”), which provides CSD services with respect to securities transactions in the U.S. in types of eligible securities including, among others, equities, warrants, rights, corporate debt and notes, municipal bonds, government securities, asset-backed securities, depositary receipts and money market instruments. DTC is a limited purpose trust company, formed under the Banking Law of New York State and supervised by the New York State Department of Financial Services (“NYSDFS”), a State member bank of the Federal Reserve System (“FRS”) subject to examination by the Federal Reserve Bank of New York (“FRBNY”) under delegated authority from the Board of Governors of the FRS, and a clearing agency registered with, and under the supervision of, the U.S. Securities and Exchange Commission (“SEC”). In July 2012, DTC was designated as a systemically important financial market utility (a “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 DTC’s stakeholders, including its members and indirect users, on the key services DTC provides and the methods it uses to manage the risk, to itself and others, of providing these services.

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

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

A. General Description of DTC and Organization

DTC was organized in 1973 in response to the “paperwork crisis” of the late 1960s and early 1970s in the U.S. securities industry, in which large value securities certificates were being physically delivered so frequently and in such volumes that financial institutions and investors were at high risk for fraud, theft and loss. To solve this problem, DTC was created as a central securities depository for the immobilization of securities certificates, so that interests in the securities might be transferred by book-entry to accounts maintained at DTC for member financial institutions.2

DTC provides depository and book-entry services pursuant to its rules, procedures, service guides and operational arrangements (the “DTC Rules” or “Rules”) available at the DTCC website, www.dtcc.com. DTC services include custody of securities certificates and other instruments, and settlement and asset services for types of eligible securities including, among others, equities, warrants, rights, corporate debt and notes, municipal bonds, government securities, asset-backed securities, depositary receipts and money market instruments (“MMIs”). Eligibility of any particular issue of securities will be determined by DTC under its Rules and in accordance with applicable law, including the Securities Act of 1933, as amended (the “Securities Act”) and the rules and regulations thereunder.3

Regulatory, Supervisory, and Oversight Framework

During the same period in which DTC was formed, the Securities Exchange Act of 1934, as amended (the “Exchange Act”) was further amended to add Section 17A and the rules and regulations thereunder, to provide for the establishment and maintenance of a U.S. national system for the prompt and accurate clearance and settlement of securities transactions. This is the regime under which DTC has operated, and continues to operate, as a registered clearing agency under the supervision of the SEC pursuant to the provisions of Section 17A.

To protect the custody of securities held through and immobilized at DTC, DTC was formed as a limited purpose trust company under the Banking Law of New York State and is a State member bank of the FRS, able to conduct funds settlement in central bank money through its account with the FRBNY. DTC is supervised by the New York State Department of Financial Services, and examined by the FRBNY under delegated authority from the FRB. DTC is also a clearing organization, as defined in the Federal Deposit Insurance Corporation Improvement Act of 1991, as amended (“FDICIA”), and a clearing corporation, as defined in the Uniform Commercial Code (“UCC”), enacted by each State of the U.S.

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2 Dematerialization was also recognized as a solution to the problem, but legal support for this approach was not as widely established at the time. DTC is at the forefront of current initiatives for dematerialization, as further discussed below (see Principle 11 (Central securities depositories)).

3 Generally, eligible securities must have been issued in a transaction: (i) registered with the SEC pursuant to the Securities Act; (ii) exempt from registration pursuant to a Securities Act exemption without transfer or ownership restrictions; or (iii) pursuant to Rule 144A or Regulations S. See DTC Operational Arrangements (Necessary for Securities to Become and Remain Eligible for DTC Services) (January 2012), available at http://www.dtcc.com/~/media/Files/Downloads/legal/issue-eligibility/eligibility/operational-arrangements.pdf.
As a registered clearing agency, DTC is also subject to the Exchange Act Rule 17Ad-22 (the “Clearing Agency Standards”) which was adopted by the SEC in 2012 and became effective on January 1, 2013, in accordance with Section 17A of the Exchange Act, and Sections 763 of Title VII and 805 of Title VIII of Dodd-Frank. 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. These requirements are designed to enhance the regulatory framework for the supervision of clearing agencies.

In accordance with Dodd-Frank, DTC’s designation as a SIFMU requires that it meet prescribed risk management standards and heightened oversight by its regulators. Dodd-Frank provisions related to SIFMUs are designed to promote robust risk management and safety and soundness, reduce systemic risk, and support the stability of the broader financial system.

These laws, regulations and rules are readily accessible to DTC’s members and the general public via the Internet and through other public sources. (Also see response to Principle 1 (Legal basis).)

**Organization**

DTCC is the parent company of DTC. DTCC is a non-public holding company that owns a numbers of FMIs, including three SIFMUs and related businesses. In addition to DTC, DTCC also owns National Securities Clearing Corporation (“NSCC”) and Fixed Income Clearing Corporation (“FICC”), which are also SIFMUs. NSCC provides CCP services to its members with respect to securities transactions in equities, corporate bonds, municipal securities and unit invest trusts in the U.S. FICC, also a CCP, operates two divisions. FICC’s Government Securities Division provides clearing, netting, settlement and CCP services to the U.S. government securities market, and the Mortgage-Backed Securities Division provides such services to the U.S. mortgage-backed securities market. DTCC, through its other subsidiaries and joint ventures, provides critical information and transactional services, including through global trade repositories, to financial market participants in the U.S. 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 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 (which does not reflect all DTCC subsidiaries):
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**

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

DTC is the world’s largest securities depository and a clearing agency for the settlement of securities trading activity. DTC maintains securities and settlement accounts for its members, generally banks, broker-dealers and other financial institutions, including linked FMIs. (See Principle 18 (Access and participation requirements), Principle 20 (FMI links).)

**Immobilization and book-entry transfer services**

DTC holds eligible securities on behalf of Participants and reflects the transfer of interests in those securities among Participants by computerized book-entry. Eligible securities deposited with DTC for book-entry transfer services are registered in the name of its nominee, Cede & Co. (“Cede”), a New York partnership. When the certificates are registered in the name of Cede & Co., DTC acquires legal title to the securities; as to Participants of DTC to whose account the securities may be credited, interests in the securities become fungible. That is, a Participant does not have a right to any particular security certificate, each Participant has a proportionate interest in the total inventory of the issue held by DTC.

As the holder of immobilized securities through Cede, under DTC Rules and applicable law, DTC provides asset services that facilitate centralization, simplification and automation in the processing of

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4As described in Principle 18 (Access and participation requirements), under the DTC Rules, there are three classes of membership: Participants, Limited Participants and Pledgees. In this Disclosure Framework, the term “Participants” generally includes all three, unless the context indicates otherwise.
principal and income payments and corporate actions. These include Deposit, Custody, Direct Registration, Dividends, Reorganization and Proxy Services, further described in applicable service guides at the DTCC website.  

There are two fundamental types of book-entry transfer under the DTC Rules: delivery and pledge. A Participant may instruct DTC to deliver securities from its account to the account of another Participant, in which case ownership of the securities is transferred. Alternatively, a Participant (the “Pledgor”) may instruct DTC to pledge securities from its account to the pledgee account of a counterparty (the “Pledgee”), in which case a collateral interest is transferred. The Pledgor continues to own the securities, subject to the pledge, and the Pledgee may release the pledged securities back to the Pledgor in the ordinary course. However, DTC Rules also allow the Pledgee to take control of the collateral and assume ownership, or transfer the securities to other Participants, without the further consent of the Pledgor.  

A DTC book-entry transfer may be a delivery free of payment or a delivery versus payment (“DVP”), for settlement through DTC end-of-day net funds settlement, as further described in responses to Principle 8 (Settlement finality) and Principle 9 (Money settlements). Risk management controls apply intraday to protect DTC and its Participants against the failure of a Participant to settle.  

Under the DTC Rules, DTC offers a variety of core services based on these fundamental book-entry mechanics.  

The Underwriting Service, for instance, is the process by which securities may be credited to the account of an underwriting Participant at issuance and distributed to investing Participants by DVP for settlement at DTC. DTC also processes book-entry transfers for institutional trades of its Participants, affirmed and matched by its affiliate, Omgeo LLC.  

A key industry service provided through the DTC delivery system is the issuance and maturity presentment of MMIs. Approximately 99% of all U.S. commercial paper is distributed and settled through DTC. DTC provides Participants and Issuing/Paying Agents (“IPAs”) with an automated book-

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5 Pursuant to DTC Rule Filing SR-DTC-2014-12 (December 4, 2014) published by the SEC in a notice dated December 17, 2014 (Release No. 34-73864), the “Dividends Service Guide” will be renamed and otherwise amended as the “Distributions Service Guide,” and the changes provided in the Rule Filing will be implemented in the first quarter of 2015.  

6 DTC also provides Global Tax Services to facilitate Participant compliance with tax obligations, including international tax regulations, tax treaty provisions and withholding tax reporting requirements, including Domestic Tax Reporting, U.S. Tax Withholding, Tax Relief and Tax Info Services.  

7 The characterization of any collateral transaction depends on agreements made outside of DTC between the Participant and the counterparty. DTC does not inquire into the terms and conditions of these agreements but affords its Participants the means to deliver ownership or a collateral interest on DTC books and records, and to perfect a security interest through such a delivery, subject to the DTC Rules and applicable law. A variant for repurchase transactions is also available under the Rules, subject to the outside agreement(s) of the parties.  

8 Pledges may also be made free of payment or versus payment.  

9 Securities eligible for DTC’s MMI services include: municipal notes with a maturity of one year or less; municipal bonds issued with demand options; zero coupon bonds backed by U.S. Government securities; collateralized mortgage obligations and other asset-backed securities; auction-rate and tender-rate preferred stocks and notes; medium term notes; commercial paper; institutional certificates of deposit; and bankers acceptances.
entry system for settling issuances and maturity presentments of MMIs. The Issuing Agent (which must be a Participant) sends issuance instructions to DTC electronically to deposit, upon issue, the specified MMI securities to its account. The newly issued MMI securities are then distributed from the Issuing Agent’s account, by DVP transfer to the accounts of purchasing Participants. Maturity presentments are also made by book-entry transfer; on the maturity date of an issue, securities held by Participants are automatically transferred DVP to the IPA’s account, for payment through net settlement.

Another important use of DTC book-entry transfer is the interface of DTC with its affiliate NSCC for the processing of trades that are cleared and settled in the NSCC Continuous Net Settlement (“CNS”) system. As more fully described in the response to Principle 20 (FMI links), securities cleared through CNS are settled by book-entry delivery, free of payment, to and from DTC accounts of NSCC members that are also DTC Participants (“Common Members”).

Supporting cross-border immobilization and book-entry transfer, DTC has a two-way link with CDS Clearing and Depository Services, Inc. (“CDS”). CDS, as a Participant at DTC, holds securities at DTC, which may be transferred on the books of DTC on behalf of CDS participants. Conversely, DTC holds securities in its account at CDS and participates in CDS settlement, in Canadian dollars, on behalf of DTC Participants. DTC also maintains links with other CSDs, as further described in response to Principle 20 (FMI links).

**Risk Management Controls**

DVP transfers at DTC are structured so that the completion of delivery to a Participant is contingent on the receiving Participant satisfying its end-of-day net settlement obligation, if any. Intraday, the risk of default is managed through controls, structured so that DTC may complete settlement despite the failure to settle of the Participant, or affiliated family of Participants, with the largest settlement obligation. The two principal controls are the net debit cap and collateral monitor, discussed in response to Principle 4 (Credit risk), Principle 5 (Collateral) and Principle 7 (Liquidity risk). The largest settlement obligation of a Participant or affiliated family of Participants cannot exceed DTC liquidity resources, based on the net debit cap, and must be fully collateralized, based on the collateral monitor. This structure is designed so that DTC may pledge or liquidate collateral of the defaulting Participant in order to complete settlement. Liquidity resources, including the Participants Fund and a committed line of credit with a consortium of lenders, are available to complete settlement if there is a Participant default.

**Money Settlement at DTC**

In addition to a securities account at DTC, each Participant has a settlement account to record any net funds obligation for end-of-day settlement, whether payment will be due to or from the Participant. DTC’s delivery and settlement system is a modified DVP Model 2, deferred net settlement (“DNS”) system.10

During the day, debits and credits are entered into the Participant’s settlement account. The debits and credits arise from DVP transfers and from other funds events or transactions, such as principal and interest payments distributed to a Participant or intraday settlement progress payments by a Participant to

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10 “A Glossary of Terms Used in Payments and Settlement Systems” (March 2003), Bank for International Settlements – Committee on Payment and Settlement Systems, p. 22.
DTC. Debits and credits in the Participant’s settlement account are netted intraday to calculate, at any time, a net debit balance or net credit balance, resulting in an end-of-day settlement obligation or right to receive payment. DTC nets debit and credit balances for Common Members with NSCC, to reduce funds transfers for settlement, and acts as settlement agent for NSCC in this process. Further netting occurs through the use of Settling Banks for all Participants. Settlement payments to and from DTC and these Settling Banks are made through the National Settlement System of the FRS (“NSS”), as further described in responses to Principle 1 (Legal basis) and Principle 9 (Money settlements).

**Liquidity Resources for Settlement**

DTC maintains a cash Participants Fund, with an approximate value of $1.8 BN as of June 30, 2014, including $1.15 BN, the aggregate amount of required deposits, and excess deposits of $650 MM. The required deposit for any Participant (a “Required Deposit”) is based on the liquidity risk it poses to DTC, measured by its average net debit peak over a rolling 60 business day period. The aggregate amount of the Participants Fund is determined based on the amount that would be needed to complete net settlement if a Participant failed to settle. If a Participant defaults, its deposit to the Participants Fund is available to DTC to complete system-wide settlement.

DTC additionally maintains a committed line of credit with a consortium of lenders, for $1.9 BN. Any borrowing under the line must be secured by collateral of the defaulting Participant. (See response to Principle 5 (Collateral)).

The committed line of credit and the aggregate Participants Fund, together, provide liquidity resources sufficient to complete settlement among non-defaulting Participants, if the Participant or affiliated family of Participants with the largest settlement obligation defaults. These liquidity resources are further discussed in response to Principle 7 (Liquidity risk).

The Participants Fund is also a resource for losses arising out of a Participant default. Such a loss could be charged to the Participants Fund deposits of non-defaulting Participants ratably in accordance with their Required Deposits. (See response to Principle 13 (Participant-default rules and procedures)).
C. Key Metrics as of June 30, 2014

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<th>Transaction Volumes and Values – split by MMI/non-MMI activity</th>
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Operational Systems Reliability:

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

For distributed systems, DTCC does not currently measure individual system availability and instead looks at the overall business service levels encompassing both mainframe and distributed systems. DTCC utilizes 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, DTCC has 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 DTC’s activities in all relevant jurisdictions

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

The material aspects of DTC’s activities include:

(1) holding securities in physical form (but immobilized) or holding securities in dematerialized form;

(2) maintaining securities accounts for Participants;

(3) providing Participants with central safekeeping services and asset services, including the administration of corporate actions and redemptions;

(4) transfers and pledges of securities, and the settlement of transactions for Participants by book-entry as either a free delivery or DVP;

(5) netting;

(6) settlement finality;

(7) risk management;

(8) default management; and

(9) links with other CSDs and CCPs.
The relevant jurisdictions for all material aspects of DTC’s activities are the United States (to the extent that Federal law is applicable) and New York (to the extent that State law is applicable).

DTC is: (1) a New York limited purpose trust company, subject to regulation by the NYSDFS; (2) a clearing agency registered under the Exchange Act and a self-regulatory organization (“SRO”), subject to regulation by the SEC; (3) a State member bank of the FRS, subject to regulation by the FRB and supervised by the FRBNY under delegated authority from the FRB; and (4) a designated financial market utility under Dodd-Frank, subject to enhanced supervision by the SEC and the FRB.

DTC’s chief executive office is in New York and New York is the principal locus of its activities, although it has operations in other States. (DTC is appropriately licensed or qualified in such other States but the laws of such other States do not apply to the business conducted by DTC as a CSD.)

Participants enter into Participant’s Agreements, Pledgees enter into Pledgee Agreements, and Limited Participants enter into applicable agreements with DTC (such Participant’s Agreements, Pledgee Agreements and agreements of Limited Participants, collectively, “Participant’s Agreements” in this context). Pursuant to these Participant’s Agreements, Participants agree, inter alia, that the DTC Rules and By-Laws shall be a part of the terms and conditions of every contract or transaction that the Participant may make or have with DTC, and that the law of New York shall be the governing law of the Agreement. Likewise, all Settling Banks enter into Settling Bank Agreements with DTC pursuant to which such Settling Banks agree, inter alia, that the law of New York shall be the governing law of the Agreement. The DTC Rules themselves provide that they shall be governed by, and construed in accordance with, the law of New York. The DTC Rules are public, and can be found on the DTCC website, www.dtcc.com.

Federal law, principally the Exchange Act, Dodd-Frank and the Securities Act, govern the activities of DTC as a registered clearing agency, SRO and designated financial market utility, and the eligibility of securities for deposit and book-entry processing.

DTC 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 its activities and Rules in accordance with the laws of the relevant jurisdictions.

DTC’s activities and its Rules are structured in accordance with the laws of New York and the United States. The principal laws comprising the legal framework under which DTC operates include: (1) the New York Banking Law; (2) the New York Uniform Commercial Code (the “New York UCC”), particularly Articles 8 and 9; (3) the Exchange Act, particularly Sections 17A and 19; (4) the Securities Act; (5) the Federal Deposit Insurance Act, as amended (“FDIA”); (6) FDICIA; (7) the U.S. Bankruptcy Code (the “Bankruptcy Code”); (8) the Securities Investor Protection Act of 1970, as amended (“SIPA”); and (9) 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.”

The ability of registered clearing agencies to enforce their rules to accomplish their core clearance and settlement and risk management functions has been confirmed by courts in the United States.11 These

11 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
Courts have, in addition, held that State-law challenges to the existence or operation of SEC-approved programs of registered clearing agencies are preempted by Federal law because they conflict with congressional directives as set forth in Section 17A of the Exchange Act.\textsuperscript{12}

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

All DTC Rules are filed with and reviewed by the SEC.\textsuperscript{13} As a clearing agency registered under Section 17A of the Exchange Act, an SRO subject to Section 19 of the Exchange Act and a designated financial market utility under Title VIII of Dodd-Frank, DTC is required to follow: (1) a specified process\textsuperscript{14} whenever it proposes a new rule or a change or amendment to its Rules (a “Proposed Rule Change,” and the process, the “Proposed Rule Change Process”); and (2) a specified process\textsuperscript{15} 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 DTC (a “Material Change,” and the process, the “Advance Notice Process”).

Under the Proposed Rule Change Process, before a Proposed Rule Change may take effect: (1) the change and an explanatory statement must be filed with the SEC and posted by DTC on the DTCC 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{16} to take effect). The SEC is required to disapprove a Proposed Rule Change if: (x) it does not find that change is consistent with the requirements of the Exchange Act and the rules and regulations thereunder that are applicable to DTC; or (y) the FRB determines, prior to approval of the change by the SEC, that the change is inconsistent with the safeguarding of funds or securities in the custody or control of DTC or for which it is responsible.

Similar submission, disclosure and publication requirements apply to the Advance Notice Process, where DTC must provide 60 days advance notice to the SEC before a Material Change may take effect, describing the nature of the change, its expected effects on risks to DTC, its Participants or the market.

\textsuperscript{12} 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 [DTCC, DTC and NSCC’s] accomplishment of congressional objectives as explicitly stated in and gleaned from the Securities Exchange Act’s framework, and because [DTCC, DTC 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.”)

\textsuperscript{13} DTC’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 registration process. All subsequent changes in DTC’s Rules have been similarly filed with and reviewed by the SEC.

\textsuperscript{14} This process is set forth in Section 19(b) of the Exchange Act and Exchange Act Rule 19b-4.

\textsuperscript{15} This process is set forth in Section 806(e) of Dodd-Frank and Exchange Act Rule 19b-4.

\textsuperscript{16} 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 SEC review and the right of the SEC to take action thereafter.
and how DTC plans to manage any identified risks. A copy of the notice must also be: (1) provided to the FRB; (2) posted by DTC on the DTCC 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 DTC.

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

DTC requires applicants for membership to provide a legal opinion to the effect that the Participant’s Agreement -- which provides that the DTC Rules and its By-Laws shall be a part of the terms and conditions of every contract or transaction that the Participant may make or have with DTC -- will be binding and enforceable on the applicant when it becomes a Participant. 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 DTC’s ability to enforce its Rules (including its netting 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 Participant’s Agreement and Rules. DTC likewise may, before it accepts a security for deposit, require an opinion that the security meets the eligibility requirements set forth in the Rules. DTC also obtains legal analyses or advice as it deems appropriate in connection with new services, changes in law and other matters.

**DTC’s Role as a CSD**

Pursuant to its Rules, DTC acts as a CSD and operates a securities settlement system. In this connection, its activities include: (1) holding securities in physical form (but immobilized) or holding securities in dematerialized form; (2) maintaining securities accounts for Participants; (3) providing Participants with central safekeeping services and asset services, including the administration of corporate actions and redemptions; and (4) transfers and pledges of securities, and the settlement of transactions for Participants by book-entry, free of payment or DVP.

The legal basis for these activities may be found in: (1) the New York Banking Law, pursuant to which DTC has the authority to hold securities and other financial assets in custody, and provide related services; (2) the New York UCC, which contains a comprehensive regime for the operation of clearing corporations (including registered clearing agencies) in the indirect holding system, and which also governs the transfer and pledge of interests in securities on the books of DTC; (3) general New York contract law, which supports the enforceability of the arrangements contained in the DTC Rules (which form a contract between DTC and its Participants); (4) the Exchange Act, which provides for the registration and regulation of clearing agencies, and also prescribes standards for their operation and governance; and (5) the Securities Act, with reference to which DTC determines the eligibility of securities for deposit and book-entry processing. Additional authority for various aspects of the activities of DTC may be found in FDIA, FDICIA, the Bankruptcy Code, SIPA and Dodd-Frank.

**Netting Arrangements**

DTC’s netting arrangements are supported by law.

As a general matter, U.S. law recognizes the critical importance of netting arrangements relating to securities transactions. The definition of “clearing agency” in the Exchange Act expressly indicates that one of the roles of a clearing agency is to “reduce the number of settlements of securities transactions.” FDICIA supports “netting contracts” (including the rules of a clearing organization) providing for the netting of payment obligations and payment entitlements between and among clearing organizations
(including registered clearing agencies) and their members. “Payment” includes both cash payments and noncash deliveries. The DTC Rules, as well as the netting and limited cross guaranty agreements that DTC has with other registered clearing agencies and designated clearing organizations, are “netting contracts” within the meaning of FDICIA. FDICIA provides: (1) that, notwithstanding any other provisions of State or Federal law (with limited exceptions), the payment entitlements and obligations of members of a clearing organization (including the clearing organization itself) shall be terminated, liquidated, accelerated and netted in accordance with and subject to the conditions of any applicable netting contract; and also (2) that 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.

The provisions of FDICIA applicable to clearing organization netting therefore override any conflicting provisions of State or Federal law, including the Bankruptcy Code, SIPA and FDIA (except to the extent otherwise expressly provided). The netting provisions of FDICIA were designed to reduce systemic risk to the financial markets. In addition, amendments to FDIA, FDICIA, the Bankruptcy Code and SIPA 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.

DTC’s legal basis supports the finality of transfers of financial instruments and funds, and the effectiveness of its risk management and default procedures.

As a general matter, U.S. law, including the New York UCC, New York Banking Law, FDICIA, the Bankruptcy Code, SIPA and Dodd-Frank, support the settlement of securities transactions in accordance with the DTC Rules, and the ability of DTC to effectuate its risk management and default management procedures.

**Settlement Finality**

The DTC Rules, which have been approved by the SEC and which form a part of the terms and conditions of every contract or transaction that a Participant may make or have with DTC, specify with particularity when transactions processed in the DTC system become final and irrevocable. Free and valued deliveries of securities become final and irrevocable as to the deliverer when DTC debits the securities from the settlement account of the deliverer. Free deliveries of securities become final and binding as to the receiver (which may be NSCC with respect to transactions processed through the NSCC system) when DTC credits the securities to the securities account of the receiver. Valued deliveries of securities become final and binding as to the receiver: (1) when intra-day the securities are re-transferred in the DTC system (which a receiver may only do if the transaction satisfies applicable risk management controls); or (2) at end-of-day when the receiver pays its net settlement debit or DTC determines that the receiver does not have a net settlement debit. These provisions with respect to the finality of transactions processed through the DTC system are enforceable against the parties under general New York contract law, and are protected in the event of the insolvency of a Participant (with limited exceptions) by relevant provisions of FDIA, FDICIA, the Bankruptcy Code and SIPA.

DTC utilizes the payment system operated by the FRBNY to effect end-of-day net money settlement. As noted in the General Background (Key Services: System Design and Operation) above, money settlement

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17 These arrangements are described in responses to Principle 9 (Money settlements), Principle 13 (Participant default rules and procedures) and Principle 20 (FMI links).
occurs at the end of the day. As part of this process, and to further reduce the number of funds transfers required to be made, Participant’s net debits or credits at DTC are netted with their net debits or credits at NSCC. Following an acknowledgement process, Settling Banks, who may settle on behalf of multiple DTC Participants and NSCC Members, have the consolidated net balances of their respective customers further netted to produce a single Settling Bank consolidated net-net debit or credit. On each settlement day, DTC, on its own behalf and as NSCC’s settlement agent, collects net-net debits from, and distributes net-net credits to, designated Settling Banks through the NSS. Funds transfers become final at the time that funds are moved through NSS.18

Other types of payments made to and from DTC are paid by wire transfer via the Federal Reserve Fedwire® Funds Service. Payment to the receiving party in Fedwire® Funds is final and irrevocable upon the crediting of the receiving party account, or when the payment order is sent to the receiving party, whichever is earlier.19 Payment orders generally are processed immediately following the Reserve Bank’s receipt of a transfer message.20

Risk Management

The DTC Rules contain a number of risk management tools and controls designed to identify, measure and monitor the credit and liquidity risks associated with the end-of-day net funds settlement of securities transactions. These include: (1) required deposits to the Participants Fund, calculated on the basis of a Participant’s historical net debits; (2) net debit caps, also calculated on the basis of a Participant’s historical net debits, which limit the size of the Participant’s permissible intraday net debit balance; (3) the collateralization of DVP transactions, tested and controlled by a collateral monitor designed to ensure that DTC has sufficient collateral to pledge or liquidate to satisfy the net debit obligation of a Participant that fails to settle; and (4) a committed line of credit, currently $1.9 billion, which DTC may use to complete end-of-day settlement notwithstanding the failure to settle of Participant or affiliated family of Participants with the largest settlement obligation. See responses to Principle 4 (Credit risk), Principle 5 (Collateral) and Principle 7 (Liquidity risk).

These risk management tools and controls, contained in the DTC Rules (which form a contract between DTC and its Participants), are enforceable by virtue of general New York contract law and the New York UCC, and such procedures are further validated by virtue of having been approved by the SEC.

Default Management

The DTC Rules contain a number of default management procedures that are implemented in the event of the failure of a Participant to settle its end-of-day net debit obligation. In order to complete settlement in this circumstance, DTC may charge or apply to the obligation the actual Participants fund deposit of the defaulting Participant and/or DTC may borrow under its committed line of credit, secured by collateral of

18 NSS is governed by Reserve Bank Operating Circular 12 “Multilateral Settlement.”
19 Funds transfers through the Fedwire® Funds Service are governed by Subpart B of Regulation J which incorporates the provisions of Article 4A of the UCC, and Reserve Bank Operating Circular 6 “Funds Transfer Through the Fedwire® Funds Service.”
the defaulting Participant. DTC Rules also provide for conditions under which DTC may determine to cease to act for, or limit services to, a Participant, including in the event of insolvency of the Participant. These default management processes, contained in the DTC Rules (which form a contract between DTC and its Participants), are enforceable by virtue of general New York contract law, FDICIA, the Bankruptcy Code, SIPA and OLA, and such procedures are further validated by virtue of having been approved by the SEC.

(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. “Payment” includes both cash payments and noncash deliveries. The DTC 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 not applicable to DTC), and shall not be stayed, avoided or otherwise limited by any State or Federal law (except to the extent expressly stated to be applicable). 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 DTC Participant is determined by the form of organization of the Participant 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 OLA under Title II of Dodd-Frank (with respect to covered financial companies).

The insolvency of a DTC Participant 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 closeout of insolvent members. The Bankruptcy

21 The DTC Rules also provide that DTC may borrow funds needed to complete settlement from Participants by credit reductions to their settlement accounts, secured by collateral of the defaulting Participant. This is a provision that DTC treats as a tool reserved for extreme circumstances.

22 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
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 DTC Participant 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 (i) a protective decree of a Federal district court that, among other things freezes a member’s assets, and (ii) 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 the close out of insolvent members.23

The insolvency and receivership of a DTC Participant that is an insured depository institution is handled under FDIA. Although stays, prohibitions on walkaway provisions, avoidance powers of the Federal Deposit Insurance Corporation (“FDIC”) and powers of the FDIC to disaffirm or repudiate certain contracts and leases are generally applied in cases under FDIA, there are exceptions and safe harbors in FDIA that support the settlement of securities transactions through clearing agencies.24

FDIA does provide for a one-business-day stay of close-out 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 Participant, DTC expects to be in discussions with the FDIC regarding DTC’s acceptance of such a successor institution as a substitute DTC Participant.

The provisions of Title II of Dodd-Frank regarding OLA provide for the appointment of the FDIC as receiver for certain systemically important 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

23 Examples of these exceptions include 12 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.

24 Examples of these exceptions 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 time after such appointment; (2) the right to exercise any right under a security agreement or other credit enhancement that relate 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 for such QFCs (such as the DTC Rules).
applied in cases under OLA. There are also exceptions and safe harbors under OLA which are similar to those under FDIA. As under FDIA, OLA provides for a one-business-day stay of close-out 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 DTC Participant under OLA, DTC expects to be in discussions with the FDIC regarding DTC’s acceptance of such a successor institution as a substitute DTC Participant.

**Transparency of DTC’s Rules**

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

DTC makes the following resources, among others, available to the public on the DTCC website (www.dtcc.com): (1) the DTC Rules themselves; (2) filings of Proposed Rule Changes and advance notices of Material Changes; (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 DTC Participants (including notice of when DTC ceases to act for a Participant, and information as to how it will handle pending transactions of the defaulting Participant); and (5) this Disclosure Framework and/or DTC’s prior assessments against the CPSS-IOSCO Recommendations for Securities Settlement Systems. DTC also makes available, on request by a Participant, Handbooks that describe DTC products and services, eligibility requirements, 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,25 and by DTC 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: (1) 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 DTC; or (2) the FRB determines, prior to approval of the change by the SEC, that the change is inconsistent with the safeguarding of funds or securities in the custody or control of DTC or for which it is responsible. Similarly, the SEC may object to a Material 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 DTC.

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

DTC 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.

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25 The SEC also makes proposed changes available publicly by posting on its website.
The DTC Rules and, generally, DTC’s material contracts, are governed by the laws of the State of New York and are adjudicable in State and Federal courts located in New York. As described above, U.S. and New York law provide a clear and comprehensive framework for the enforceability of the DTC Rules and material contracts.

DTC identifies, analyzes and mitigates legal risks arising from potential conflict of law issues in a variety of ways. DTC’s operations are based in the United States and DTC’s Participants are predominantly U.S.-domiciled entities. With respect to membership of non-U.S. entities, DTC’s “Policy Statements on the Admission of Foreign Participants,” which expand upon the basic standards for the admission of Participants contained in the DTC Rules, set forth DTC’s policies with respect to the admission of such non-U.S. entities. Among the requirements for such applicants is the provision of a legal opinion of counsel qualified in the applicant’s home jurisdiction as to the enforceability of: (1) the applicant’s agreement to irrevocably (i) waive all immunity from DTC’s attachment of the applicant’s own assets in the United States, (ii) submit to the jurisdiction of a court in the United States and (iii) waive any objection to the laying of venue in a court in the United States; and (2) the applicant’s further agreement (i) that any judgment obtained against the applicant by DTC may be enforced in the courts of any jurisdiction were the applicant or its property may be located and (ii) that the applicant will irrevocably submit to the jurisdiction of such courts. DTC also routinely requires that such an opinion cover the application of New York law to all transactions between DTC and the applicant as well as the application of the DTC Rules to all such transactions, including in particular the netting of securities deliveries and money payments. These opinions facilitate analysis of any legal risk that may arise as a result of the applicant’s participation in DTC.

DTC also obtains legal opinions, analyses and/or advice, as it deems necessary or appropriate, to confirm, among other things, that its Rules and material contracts are consistent with relevant laws and regulations prior to becoming effective. DTC 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 DTC. These processes -- the Proposed Rule Change Process for Proposed Rule Changes and the Advance Notice Process for Material Changes, together with the opportunity for public review and comment which are part of these processes, provide a clear record and statutory basis for the DTC Rules.
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

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

26 The Third Amended and Restated Shareholders Agreement, dated December 7, 2005, among DTCC, DTC, NSCC, FICC, and the shareholders of DTCC.
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 DTC and of its affiliates, NSCC and FICC, and these boards generally operate together with the DTCC Board (collectively, the “Board”). DTCC 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. DTC is a limited purpose trust company organized under the New York Banking Law and its governance is, accordingly, subject to that law as well as applicable NY corporate law.

The Board is currently composed of nineteen directors. Twelve of the directors represent clearing agency participants, including 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 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 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 which DTCC serves. The Board plays a key role in policy development, 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

DTC’s objectives are aligned with those of its parent company, DTCC, as targeted to the services of DTC and its membership base. 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 support of the industry and 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) oversight of DTCC's efforts to mitigate certain systemic risks. 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, DTC 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 (or members) 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 DTC Participants. 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 (“Board Election Procedures”) is sent to the participants of DTC, NSCC and FICC, 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 Board Election 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 DTC) 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 & Regulatory Compliance Risk, Processing & Operations Risk, Information Security, Technology & 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 (“ORM”), Enterprise Risk Management (“ERM”), and 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 the response to 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 Committee 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 mission of the Internal Audit Department’s (“IAD”) 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 their 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 DTC) 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 DTC or constitutes a material change to the operations of DTC, 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 annual reports of the clearing agency subsidiaries. Section VI of this Disclosure Framework provides a list of information and documents that are 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 (the “Framework”) that provides an overarching comprehensive structure for the management of risk. The Framework is common across DTCC’s clearing agency subsidiaries, including DTC. For DTC (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 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 & 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 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 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 the internal auditing function. IAD’s 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 DTC, to assist in identifying operational risks at a more granular level.
Policies, Procedures and Systems

DTC 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. DTC policies and procedures are reviewed and updated at least every three years, or as may be required in the event of changes to laws, rules and regulations, or changes in DTC’s operations or Rules.

DTC monitors and manages credit and market risk, addressed more fully under Principle 4 (Credit risk). Under its Rules, implemented through policies, procedures and systems, DTC imposes strict membership admission criteria and review. It conducts ongoing monitoring and review of Participants (as outlined in Rules 2 and 3), daily recalculation and collection, as needed, of required Participants Fund deposits (Rule 4), intraday monitoring of net debits and collateralization of a Participant’s obligations. DTC also has tools that enable it to obtain adequate assurances that Participants are capable of meeting their membership obligations (Rules 9(A), 9(B)).

ERM’s oversight is supported by a number of systems, including the systems that (i) capture and evaluate Participants’ regulatory reports (the Credit Risk Rating Matrix System), (ii) calculate Participants Fund requirements, (iii) monitor Participant compliance with Participants Fund requirements, (iv) monitor the net debits of each Participant, and (v) track pricing and collateral value of securities.

DTC’s risk management systems are designed to mitigate credit and market risk by monitoring, in real time, the projected settlement activity of Participants, including intraday application of the collateral monitor and net debit cap.

DTC uses DTCC’s Clearing Fund Management system to monitor compliance with Participants Fund deposit requirements. This system helps mitigate credit risk.

DTC mitigates collateral risk, addressed more fully under Principle 4 (Credit risk) and Principle 5 (Collateral), through its collateral monitor control for each Participant and the valuation of eligible securities.

DTC manages its liquidity risk through the establishment of net debit caps for each Participant, addressed more fully under Principle 7 (Liquidity risk). Net debit caps limit the potential settlement obligation of any Participant to an amount for which DTC has sufficient liquidity resources to cover this risk. Liquidity resources include the Participants Fund and a committed credit facility with a consortium of lenders for $1.9 billion.

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 in response to Principle 17 (Operational risk).

The Compliance Department performs testing and conducts risk assessments to determine compliance risk levels and assess the effectiveness of controls. The Compliance Department utilizes a number of automated systems to assist in the identification and mitigation of compliance risk. For DTC, this includes systems that provide (i) a uniform platform for conducting “Know Your Customer” due diligence and transaction monitoring to view Anti-Money Laundering (“AML”) risk posed by all
Participants, (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**

DTC’s management establishes policies, procedures, and controls for DTC’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 DTC’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 provides oversight of the management of risks of DTCC and its subsidiaries including risks that relate to DTC, in accordance with policies agreed to by the Board. This committee reviews reporting of key risks and related risk tolerances, and obtains assurance from senior management that DTCC’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 DTC 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 risk management policies, procedures and systems are assessed by (1) the Board and management, and (2) IAD. Risk management procedures are subject to review by IAD, ORM and DTC’s supervisors.

**Board Oversight.** Consistent with its Mission Statement and Charter, the Board is responsible for overseeing the effectiveness of DTC’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 Participant Management of Risk**

Participants are provided with a significant amount of information, and appropriate incentives, to enable them to monitor and manage the risks they pose to DTC. First, the Rules, which are publicly available, establish the obligations of Participants to DTC, including their daily responsibilities to meet Participants Fund requirements and to complete settlement. Participants are also required to reconcile their DTC positions on a daily and month-end basis. DTC provides reports to Participants showing their activity in all phases of the settlement cycle; this includes activity, risk control monitoring and settlement reports.

To assist Participants in understanding DTC products and services, and their use, DTC 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 settlement and other services at DTC, but also risk management practices and methodologies.

Participants Fund management is another tool by which each Participant is encouraged to manage its liquidity and settlement activities through DTC. A Participant’s Required Deposit is in direct relation to the liquidity requirements generated by the Participant and its affiliated family. DTC also has the ability to require additional Participants Fund deposits or other adequate assurances of financial or operational capacity, as a risk mitigant. Such additional requirements should provide appropriate incentives to affected Participant(s) to address the underlying condition or activity. Further, DTC has a number of disciplinary tools at its disposal under its Rules. These include fines, reporting certain incidents to regulators of affected Participants, the potential to limit access to one or more services, and termination of membership should a Participant fail to meet its obligations to DTC.

**Material Interdependency Risks**

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

As regards risk that may be posed by Participants, DTC has established clear membership requirements for each category of membership, which provide fair and open access for applicants, while maintaining prudent risk management standards that enable DTC to manage the material risks resulting from Participant activities. As described more fully in response to Principle 4 (Credit Risk), DTC monitors Participants 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 Participant’s internal risk rating. Default liquidity risk is managed by DTC’s maintenance of (i) its Participants Fund and (ii) a committed credit facility with a consortium of lenders, to be able to complete system-wide settlement in the event of a Participant’s failure to settle. Liquidity risk mitigants are discussed in Principle 7 (Liquidity risk).

DTC settlement netting depends on the performance of its Settling Banks, for which DTC has established credit standards. A Settling Bank must be a Participant and have access to an account at a Federal Reserve Bank, to which NSS charges may be debited and payments credited. Settling Banks are selected by, and act on behalf of, Participants but are held to strict operational standards established by DTC. Failures to perform are subject to fines and other disciplinary measures under the Rules. (Please refer to Principle 9 (Money settlements) for a more detailed discussion of the role of Settling Banks at DTC.)

DTC manages investment risk, including the custody and overnight investment of Participants Fund cash, pursuant to the Board-approved Investment Policy of DTCC, which establishes credit and concentration.
exposure limits on investment counterparties. Custody and investment risk is discussed in more detail in response to Principle 16 (Custody and investment risks).

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, DTC 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 described in response to Principle 20 (FMI links) and Principle 13 (Participant-default rules and procedures), DTC maintains an interface with NSCC for the book-entry movement of securities to settle CNS transactions. As part of the interface, DTC and NSCC have established certain limited cross-guarantee arrangements to permit transactions to flow smoothly between DTC and NSCC in a collateralized environment. The operational risks of the interface are monitored on an ongoing basis through DTCC Operations and Settlement areas, and are subject to DTCC’s Operational Risk Management framework. The cross-guaranty arrangements are monitored and managed through DTC’s automated Collateral Monitor risk control and Failure-to-Settle system, which are reviewed and tested on a regular basis.

Systemic risks and potential mitigants are evaluated by the Systemic Risk Office and discussed with management, the Board of Directors and, through outreach, with DTC’s Participants.

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

DTC identifies scenarios that may potentially prevent it from providing its critical operations and services, as part of its capital adequacy review and through the development of recovery and resolution plans. In addition, DTC maintains the Participants Fund as a financial resource to cover losses resulting from Participant default, so that it can continue to operate for remaining Participants. A portion of DTC retained earnings may also be applied to such a loss. Risk evaluations show that such resources are sufficient to handle the default of several Participants. DTC’s loss waterfall is discussed in response to Principle 13 (Participant-default rules and procedures).

In addition, Business Continuity Management 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 response to Principle 17 (Operational risk).

Recovery or orderly wind-down plans

DTC 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 regulators. 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 DTC critical services and operations focuses on identifying tools available to management in scenarios where critical services and operations of DTC could be at risk due to multiple Participant defaults, either simultaneously or in quick succession, or due to an idiosyncratic market or operational event. The plan sets forth steps that management can take for the continuity of services, and includes proposed initiatives to enhance its recovery and resolution capabilities, which are in initial stages of development. DTC will update the plans annually after they are finalized and upon significant changes to one or more critical operations or law or the market.
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.

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.

DTC is not a CCP. Accordingly, key consideration 4 does not apply.

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.

DTC is not a CCP. Accordingly, key consideration 5 does not apply.

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.

DTC is not a CCP. Accordingly, key consideration 6 does not apply.

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.

DTC Monitors and Manages Credit Risk of its Participants

DTC effectively measures, monitors and manages any credit exposures to it and to its Participants arising from its payment, clearance and settlement processes. DTC maintains sufficient financial resources to cover credit exposures to its system from its Participants fully with a high degree of confidence, because it operates a closed settlement system in which all settlement obligations (i.e., potential credit exposures) are fully collateralized and, as further set forth in response to Principle 7 (Liquidity risks), all settlement obligations are limited by DTC liquidity resources.

DTC Rules expressly address the resolution of credit losses due to any individual or combined default among its Participants, as described below and in response to Principle 13 (Participant-default rules and procedures). DTC has built-in mechanisms to limit exposure and replenish financial resources used in a stress event, in order to 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 risks). As noted in response to Principle 3, DTC manages its credit and liquidity exposure to Participants through its application of automated risk management controls, as well as strict membership admission criteria, ongoing surveillance of the financial condition of its Participants and the monitoring of Participant activity. In addition, ERM obtains information from other internal DTC departments regarding settlement or operational problems experienced with any Participant.
Membership requirements. DTC has established participation criteria and requirements relating to financial resources, creditworthiness, and operational capability. DTC Rule 2 (Participants and Pledgees) and Rule 3 (Participants Qualifications) set forth requirements for membership. Participants must also meet minimum financial standards and satisfy other criteria for membership, including minimum capital requirements. All applicants for membership must provide DTC with certain information, which is reviewed by ERM to confirm, among other matters, that the applicant (1) maintains adequate capital, and has financial ability to meet its potential DTC obligations, including settlement payments and Participants Fund deposits; (2) has an established business history, or personnel with sufficient operational background and experience to ensure the ability of the applicant to conduct the business; and (3) agrees to appropriate Settling Bank arrangements. DTC 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. The application process is further discussed in response to Principle 18 (Access and participation requirements).

Ongoing monitoring and surveillance. DTC monitors its credit exposures with respect to the risk that a Participant may default through the ongoing surveillance of its Participants’ financial strength and default risk. On an ongoing basis, Participants are required to provide financial and other information to DTC, as outlined in Rule 2, to demonstrate that they meet the membership standards on an ongoing basis. ERM reviews earnings releases, equity prices, market data, news, and other publicly available information as part of its Participant surveillance. ERM uses a credit risk rating model to rank Participants based upon their relevant financial information (including information contained in regulatory Call or FOCUS reports). These rankings are used to set surveillance levels. All Participants are subject to a credit review at least annually.

Measurement, Monitoring and Management of Credit Risk

DTC Participants are monitored on a daily, monthly/quarterly, and annual basis. DTC monitors each Participant’s credit risk through review and analysis of financial and operational information and through regular market, news, and regulatory monitoring. Participants are required under the Rules to (i) provide DTC 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 DTC with audited financial statements on an annual basis, and (iii) notify DTC promptly of material events or changes in their business or financial condition. The Participant’s ongoing reporting and information requirements are set forth in Rule 2.

The credit risk rating matrix is produced systemically from data contained in the Participants’ 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 Participant’s credit rating focus on 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 Participant. Participants with a weaker internal credit rating (rated a 5, 6, or 7 on the credit risk rating matrix) are placed on DTC’s Watch List. Participants on the Watch List may be subject to additional surveillance and monitored more closely than Participants with a stronger credit rating.

Risk management controls are designed to protect against credit and liquidity risk

Collateral valuation, in conjunction with other risk management controls, effectively mitigates settlement system risk at DTC under normal market conditions. Through DTC settlement, Participants do not face
credit risk of the type contemplated by Key Consideration 3 or the accompanying explanatory notes to the PFMI Report. Non-defaulting Participants do not risk counterparty failure and reversals of deliveries; DTC will complete settlement with the liquidity resources available to it. As footnotes 47 and 50 to the PFMI Report acknowledge, the financial exposure faced by DTC as a DNS payment and settlement system is liquidity exposure. As further discussed in Principle 7 (Liquidity risk), DTC maintains liquid resources for settlement in an amount sufficient to complete settlement among non-defaulting Participants in the event of the failure to settle of the Participant or affiliated family of Participants with the largest settlement obligation.

In managing its credit risk, DTC uses the Collateral Monitor (see response to Principle 5 (Collateral)) and Net Debit Cap (see response to Principle 7 (Liquidity risk)). These two controls work together to protect the DTC settlement system in the event of Participant default. The Collateral Monitor requires settlement obligations, as they accrue intraday, to be fully collateralized; the Net Debit Cap limits the amount of any Participant’s settlement obligation to an amount that can be satisfied with DTC liquidity resources (the Participants Fund and the committed line of credit from a consortium of lenders).

DTC has an additional risk management control for MMI transactions, the Largest Provisional Net Credit (“LPNC”). The LPNC control protects DTC and its Participants against credit risk due to insolvency of an MMI issuer (which is outside the DTC system) which may cause an IPA to refuse to pay for transactions in securities of that issuer, triggering an intraday reversal of related transactions. (See DTC Rule 9(C) (Transactions in MMI Securities)). Under LPNC procedures, the aggregate amount of the two largest MMI credits due to a Participant are not credited intraday until the time at which IPAs may no longer refuse to pay (generally, 3 PM). Accordingly, until that time, these credits do not reduce a net debit balance and do not count in the collateral monitor of the Participant.27

As a further credit risk mitigant, under DTC Rule 2 (Participants and Pledgees) and Rule 9(A) (Transactions in Securities and Money Payments), DTC may seek additional assurances of financial responsibility (as well as operational capability) from a Participant, as DTC deems necessary or advisable. This may include increased Participant’s Fund deposits and may also result in the reduction of a Participant’s net debit cap, limiting the settlement obligation it may incur.

Allocation of credit losses and replenishment of resources

DTC maintains sufficient financial resources to cover credit exposures to its system from its Participants with a high degree of confidence, because it operates a closed settlement system in which all settlement obligations (i.e., potential credit exposures) are fully collateralized and, as further set forth in response to Principle 7 (Liquidity risk), all settlement obligations are limited to DTC liquidity resources. However, in the unlikely event that DTC exhausts its available liquidity resources and that Participant default gives rise to any loss, DTC Rules address loss allocation, including the repayment of any funds borrowed for

27 Specifically, under DTC Rules, if by 3:00 PM (New York time), DTC is informed by an IPA of its refusal to pay for maturity presentments of an MMI issuer, or DTC learns of the insolvency of an MMI issuer, DTC would reverse intraday processing of transactions in those MMI securities, prior-to-end of day settlement. The LPNC control mitigates the risk that this late-day adjustment would cause a Participant’s net debit balance to become under-collateralized or to exceed its net debit cap.
liquidity to complete settlement. DTC Rules also include a process to replenish financial resources that may be exhausted during a stress event, so that DTC may continue to operate in a safe and sound manner.

As noted throughout this Disclosure Framework, DTC’s primary objective is to complete settlement on each business day. To the extent Participant distress is apparent intraday, DTC may take action prior to settlement to require additional deposits to the Participants Fund and/or reduce the Participant’s net debit cap. These protections allow DTC to mitigate the potential drain on liquidity resources due to default of the distressed Participant. Because DTC operates a closed system, on the day of default, it will be fully collateralized for any unpaid obligations of Participants. Participants Fund deposits of defaulting Participants will be applied to satisfy their settlement obligations and, should those deposits alone be insufficient, the balance of the Participants Fund is also available as a liquidity source. Collateral of defaulting Participants may be pledged to secure a borrowing under the committed line of credit.28

Once settlement has been achieved, operations will continue on successive days and will be managed in accordance with DTC Rules, the terms and conditions of the credit agreement (if funds were borrowed for settlement), the DTC/NSCC Netting and Limited Cross Guaranty Agreement, the Multilateral Netting and Cross Guaranty between DTC, NSCC, FICC and OCC and applicable law. DTC will liquidate collateral of the defaulting Participant and apply the proceeds to repay any borrowing and restore the Participants Fund. To the extent the market has declined materially, those proceeds may be insufficient, resulting in a loss to be allocated in accordance with DTC Rules. In any case, the liquidation of collateral will occur over a period following the settlement day on which default occurred and DTC will need to address continued operations in the days following default.

In the case of multiple Participant failures that exhaust DTC’s available liquidity resources, a likely approach in following days would be to set all net debit caps at zero until liquidity resources may be re-established by repayment of loans and reconstitution of the Participants Fund. This approach would effectively require settlement progress payments for all valued transactions. To the extent the Participants Fund has been utilized for liquidity, any Participant whose Required Deposit is below the required amount would be required to pay the deficit to assist in restoration of the Participants Fund. While these tools allow DTC to continue operations, there would be non-routine liquidity demands on Participants, in order to support continuing operations.

Recognizing that the liquidation of collateral may, in a stressed and declining market not provide sufficient proceeds and result in a loss, DTC has a loss allocation waterfall provided in Rule 4 (Participants Fund and Participants Investment). DTC loss allocation rules and procedures provide for proportionate sharing of the loss by the Participants that are Participants on the day of default. Rule 4 also provides that Participants may limit (but not extinguish) their liability by withdrawing from DTC within

28 The DTC Rules also provide that DTC may borrow funds needed to complete settlement from Participants by credit reductions to their settlement accounts, secured by collateral of the defaulting Participant. This is a provision that DTC treats as a tool reserved for extreme circumstances. Liquidity and loss resources may also be available to DTC from NSCC pursuant to the limited cross guaranty, for failures of Common Members (see response to Principle 13 (Participant-default rules and procedures)). Losses may also be satisfied, in part, out of any excess resources available under the Netting Contract and Limited Cross-Guaranty Agreement between DTC, NSCC, FICC and OCC, dated as of January 1, 2003, as amended (the “Multilateral Agreement), which provides for the sharing of a defaulting member’s assets. In substance and effect, the Multilateral Agreement provides a mechanism for credit risk reduction by using the assets of a member of one clearing agency to support the obligations and liabilities of the member, first, to that clearing agency and, second, to the other clearing agencies, to the extent of any excess assets.
the time frame specified in the Rule. The loss allocation waterfall and process are more fully described in the response to Principle 13 (Participant-default rules and procedures).
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.

DTC monitors collateral to support settlement

DTC requires collateral to manage credit exposure for its settlement system, which is designed to allow settlement to be completed despite the failure to settle of the Participant or affiliated family of Participants with the largest settlement obligation on any business day. To achieve this objective, DTC relies on two key risk management controls, the net debit cap (as described in response to Principle 7 (Liquidity risk)) and the collateral monitor described below. These two controls together create a closed settlement system in which, at any time, the settlement obligation of any Participant will be fully collateralized and the amount due in settlement cannot exceed DTC liquidity resources.

The collateral monitor tracks the value of collateral supporting the settlement obligation of a Participant; the collateral value of a security is the product of market price and the haircut determined by DTC. DTC sets and enforces appropriately conservative haircuts for its securities collateral and has the flexibility to modify haircuts intraday as prudent to protect DTC and its Participants.

Collateral eligibility and haircuts

DTC collateral includes cash and securities. Cash is, of course, the most liquid type of collateral and represents 100% value for liquidity purposes. The Participants Fund is a cash fund, to which each
Participant is required to make a deposit in an amount related to the liquidity risk it creates for DTC and other Participants.29

Securities collateral comprises eligible securities on deposit at DTC, including (i) securities credited to a Participant’s account and designated by the Participant as collateral, and (ii) securities that are transferred DVP, until completion of system-wide settlement.30

Due to the nature of DTC’s business as the U.S. central securities depository, DTC has limited discretion in the selection of securities collateral, other than to determine eligibility prior to deposit and by setting appropriate haircuts.31 Hence, DTC must rely on the valuation of securities collateral through reliable securities prices from appropriate vendors and conservative haircuts, as key protections.

Eligible securities on deposit are re-priced at least daily at market value, based on reliable pricing sources. ERM is responsible for monitoring vendor prices and vendor ratings, including by:

- Monitoring vendor data quality;
- Identifying variances to vendors and data providers and applying adjustments/overrides, as necessary;
- Monitoring the performance of pricing vendors at least monthly; and
- Performing a pricing vendor performance review on at least a quarterly basis.

DTC haircuts are set to be at least as conservative as the haircuts established under its committed line of credit so that collateral will be sufficient to secure a borrowing under the credit facility.

**Collateral Monitor**

DTC uses the Collateral Monitor (“CM”) risk management control to track collateral value for each Participant’s account. The CM tracks whether DTC has available sufficient collateral value to secure a borrowing to fund the amount of the Participant’s net settlement obligation, in the event that the Participant fails to settle.

At the opening of each business day, the Participant’s CM is set to zero and built up over the day to secure any settlement obligation that may arise. DTC will credit the CM with the Participant’s Required Deposit. To the extent the Participant designates as collateral any securities credited to its account, their collateral value is added. This collateral value is based on the prior business day’s closing market price.

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29 Each Participant is also required to invest in DTC Series A Preferred Stock, ratably on a basis calculated in substantially the same manner as the Required Deposit. This Preferred Stock may be pledged to secure a borrowing, or liquidated by sale to other Participants, in the event of a Participant default.

30 The securities referred to in clause (ii) are intended for delivery to the receiving Participant but will not be delivered to the Participant if it fails to satisfy its net settlement obligation. Under the DTC Rules, these securities are collateral for the Participant’s settlement obligation, available to DTC to secure a borrowing to fund the amount of the unpaid settlement obligation. This enables DTC to complete system-wide settlement for other Participants.

31 Securities eligible to be held at DTC for book-entry services must be freely tradable in U.S. securities markets, in accordance with U.S. federal securities law (see Footnote 3) and held in a fungible manner. To the extent securities of foreign issuers are deposited at DTC and may constitute collateral, DTC requires issuer’s foreign counsel to provide a legal opinion that confirms that the securities may be held at DTC, subject to its Rules, in accordance with New York governing law. DTC does not otherwise accept cross-border collateral.
less the applicable haircut. As securities are transferred intraday for delivery at settlement to the Participant, the collateral value of these securities is also added, offset in part by the associated debit to the Participant’s settlement account. A Participant is restricted from using securities issued by it, or any of its affiliates, as collateral.

Throughout the day, debits and credits to the Participant’s securities and settlement accounts will result in corresponding changes in its CM. Conceptually, every DVP transaction translates into a collateral flow and a cash flow, one a credit and the other a debit. The net value of these two flows is used to update the CM. Since the value of securities as collateral is subject to a haircut on the market value, the cash component of each transaction is generally greater in value than its securities component. Thus, the processing of a DVP transfer generally results in an increase in the deliverer’s CM and a decrease in the receiver’s CM, based on the difference between the collateral value of the securities and the settlement value of the transaction. When processing a transaction, DTC verifies that the deliverer’s and receiver’s CM will not become negative when the transaction is processed. If the transaction would cause either party to be under-collateralized, the transaction will pend until the deficient account has sufficient collateral to allow for processing.

Conservative and stable but flexible haircuts

DTC monitors the value of Participant collateral through its Collateral Valuation System. The system is driven by the daily receipt of pricing and rating data from independent and internal sources. Securities collateral is valued based on the prior business day’s closing market price, less the applicable haircut. Haircuts, which are based primarily upon the availability of prices, ratings, and the price volatility of the particular issue, are employed to protect against intraday price fluctuations. DTC’s haircut structure takes into consideration haircuts imposed under its committed line of credit with a consortium of lenders. Securities that are not given collateral value under the line of credit do not receive any collateral value in DTC’s system (i.e., a 100% haircut is applied).

DTC formally reviews haircuts for eligible securities at least annually, with renewal of the line of credit. DTC programs its acceptable security matrix into its system using applicable market data (i.e., ratings) and internal data (e.g., security type).

DTC haircuts are also reviewed on a monthly basis through back tests, in order to establish adequate coverage levels. ERM performs stress testing against DTC haircuts on a monthly basis and reports results through the stress test governance framework. The back test and stress test results show very high (99.9% or better) coverage statistics for existing haircuts under stressed conditions.

ERM may, in its discretion, adjust collateral value (i.e., the haircut applicable to one or more securities) when it determines that the value is off-the-market or the security presents additional levels of market risk. These updates may be performed instantaneously with immediate effect on calculations of the CM for affected Participants. ERM reviews securities with intraday price decreases (measured in percentages) that exceed the existing haircut throughout the day. ERM generates exception reports for securities that demonstrate such movement. The reports are reviewed in order to identify Participants with a concentration of these securities in their collateral. As a result, ERM may reduce the collateral value of those securities in the Participant’s Collateral Monitor, in accordance with internal procedures. DTC measures the impact of haircut changes on affected Participants when making adjustments and is sensitive to the effect these changes might have on transaction processing for Participants.

ERM also monitors the performance of major U.S. stock exchanges and movements in major market indices and other key market data, together with review of top news stories, to determine if there may be developments that would significantly affect DTC, its eligible securities or its Participants. DTC’s
policies and procedures regarding concentration of collateral are maintained by ERM and are reviewed and evaluated at least annually. This review is conducted initially by ERM senior management and any recommendations are provided to the Management Risk Committee and the Board Risk Committee.
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.

DTC is not a CCP. Accordingly, Principle 6 does not apply.
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.

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.

DTC is not a CCP. Accordingly, key consideration 4 does not apply.

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**

DTC 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 by, and subject to oversight of, the MRC and the BRC. The program is designed so that DTC has available sufficient liquid resources to complete system-wide settlement on each business day, with a high degree of confidence and notwithstanding the failure to settle of the Participant, or affiliated family of Participants, with the largest settlement obligation. The amount of that settlement obligation cannot exceed the amount of liquidity resources because of the net debit cap risk management control described below.

DTC’s delivery and settlement system is a modified DVP Model 2, DNS system\(^{32}\), as further described in Principle 8 (Settlement finality). The structure is a closed, collateralized system in which liquidity resources are matched against risk controls on activity, so, at any time, the potential net settlement obligation of any Participant or affiliated family of Participants cannot exceed those liquidity resources.

**Liquidity resources**

DTC maintains two key liquidity resources, the Participants Fund of at least $1.15 BN, and the committed line of credit for $1.9 BN.

*Participants Fund*

DTC maintains a cash Participants Fund, with an aggregate value of $ 1.8 BN as of June 30, 2014.\(^{33}\) The minimum Required Deposit for each Participant is $7,500. The actual Required Deposit for each Participant is calculated based on a 60 business-day rolling average of the Participant’s intraday net debit peaks, to allocate ratably the first $450 MM of the aggregate Participants Fund. An additional algorithm proportionally allocates an additional $750 MM among Participants whose affiliated family net debt cap exceeds $2.15 BN. A description of the Participants Fund calculation, including the methodology for determining Required Deposits, is set forth in the Settlement Service Guide.\(^{34}\)

Intraday, DTC monitors the levels of a Participant’s net debit balances and records the highest net debit, to compute the Required Deposit. The Required Deposit for each Participant is recalcualted daily. Typically if, in the daily calculation, the amount of the difference between the latest calculation and the current Required Deposit equals or exceeds preset thresholds, DTC will require the Participant to make up the difference on the same day the deficiency was determined. If a Participant is required to increase its deposit, due to the daily recalculation or otherwise, DTC will notify the Participant, and the amount will be automatically charged to its settlement account as a Required Deposit. If a Participant’s requirement decreases, the Participant will be notified at least quarterly. Participants may inquire and withdraw excess amounts monthly, subject to conditions set forth in the DTC Rules. If DTC becomes concerned with a [32](#) See Footnote 9.

\(^{33}\) The aggregate of Required Deposit must equal $1.15 BN; however, Participants may voluntarily deposit more, to support their activity. If a Participant defaults, its entire Participants Fund deposit (the required amount plus any excess) may be applied to satisfy any liability or loss due to its default, including liquidity to complete settlement.

Participant’s operational or financial soundness, DTC may require an additional deposit to the Participants Fund.

**Committed Line of Credit**

DTC maintains a $1.9 BN 364-day revolving line of credit with a syndicate of commercial lenders. The amount of any borrowing must be secured by collateral of sufficient collateral value as determined by haircuts provided for in the facility agreements and incorporated by DTC in its collateral monitor calculations. (See Principle 5 (Collateral).) The credit agreement requires lenders to meet their lending obligations to DTC no later than the end of the day on which a borrowing is made, so long as sufficient collateral is available to be pledged.

**Net debit caps limit net settlement obligations to liquidity resources**

DTC’s primary liquidity control is the net debit cap of each Participant (and affiliated family of Participants\(^{35}\)), set to an amount at or below the value of liquidity resources. The maximum net debit cap for a Participant is $1.8 BN and for an affiliated family of Participants, $2.85 BN.

To determine a Participant’s net debit cap, DTC records the Participant’s three highest intraday net debit peaks over a rolling 70 business day period. The Participant’s average of these net debit peaks is calculated and multiplied by a factor to determine the Participant’s net debit cap. A description of this calculation is available in the Settlement Service Guide.\(^{36}\)

The net debit cap controls the amount of the settlement obligation that any Participant or family may incur. Any transaction that would cause the net debit balance of a Participant or of an affiliated family of Participants, to exceed its net debit cap will not be processed. It pending until the net debit balance is reduced sufficiently to allow processing. The net debit balance may be reduced intraday by DVP transactions which generate credits to the Participant’s settlement account or by intraday settlement progress payments.

The settlement account of each Participant may be in a net credit or net debit position intraday as transactions versus payment are processed, and other amounts (such as principal and interest or settlement progress payments) are credited to the account. At the end of settlement day, each Participant will either owe a net debit balance or be owed a net credit balance, or be flat. Because the net debit cap limits the net debit balance to an amount within the liquidity resources of DTC, DTC will have sufficient liquidity resources to complete settlement among non-defaulting Participants.

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

DTC’s liquidity needs for settlement are driven by protecting DTC against the possibility that a Participant may fail to pay its settlement obligations on a business day. DTC calculates its liquidity needs

\(^{35}\) Affiliated family means each Participant that controls or is controlled by another Participant and each Participant that is under the common control of any Person. For purposes of this definition, “control” means the direct or indirect ownership of more than 50% of the voting securities or other voting interests of any Person.

per Participant (at a legal entity level) and further aggregates these amounts at a family level (that is, including all affiliated entities that are also DTC Participants, based on the assumption that all such affiliates may fail simultaneously). In this regard, DTC’s Settlement Operations group monitors settlement flows and net debit obligations on a daily basis. In addition, ERM determines the appropriateness of each Participant’s net debit cap and also monitors net settlement activity.

Current available liquidity resources are sufficient to satisfy the single-largest family default under stressed but plausible conditions. 37

Reliability of liquidity providers

DTC’s committed line of credit is maintained with a diversified consortium of commercial lenders, which are regulated financial institutions in the business of extending credit on a committed basis as provided in the credit agreement governing the facility. The line of credit is renewed annually. During the renewal period DTC, in coordination with the lead arranger, conducts presentations and discussions with potential lenders, and provides them with information to enable them to understand the obligations and risks they may face as potential lenders under the facility. This includes the need to be able to provide funding within a short time window on a same-day basis. In addition, DTC also participates in meetings with lenders to outline the facility and address lender questions. The lead arranger also conducts standard due diligence on all potential counterparties to determine their suitability, and DTCC’s Finance department and ERM conduct their own credit analysis of potential lenders, which includes review of credit ratings assigned by credit rating agencies and reviews of key metrics including (but not limited to) capital adequacy, liquidity, asset quality, and profitability. These reviews, together with such discussions, are designed to provide DTC with confidence that the lenders have sufficient information and the capacity to perform their obligations should DTC have a need to draw on the facility’s resources.

Test drawdowns for the line of credit are performed periodically (semi-annually) to demonstrate that the agents and the lenders are operationally capable to perform their obligations under the facility and are familiar with the drawdown process.

DTC also seeks to manage its liquidity and operational risks arising from settling banks and investment counterparties through a framework that includes: as to settling banks, minimum requirements that are effectuated through the membership application and ongoing review process and, for investment counterparties, as provided under the DTC Rules and through the DTCC Investment Policy which includes counterparty credit and concentration standards. DTC has established strict eligibility requirements for entities seeking to act as settling banks, which include minimum financial, credit and operational standards. In evaluating its exposure to a settling bank, DTC takes into account, among other factors, the regulation and supervision of the bank, its operational reliability (which is monitored daily), its suitability for the settling bank services it performs, along with other services it may provide to DTC, its creditworthiness, and its capitalization and access to liquidity (including access to central bank liquidity).

37 The DTC Rules also provide that DTC may borrow funds needed to complete settlement from Participants by credit reductions to their settlement accounts, secured by collateral of the defaulting Participant. This is a provision that DTC treats as a tool reserved for extreme circumstances.
DTC has the flexibility, under its Rules and operationally, to adjust to stressed circumstances during a settlement day, to protect itself and Participants against liquidity exposure. Therefore, DTC does not rely on further stress testing.

DTC Product Risk has the ability to set net debit caps individually by Participant, or generally, to as low as $1, so that the affected Participant(s) must make settlement progress payments intraday in order for transactions to be processed. This allows DTC to protect itself against end-of-day net settlement liquidity risk because transactions have been, effectively, prefunded. Otherwise, transactions that would cause a Participant’s net debit balance to exceed its net debit cap will not be processed. These transactions will pend in the system until the transaction can be processed without exceeding the net debit cap limit, or until the designated cutoff time for processing valued transactions in DTC’s system is reached, at which time the pending transaction will be dropped from the system.

Replenishment of liquidity resources; uncovered liquidity shortfalls

DTC settles on a daily basis. If, due to extreme circumstances, all liquidity resources were exhausted on one settlement day (including application of the entire Participants Fund and borrowing under the line of credit), DTC would need to restore those resources and/or require Participants to prefund DVP transactions, in order to conduct business on the next settlement day. Participants would be required to make up their Participants Fund deposits in the requisite amount, and DTC would likely reduce the maximum net debit cap for all Participants and affiliated families to $1, as described above. The line of credit would not be restored until DTC could repay borrowings by liquidating collateral of the defaulting Participant, which would take some number of days to complete. As the liquidation of a defaulting Participant’s securities collateral is completed, the proceeds would be used to repay any borrowings, replenishing DTC liquidity resources.

Should closeout proceeds be insufficient to repay a borrowing, resulting in a loss, DTC would have recourse to its loss waterfall, described in response to Principle 13 (Participant-default rules and procedures).
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.

DTC provides final settlement by the end of the value date

DTC provides clear and certain final settlement at the end-of-day on the value date of transactions settled. As noted above, DTC offers a modified Model 2 DVP, DNS system, in which securities deliveries settle gross and related funds obligations settle net, through end-of-day settlement. At settlement, securities transfers versus payment on the books of DTC and funds transfers in central bank money are final, as DTC Rules clearly provide.

DTC is an end-of-day net settlement system by design. The DTC same-day-funds settlement system was developed to accommodate the needs of Participants and investors in the high volume, high value U.S. securities markets. It provides a critical risk mitigant by reducing the number and value of funds transfers for securities settlement in the U.S. market, while conditioning the delivery of securities on satisfaction of related payment obligations.

DTC Rules clearly define the point at which settlement is final

Under the DTC Rules, including Rule 9(B) (Transactions in Eligible Securities), a transfer free of payment is effective when the transferred securities have been debited from the account of the delivering Participant and credited to the account of the receiving Participant. Free transfers may occur at any time during the settlement day and, accordingly, may settle intraday.38

For DVP transactions, DTC Rules clearly provide that settlement of a delivery or pledge versus payment is final, at the latest, when end-of-day system-wide net settlement has occurred (Rule 9(B)). No reversals of transfers or payments are permitted after the end-of-day completion of settlement.39 Under DTC’s

38 This is the general rule for free deliveries at DTC. As noted in the General Background and further described in Principle 20 (FMI links), CNS deliveries are settled free of payment at DTC. However, deliveries from NSCC to a receiving Common Member are not final until the Effective Time, under the NSCC rules and procedures, as provided in DTC Rule 6 (Services).

39 A special rule for MMI securities, Rule 9(C) (Transactions in MMI Securities), allows for intraday reversals of MMI transactions in order to protect DTC and its Participants against the risk of issuer default; DTC is working with the industry to find alternative solutions and eliminate intraday uncertainty due to the possibility of such reversals.
rules, a DVP transaction is irrevocable as to the delivering party once the securities are debited from the delivering Participant’s securities account. The delivering Participant (provided it is not in default at settlement) will be paid through net settlement, regardless of any failure to settle of the receiving Participant. A DVP transaction is irrevocable as to the receiving party at the earliest of the following events: (i) when DTC makes a final determination on settlement date that the balance in the settlement account of the receiving Participant is not negative; (ii) when the receiving party pays the amount of any negative balance in its settlement account, as determined by DTC for that settlement day; or (iii) during the settlement day, when (so long as DTC’s risk management controls are satisfied) the receiving Participant instructs DTC to effect a delivery, pledge, or withdrawal of the securities.

No DVP may be processed unless the deliverer and the receiver will satisfy net debit cap and collateral monitor requirements after giving effect to the transaction. That is, the money debit to the receiver cannot cause its net debit balance to exceed its net debit cap and its collateral monitor must be sufficient to secure the net debit balance after giving effect to the related funds debit. From the delivery side, the delivery will not be permitted if it would cause the deliverer to have inadequate collateral to secure its net debit balance, if any. If controls are never satisfied, the transaction will not be processed for settlement on that day but may be resubmitted on the following day.40

By virtue of the net debit cap and collateral monitor controls, the deliverer may rely on payment through the net settlement process, even if the receiver defaults, because DTC will have liquidity resources to cover the amount of the failed net settlement payment. A Participant that fails to settle will not receive securities delivered or pledged to it, as it will not have paid for them.31 Under Rule 9(B), those securities are collateral that DTC may liquidate or pledge to secure a borrowing, to fund settlement among the non-defaulting Participants. Through the net settlement process, the deliverer will, nevertheless, have been paid on the value date of the delivery.42

DTC currently processes transactions in real-time from approximately 8:30 PM on the night before settlement day until 3:30 PM on settlement day for valued transactions and until 6:35 PM for free transactions. Transactions that cannot satisfy DTC’s controls at the time they are introduced to DTC will recycle throughout the day and be continuously reattempted until approximately 3:10 PM for valued

The intraday reversal option terminates at 3:00 PM on settlement day, prior to the completion of system-wide net settlement which is final as to all transactions settled that day.

40 Under DTC Rules, all securities deliveries and payment orders are also subject to DTC’s Receiver Authorized Delivery (RAD) control, although, for ID trades confirmed/affirmed through Omgeo, mandatory RAD will first be implemented in 2015. RAD allows a receiver of a securities delivery and/or payment order to review and accept or reject the transaction, before DTC processes it further.

41 DTC Rule 9(B) provides that securities that are delivered versus payment are owned intraday by DTC, pending end-of-day settlement, at which time the securities are delivered to receiving Participants that satisfy their net settlement obligations, if any, or have a zero balance or net credit balance.

42 Settlement accounts reflect running debits and credits intraday, as a Participant may be a delivering Participant in one DVP and a receiving Participant in another. At the end of the day, any Participant may have a net debit, net credit or zero balance for settlement. When a Participant with a net debit balance pays its settlement obligation and DTC completes system-wide settlement, all securities processed for delivery to that Participant will be credited to its account and it will have paid for those deliveries. As to payments due to the Participant for its deliveries, the Participant will have been paid as well, because credits for those deliveries intraday have offset and reduced its other debit obligations, even though, on balance, it finished the day with a settlement obligation.
transactions and until 6:35 PM for free transactions. Transactions that satisfy DTC’s controls are processed immediately as described above. The end-of-day settlement process typically concludes between approximately 4 PM and 4:30 PM.

As more fully described in Principle 9 (Money settlements), net funds settlement for DTC occurs in central bank money through the Federal Reserve System. Each Participant designates a Settling Bank to effect settlement on its behalf; however, each Participant remains liable as principal for its own settlement and, if its Settling Bank does not settle for it, must wire funds to DTC through another financial institution. Each Settling Bank must have an account at the Fed capable of processing NSS payments.

Finality of the exchange of funds associated with DTC transactions occurs upon completion of DTC instructed NSS fund transfers between its account at the Fed and the accounts of the Settling Banks acting on behalf of DTC participants. As applicable law and regulations provide, NSS settlement is final when the relevant FRB accounts are credited/debited.

Settlement extensions are occasionally necessary, often to accommodate operational issues of Participants. These types of extensions are notified to Participants through regular communications systems (see Principle 22 (Communication procedures and standards)). Significant extensions that may affect NSS and Fedwire® activities will be notified promptly to the FRBNY, and other DTC regulators as appropriate. These extensions would not present DTC or any Participant with an opportunity to reverse or revoke the completion of transactions that day. DTC has never deferred final settlement to the next business day.

Once securities and funds settlement have been completed, settlement is final under the DTC Rules, and no reversals or revocations are possible.
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.

DTC settles in central bank money

DTC operates a deferred net settlement (“DNS”) system in which funds settlement occurs at the end of the business day. Money settlement is conducted in U.S. central bank funds through a tiered structure and netting process designed to minimize and strictly control credit and liquidity risks. Funds transfers are settled through NSS and are final when effected on the books of the FRBNY (or any other Federal Reserve Bank at which a Settling Bank maintains its account). Commercial banks, acting as settling banks for DTC Participants (“Settling Banks”), must have Federal Reserve Bank accounts and satisfy criteria including regulatory status, creditworthiness, capitalization, access to liquidity and operational reliability.

Tiered and Netted Settlement Arrangements

Each Participant is required to have a commercial bank that acts as its Settling Bank to fund or receive payments on its behalf. A Settling Bank must be a full service Participant, and have an account at a Federal Reserve Bank through which funds settlement may be processed. A Participant that is a bank may act as its own Settling Bank, provided it meets the requisite operational criteria. Settling Banks must enter into appropriate agreements for the conduct of this service. Each Participant may select its own Settling Bank and DTC does not intervene in that relationship. (Settling Bank standards and monitoring...
are described below.) The Settling Bank may or may not have a credit relationship with the Participant – it is not expected or required to guarantee the obligations of the Participant or to advance funds on behalf of the Participant. If a Settling Bank fails to settle on behalf of one or more Participants for which it has agreed to act, each of those Participants remains obligated to pay its net settlement obligation in central bank money through alternative funding arrangements (i.e., by Fedwire® payment of its net debit balance within specified settlement timeframes).

Each day, the DTC settlement system records money debits and credits to Participant settlement accounts throughout the processing day. Credits arise from deliveries versus payment, receipt of payment orders, principal and interest distributions in respect of securities held, intraday settlement progress payments and any other items or transactions that give rise to a credit. Debits are primarily due to receives versus payment, as well as other types of charges to the account permitted under the Rules of DTC. As these debits and credits are recorded intraday, the Participant’s settlement account will be in a net debit balance or net credit balance from time to time and, finally, at the end of the day, a net debit or credit is determined. This final net debit or net credit balance determines whether the Participant has an obligation to pay or to be paid in the process of DTC completing end-of-day settlement among all non-defaulting Participants. A Participant with an end-of-day net debit balance has an obligation to pay DTC that amount; a Participant with an end-of-day net credit balance is entitled to receive a payment from DTC. The intraday monitoring of Participant net debit balances against collateral and liquidity resources is also structured so that, if the Participant or affiliated family of Participants with the largest settlement obligation fails to pay, DTC will nevertheless be able to complete settlement among non-defaulting Participants so that Participants having net credit balances that day will be paid (see response to Principle 7 (Liquidity risk)).

To protect DTC and its Participants and minimize systemic risk, money settlement amounts are subject to netting to reduce funding transfers due through the commercial banking and central bank systems. From an operational perspective, DTC end-of-day money settlement is centralized with NSCC’s end-of-day settlement, so as to provide common participants with consolidated reporting and a single point of access for all settlement information, as well as the benefit of netting money settlements. Under this process, following the determination of final net numbers for each DTC Participant and for each NSCC Member, these amounts are further netted or combined to produce a consolidated net money settlement obligation for common participants. For example, a Participant with a settlement debit at NSCC and a settlement credit at DTC, will have that debit netted against the DTC credit.

Settling Banks may settle on behalf of multiple DTC Participants and/or NSCC Members. Following determination of the consolidated net money settlement obligations of Common Members, the net-net debit or credit amounts for each Participant on whose behalf the Settling Bank settles is further netted to produce a single net-net debit or credit balance for each Settling Bank. At this stage, each Settling Bank must acknowledge the net amount due to it or from it, in order for settlement to proceed (or, a Settling Bank may refuse to settle for one or more identified Participants). Settlement of these net-net balances occurs through use of the NSS, whereby DTC, for itself and as NSCC’s settlement agent, submits instructions to have the Federal Reserve Bank accounts of the Settling Banks charged for their net-net debit balances and credited with their net-net credit balances, with offsetting entries to the DTC account at FRBNY. NSS funds transfers are final immediately when effected, in accordance with the FRS rules

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43 DTC Rules include protections such as allowing the Settling Bank to refuse to settle for a Participant or, intraday, to cause DTC to lower the net debit cap of an affected Participant.
and procedures governing NSS.\textsuperscript{44} Once funds transfers are complete, DTC confirms to Participants and Settling Banks that system-wide settlement is complete.

The timeframes for the DTC Settlement process which Participants and Settling Banks must follow are set forth in the DTC Settlement Service Guide.\textsuperscript{45}

\textbf{DTC Acts as Settlement Agent for NSCC}

As described in Principle 20 (FMI Links), DTC has a settlement netting interface with its affiliate, NSCC that is integral to the settlement of each clearing agency. DTC acts as Settlement Agent for NSCC. In submitting the end-of-day NSS file, DTC, on its own behalf and as NSCC’s settlement agent, submits instructions to cause the Federal Reserve Bank accounts of the Settling Banks to be charged for their net-net debit balances and credited with their net-net credit balances. This cross-clearing agency netting and settlement arrangement is reflected both in the Rules of each of DTC and NSCC, as well as in a netting agreement between them (see response to Principle 13 (Participant-default rules and procedures)). When NSS processing and DTC system-wide settlement is completed, NSCC settlement for the business day is likewise completed.

\textbf{Settling Bank Requirements and Monitoring}

Under DTC Rules, a Settling Bank is required to be a Participant (as defined in the Rules), maintain an account at a Federal Reserve Bank, 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 DTC Rules. In this regard, ERM obtains information from Settlement Operations regarding settlement exposures, and any operational problems experienced by these banks (as well as other Participants). Settling Bank operational capabilities are monitored on an ongoing basis; Settling 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 Participant, including Settling Banks, continues to be financially stable.

\textbf{Canadian Dollar Settlement}

DTC also maintains a link with the CDS to support valued transactions settled in Canadian dollars. Participants settle their Canadian dollar obligations with DTC’s Canadian dollar concentration bank (Royal Bank of Canada). At the end of each business day, DTC performs a single net Canadian dollar settlement with CDS. DTC utilizes the services of Royal Bank of Canada for Canadian dollar settlement

\textsuperscript{44} Federal Reserve Circular OC 12.

because DTC does not have direct access to The Bank of Canada. Canadian dollar settlement accounts for less than 0.20% of DTC’s average daily valued settlement volume.

Royal Bank of Canada is a DTC Settling Bank (on behalf of its Participants using the southbound link with CDS) and is therefore subject to requirements and monitoring applicable to all Settling Banks.

Please see Principle 20 (FMI links) for additional information regarding this link with CDS.
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.

DTC does not settle deliveries of physical instruments

DTC does not settle transactions using physical delivery, i.e., the delivery of a physical certificate or instrument representing securities or other financial assets. DTC therefore does not have rules relating to obligations with respect to the physical delivery of physical certificates or instruments.

Physical deposits are necessary for the immobilization of securities at DTC. DTC accepts for deposit physical certificates or instruments representing securities and other financial assets in order to effect book-entry transfers of interests in the underlying securities or other financial assets. DTC has clear rules and procedures for such deposits and, as appropriate, withdrawals, of physical certificates or instruments, as well as eligibility standards for the types of underlying securities or other financial assets for which physical certificates or instruments may be deposited.

DTC also operates a Custody Service that allows Participants to place physical securities certificates that are not held for book-entry services into the custody of DTC for storage in the vault. These securities are held for physical custody only. If they are required by Participants for physical delivery for any purpose, DTC will comply with appropriate instructions of Participants for withdrawal or physical delivery in accordance with those instructions.

With regard to custody, DTC identifies, monitors and manages the risks and costs associated with the storage and recordkeeping for such physical certificates or instruments. DTC evaluates and takes measures to reduce the risk of loss and provide safe storage of physical securities certificates and other instruments in its custody. Some of these include the following:

- DTC has established a comprehensive security program, as required by Regulation H of the Federal Reserve Act, and has a designated Security Officer that is approved by the Board.

- There is a separation of duties in place between the staff responsible for balancing accuracy of DTC’s inventory versus the Participants’ ledgers and the staff responsible for securities processing and vault operations.

Access to DTC’s vault is highly secured and operates in accordance with industry best practices. Such controls include:

- Vault areas are monitored by the internal Global Security Management department, and access is restricted to select employees via badge and biometric readers.
• Periodically, sampling and full vault counts are performed to identify fraudulent, missing and inventory discrepancies. All incoming and outgoing certificates are imaged and DTC utilizes automated systems to monitor certificate retention and control.

• To protect against the risk of loss or misuse of certificates that may be incurred as a result of the physical processing, DTCC maintains insurance coverage related to theft, loss or misuse of securities. Subject to the terms and conditions of the actual policies, DTC maintains insurance coverage of $750 million aggregate on-premises and/or in-transit coverage under blanket bond/all-risk policies.

DTC maintains a robust, automated certificate inventory record, detailed at the individual certificate level, on each and every physical certificate that is held in DTC’s vault. This database, the Automated Inventory Management (AIM) system, was most rigorously tested in weeks and months following Superstorm Sandy, which, on October 29, 2012, caused extreme flooding of DTC’s vault located, at that time, at 55 Water Street in lower Manhattan. The vault was on the second sub-level of the building, some 60 feet below sea level and it, along with the two floors immediately above, remained completely flooded for several days. DTC undertook what is believed to be the largest vault certificate recovery exercise, encompassing the complete restoration of more than 1.7 million individual certificates – balancing this multi-year recovery effort against DTC’s AIM records for that day. All but approximately 700 certificates, that were destroyed, have been recovered.
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.

Key consideration 1: A CSD should have appropriate rules, procedures, and controls, including robust accounting practices, to safeguard the rights of securities issuers and holders, prevent the unauthorised creation or deletion of securities, and conduct periodic and at least daily reconciliation of securities issues it maintains.

Key consideration 2: A CSD should prohibit overdrafts and debit balances in securities accounts.

Key consideration 3: A CSD should maintain securities in an immobilised or dematerialised form for their transfer by book entry. Where appropriate, a CSD should provide incentives to immobilise or dematerialise securities.

Key consideration 4: A CSD should protect assets against custody risk through appropriate rules and procedures consistent with its legal framework.

Key consideration 5: A CSD should employ a robust system that ensures segregation between the CSD’s own assets and the securities of its participants and segregation among the securities of participants. Where supported by the legal framework, the CSD should also support operationally the segregation of securities belonging to a participant’s customers on the participant's books and facilitate the transfer of customer holdings.

Key consideration 6: A CSD should identify, measure, monitor, and manage its risks from other activities that it may perform; additional tools may be necessary in order to address these risks.

DTC Protects the Integrity of Deposited Securities

DTC is the central securities depository in the U.S., holding eligible securities deposited with it in either immobilized or dematerialized form and maintaining securities accounts for its Participants, to which accounts it credits and debits interests in the securities held on deposit. Interests in those securities may be transferred between Participants by book-entry deliveries. The DTC Rules provide for the determination of which securities are eligible for deposit and for the types of interests in the securities that may be reflected in DTC book-entries, including deliveries (free or versus payment) and pledges. These Rules reflect the agreement of DTC with each of its Participants for the operations and services provided, in every case, subject to applicable law (as further set forth in response to Principle 1 (Legal basis)).

The Indirect Holding System

The DTC holding structure for interests in securities exemplifies the indirect holding system that has developed in the U.S. over the forty-plus years since DTC was created reflected in UCC, Article 8. DTC, through its nominee, Cede, is the registered holder of securities on the books of the issuer or its transfer
agent; that is, DTC is the direct holder of legal title to the securities on the books of the issuer.\textsuperscript{46} DTC holds securities collectively for the book-entry credit of interests to its Participants, not for its own, proprietary, investment purposes.

DTC maintains securities accounts for Participants (generally, banks, broker-dealers and other CSDs). Interests in the securities held by DTC are credited to these accounts in favor of these Participants, which then have a securities entitlement to the securities credited to their accounts. Participants are generally also part of the indirect holding system, maintaining accounts for their customers to which interests in these securities are credited. Those customers or, where Participants hold securities in a proprietary capacity, the Participants, are beneficial owners of the securities.

In this structure, the depository holds securities in “fungible bulk” – no unit of the security is different than any other unit and no Participant has a right to a particular unit of the security, but, rather, a proportional interest in the aggregate amount of the securities held by DTC. This type of holding requires that, to be eligible at DTC, securities must be able to be held in this manner, so that any holder of the security has the same rights and interests as any other and interests in the security must be freely transferable among Participants. This eligibility requirement derives from the Exchange Act and the Securities Act, and is reflected in the DTC Operational Arrangements.\textsuperscript{47} Generally, eligible securities must have been issued in a transaction: (i) registered with the SEC pursuant to the Securities Act; (ii) exempt from registration pursuant to a Securities Act exemption without transfer or ownership restrictions; or (iii) pursuant to Rule 144A or Regulations S.

By careful observance of this legal and regulatory framework, and operational controls, DTC helps to ensure the integrity of the fungible bulk of securities held on deposit for the benefit of its Participants and their customers, the investing public. Issuers are also protected by these stringent requirements and controls.

\textit{Immobilization; Dematerialization}

DTC was designed to immobilize securities held by it in one or several locations, so that interests may be transferred by appropriate book-entry notations. Over the years, DTC has also been a leading sponsor of dematerialization efforts. Recently, it issued a White Paper on Dematerialization (July 2012, “A Proposal to Fully Dematerialize Physical Securities Eliminating the Costs and Risks They Incur”).\textsuperscript{48}

It is estimated that in excess of 90\% of corporate and municipal securities, including equity and debt securities, issued to the public in the U.S. are held at and distributed through DTC and are represented by one or more physical certificates that are immobilized at the depository. As of June 30, 2014, more than 99\% of municipal and corporate debt, by par value, distributed through DTC was maintained for book-entry only (“BEO”). For these issues, there is typically a global certificate, \textit{i.e.}, a single certificate

\textsuperscript{46} DTC also holds securities indirectly, in securities accounts with other clearing corporations, such as CDS or other foreign CSDs (see Principle 20 (FMI links)) and through the FRB with respect to Fed book-entry securities such as U.S. Treasury bills, bonds and notes, as well as agency securities.

\textsuperscript{47} Available at http://www.dtcc.com/~/media/Files/Downloads/legal/issue-eligibility/eligibility/operational-arrangements.pdf.

representing the entire outstanding quantity of securities in the issue or a specific part of the issue, such as a particular maturity of a debt issue. The issuer does not generally make securities certificates available to Participants or their customers. All transfers of interests in these securities between DTC Participants are effected by DTC book-entry.

For non-BEO issues, a Participant with securities on deposit in its DTC account can withdraw securities physically and have them reregistered in the name of the Participant, its customer, or another party. On the instructions of the withdrawing Participant, DTC debits the securities from the Participant’s account and instructs the transfer agent to register the transfer of the securities into the name designated by the Participant. The reregistered securities are then sent to the Participant or its customer. The number of such withdrawals has declined significantly in recent years, due in part to disincentive fees charged by DTC to its Participants.

DTC maintains a significant percentage of securities in a dematerialized form: approximately 80 percent of 1.3 million issues and 98 percent of the $45 trillion in value held. A majority of dematerialized issues are held in the Fast Automated Securities Transfer (FAST) program. DTC’s MMI program consists solely of dematerialized issues.

Under the FAST program, the transfer agent holds the securities registered in the name of DTC’s nominee, Cede, in the form of a balance certificate. As additional securities are deposited or withdrawn from DTC, the transfer agent adjusts the denomination of the certificate as appropriate, and electronically confirms these changes with DTC. As such, FAST reduces the movement of certificates between DTC and the transfer agents and therefore reduces the costs and risks associated with the creation, movement and storage of certificates.

An additional DTC service facilitating dematerialization is the Direct Registration Service (“DRS”). DRS provides for the processing of transactions in securities registered directly in the beneficial owner’s name on the books of the transfer agent. Through DRS, purchase and sales of securities can be accommodated by book-entry deliveries between the DTC account of the beneficial owner’s broker-dealer and the DTC account of the transfer agent. This type of statement representation of interests in securities originated in 1996 and will further support dematerialization efforts looking forward.

DTC’s billing structure differentiates (usually in the form of a surcharge) securities that are required to be held in physical form. For example, new security issuances that are physical in nature and underwritten through a Participant’s account at DTC, physical withdrawals from DTC’s vaults, and the monthly long position (safekeeping) fees for non-book entry only securities are all levied a fee surcharge. DTC will continue to price its services in ways that encourage dematerialization and immobilization of security assets.

**Deposit and Underwriting Processes**

DTC provides Underwriting Services that support processes for the initial crediting of securities to Participant accounts. The Rules for Underwriting Services and related processes are designed to prevent the unauthorized creation or deletion of securities. However, it should be clearly understood that DTC neither “creates” nor “deletes” securities; it may credit and debit securities to accounts of Participants but only upon the instruction of its Participants or issuers and their transfer agents. Securities, when issued by issuers and underwritten in accordance with applicable law, may be credited to the accounts of underwriters that are Participants or correspondents of Participants working through Participant accounts and distributed to the market by delivery to other Participants, all in accordance with applicable law.
Most eligible securities are introduced into the DTC system by DTC’s Underwriting Department. New issues are added through the new issuances process, although there is a separate process for older issues, i.e., those already available in the market but not previously made DTC eligible for deposit at DTC. Older issue eligibility requests come from DTC Participants and are subject to additional due diligence before they are approved.

Other issues of securities may be added through corporate actions with respect to existing securities, including events such as name changes, mergers and spinoffs.

DTC maintains a robust system for monitoring its compliance with governing law including, without limitation, the AML requirements of the BSA, and OFAC sanctions.49 Where such monitoring raises concerns as to whether securities held at DTC have been distributed in violation of Federal law including, without limitation, the requirements of Section 5 of the Securities Act,50 DTC may restrict services with respect to the securities.

Following an eligibility determination, the technological addition of an issue of securities to DTC’s masterfile may only be made by a limited group of duly authorized employees, minimizing the staff with the capability to make such updates. This access requires approval of a Vice President or above.

DTC’s accounting system does not allow for short positions in securities through Participant transfers; securities may only be transferred from one Participant to another if the first Participant has position available to transfer. There are, however, limited conditions that can result in short positions. These include deposit adjustments that occur when a transfer agent rejects securities presented after the participant delivered the securities, thus driving them short. Another condition that causes shorts is late announcements with respect to redemptions and calls where the publication date has passed and participants that had position on such date do not at the time of processing. Short positions are fully collateralized where DTC charges Participants for the full market value of the short as well as a 30 percent penalty.

Controls to Safeguard Securities

Under the UCC, securities intermediaries, such as DTC, are required to maintain a sufficient quantity of a financial asset or issue of a security to satisfy all of their Participant’s claims, that is, the aggregate amount of all of the issue credited to any of DTC’s Participants. DTC has procedures and controls in place to support this obligation.

The Rules of DTC require Participants to reconcile both their activity and positions with DTC upon receipt of applicable activity statements at the end of each day and to immediately report any discrepancies. Participants must also provide a month-end confirmation of their activity.

Pursuant to its procedures, DTC also takes steps to reconcile securities balances in the FAST program. Daily reconciliation occurs with issues held in FAST. This reconciliation includes both the number of

49 See 31 U.S.C. 5318 (authorizing Secretary of the Treasury to require financial institutions to establish AML procedures); 31 C.F.R. § 1020.210 (AML standards for certain financial institutions); 31 C.F.R. 500.202 (prohibiting, inter alia, dealing in a security registered in the name of a person subject to OFAC sanctions).

50 See 15 U.S.C. 77e (prohibiting sales of unregistered securities, subject to 15 U.S.C. 77(d)).
securities held as well as their totals. For issues held physically, high value certificates (greater than $7 million) are fully audited twice per year to ensure inventory is in balance with the amounts recorded on the books and records. Pursuant to The FAST Balance Certificate Agreement and The Operational Criteria for FAST Transfer Agent Processing, the FAST transfer agent is obligated to confirm daily with DTC the balances of securities they hold in the name of Cede. Since the securities are not under DTC’s direct control, DTC also receives reports on the internal controls of the transfer agent from their independent accountants annually.

A similar reconciliation process is in place with MMIs. Inventory is also held with foreign CSDs: CDS, the Swiss Depository (SIX Securities) and the German depository, Clearstream. Balancing routines are in place with each entity. Fed securities are held at the FRB. As with other entities with which DTC maintains inventory, a balancing routine is in place to reconcile securities held.

DTCC’s Internal Audit Department conducts reviews at predetermined cycles based upon the criticality of the function. In addition to Internal Audit’s review, DTC’s Compliance Department conducts compliance testing to ascertain compliance with SEC and Federal Banking Regulations. The schedule for compliance testing is based upon risk assessments of these laws and regulations as well as several other factors, such as coverage by other control groups; the results of prior testing, audits, and regulatory examinations; upcoming regulatory examinations; and changes in regulation or the business area. Cycles are used as a general guideline in developing the compliance testing schedule, with higher risk laws and regulations being reviewed every 12 months, moderate risk laws and regulations being reviewed every 24 months, and lower risk laws and regulations being reviewed every 36 months. Each year, an audit of internal controls is conducted by an outside audit firm.

DTC Rule 14 (Insurance) requires DTC to maintain insurance. In order to protect against loss associated with theft, loss, misuse, etc., DTC maintains insurance coverage of $750 million aggregate on-premises and/or in-transit coverage under an all-risk policy. In addition, DTC has mail insurance. Its objective is to indemnify and hold harmless DTC against loss in respect of shipments of securities from the offices of DTC.

Options for Segregation of Securities, Including Customer Fully Paid Securities

DTC Rules afford Participants the option of book-entry segregation of securities for any purpose the Participant may require, including to segregate fully paid-for customer securities. Segregated securities at DTC are not subject to any security interest, lien or other claim of DTC. However, DTC will continue to treat the Participant to whose account the securities are credited as the owner of those securities; it is up to the Participant to maintain appropriate records on its own books to identify customer securities separately. DTC does not record interests in securities at the beneficial owner level.

Participants also have the ability to transfer customer accounts and holdings to other Participants via NSCC’s Automated Customer Account Transfer Service, an NSCC service that results in the transfer of securities (free of payment) on the books of DTC.

Asset Services

As the holder of securities vis a vis issuers, DTC receives distributions, dividends, corporate actions and is responsible for other matters relating to the securities held including voting rights. DTC’s Rules also provide a process by which security holders, through the relevant Participants, may make shareholder or bondholder demands as well as exercise other rights in respect to the relevant issue. In addition to central safekeeping and settlement services, DTC provides the following supplemental services: Underwriting;
Corporate Actions; Dividends\footnote{51}; US Tax and Foreign Tax Relief; Principal and Income distribution among others.

\footnote{51} The “Dividends Service Guide” will be renamed and otherwise amended as the “Distributions Service Guide,” and the changes provided in the Rule Filing will be implemented in the first quarter of 2015. \textit{See Footnote 5.}
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.

End of Day Final Settlement

DTC operates an exchange of value settlement system, for settlement of securities on a gross basis and settlement of funds on a net basis. The DTC system is a modified DVP Model 2 DNS system. DTC mitigates principal risk to its Participants by conditioning the final settlement of securities delivered versus payment on the completion of final net funds settlement, which occurs at the end of the settlement day. The terms and conditions of DVP processing and net funds settlement are described in the DTC Rules which are binding on Participants in accordance with their terms, as set forth in the response to Principle 1 (Legal Basis).

The system and controls to complete settlement are described in responses to preceding Principles. These are designed so that the final settlement of book-entry deliveries versus payment at DTC limits principal risk to the deliverer. Under DTC Rule 9(B) (Transactions in Eligible Securities), a delivery versus payment must satisfy the net debit cap and collateral monitor of the intended receiving Participant for the transaction to be processed intraday. The processing of the delivery results in a credit for the value of the delivery to the settlement account of the delivering Participant which, once made, is irreversible. When DTC completes system-wide settlement, the deliverer will be paid through net settlement, even if its counterparty defaults.

If the receiver of a DVP transaction has a net debit balance for settlement at the end of the day, and satisfies its settlement obligation, the delivered securities will be finally credited to its account simultaneously with net funds settlement. If the receiver has a zero balance or credit balance at settlement, it has no payment obligation but has effectively paid for the securities through the intraday netting of credits and debits to its settlement account; accordingly, the securities will be finally credited to its account, simultaneously with net funds settlement.

If, however, the receiver has a net debit balance due in settlement and it fails to satisfy this settlement obligation, the receiver will not be credited with the securities, because it has not paid for them. The delivering Participant will nevertheless be paid through net funds settlement, so it does not suffer principal risk vis a vis its counterparty.52

52 Under DTC Rule 9(B), securities that are delivered versus payment are owned by DTC intraday and constitute collateral that may be pledged or liquidated to fund the Participant’s settlement obligation. Using the Participants Fund deposit of the defaulting Participant and/or borrowing under the line of credit, DTC will complete net system-wide settlement, through which the deliverer will be paid for its delivery.
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 to Manage Participant Default

DTC has effective and clearly defined rules and procedures to manage a Participant default. The DTC Rules (with implementing internal procedures) are designed to ensure that DTC can take timely action to contain losses and liquidity pressures, so that DTC may continue to provide services following a Participant default.

Default and its consequences

DTC Rules specify events that may constitute Participant default and the consequences of default. The Rules set forth a legal framework for continued operations and settlement in a Participant default situation. However, they are also designed to retain sufficient flexibility so that DTC may exercise appropriate discretion in their implementation under specific circumstances, to protect the interests of DTC, its Participants and other relevant stakeholders.

Under DTC Rules53, a Participant will be in default if it fails to pay any amount due to DTC within specified timeframes, including the failure to fund a settlement obligation, to pay required deposits to the Participants Fund or to pay adequate assurances to DTC upon request. Insolvency of the Participant likewise creates a default. A Participant may be determined to be insolvent if, among other circumstances, (i) the Participant has notified DTC that it is unable to perform its contracts or obligation; (ii) the Participant is subject to a SIPA proceeding; (iii) the Participant has filed, or had filed against it, a petition for bankruptcy or other insolvency proceeding; or (iv) the Participant admits in writing its inability to pay its debts generally as they become due. Short of insolvency or nonpayment, DTC may find that a

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53 Including Rule 4 (Participants Fund; Participants Investment), Rule 9(A) (Transactions in Securities and Money Payments), Rule 9(B) (Transactions in Eligible Securities), Rule 10 (Discretionary Termination), Rule 11 (Mandatory Termination) and Rule 12 (Insolvency).
Participant is in such financial or operating condition that its continuation as a Participant would jeopardize the interests of DTC or other Participants. Additional types of default include a Participant’s failure to satisfy the qualifications for being a Participant, conviction of certain crimes, felonies or misdemeanors (involving securities transactions or a breach of fiduciary duty), expulsion or suspension from a national securities association or exchange, and statutory disqualification under the Exchange Act.

When these defaults occur, DTC must determine whether to cease to act for, or, in some cases, limit services to, a Participant under Rule 10 (Discretionary Termination), Rule 11 (Mandatory Termination) and Rule 12 (Insolvency). These determinations are, under appropriate internal governance, generally delegated by the Board to the BRC. In making this determination, the BRC or the Board will consider the particular facts and circumstances involved, and condition of the defaulting Participant.

When DTC determines to cease to act for, or limit services to, a Participant, DTC will notify the defaulting Participant and the Participant’s regulator(s) promptly after the decision is made. DTC will also promptly notify its own regulators. DTC will issue an Important Notice to all Participants and Pledgees informing them that it has ceased to act for the identified Participant (or affiliated family of Participants) and indicate how pending matters may be resolved. Finally, for a defaulting Participant that is also a member of other clearing agencies with which DTC has cross-guarantee arrangements, DTC will also notify those clearing agencies.

Under DTC Rule 22 (Right to Contest Decisions), a Participant for which DTC ceases to act under Rule 10, Rule 11 or Rule 12, has the opportunity to object and be heard. In an insolvency where a trustee or receiver (an “administrator”) has been appointed for the Participant, DTC will coordinate with the administrator.

Completing Settlement in the Event of Participant Default

DTC Rules expressly provide the means for DTC to take timely action to contain liquidity pressures and losses due to a Participant default, and to continue providing services to other Participants. DTC’s first objective on the day of default will be to complete settlement for the other Participants, as described throughout this Disclosure Framework. DTC may also adjust risk management controls (collateral monitor, net debit cap and Largest Provisional Net Credit) intraday to manage credit risk and to mitigate default risk.

When a Participant defaults, DTC may apply the defaulting Participant’s deposit to the Participants Fund in satisfaction of the defaulting Participant’s unpaid obligations to DTC. If that amount is insufficient, DTC may apply some or all of the balance of the Participants Fund (including required and voluntary deposits). DTC may also borrow from its committed line of credit secured by collateral of the defaulting Participant. Under DTC Rule 9(B), this collateral would include securities in process for delivery to the defaulting Participant on the day of default, and securities that the Participant designated as collateral. 54

Closeout

Following a Participant default, DTC will conduct a closeout process to satisfy outstanding obligations of the defaulting Participant, including the restoration or replenishment of DTC liquidity resources. Closeout

54 The DTC Rules also provide that DTC may borrow funds needed to complete settlement from Participants by credit reductions to their settlement accounts, secured by collateral of the defaulting Participant. This is a provision that DTC treats as a tool reserved for extreme circumstances.
will include liquidation of the collateral of the Participant and the application of the proceeds of liquidation to repay any borrowings due to the default. The closeout will be conducted in accordance with internal policies and procedures.

DTC has a well-established closeout process for the liquidation of collateral of the insolvent Participant. DTC utilizes the services of one or more investment advisors and executing brokers to facilitate liquidating transactions promptly following its determination to cease to act. DTC may engage in hedging transactions or otherwise take action to minimize market disruption as a result of such sales.

Following closeout, DTC will ascertain whether liquidation proceeds satisfy the defaulting Participant’s outstanding obligations, including repayment of any borrowing and restoration of the Participants Fund deposits of non-defaulting Participants. If the liquidation proceeds are not sufficient, there will be a loss.

**Loss Allocation and Waterfall**

If DTC suffers a loss or liability due to a Participant default, as described above, DTC would have recourse to its loss allocation waterfall provided in Rule 4 (Participants Fund; Participants Investment), to make up the loss and repay borrowings.

If there are any remaining resources of the defaulting Participant (additional collateral, Participants Fund deposit), DTC would apply those resources first, and any amounts available to it under Clearing Agency Cross Guaranty Agreements (agreements with other registered clearing agencies that relate to the guaranty of certain obligations of a common defaulting member, by one or more clearing agencies to the others). This would include any amounts available to DTC from NSCC under the terms and conditions of the DTC/NSCC Cross Guaranty. DTC has also entered into a multilateral netting contract and limited cross-guaranty agreement with NSCC, FICC and Options Clearing Corporation, under which these clearing agencies have agreed to make payments to each other for unsatisfied obligations of a common defaulting participant, to the extent they have excess resources of the defaulting participant. Under this arrangement, no party ever needs to pay “out of pocket” and no party can receive more than its loss.

Under Rule 4, any remaining loss or liability of DTC may be allocated in such order and in such amounts as DTC shall determine, to the extent necessary to satisfy the loss or liability, by:

(i) the application of some or all of the actual Participants Fund deposits of Participants that were non-defaulting Participants on the day of default, ratably in accordance with their Required Deposits on the day of default; and/or

(ii) a charge to the existing retained earnings and undivided profits of DTC.

If the Participants Fund is so applied, DTC must promptly notify each Participant and the SEC of the amount applied and the reasons applied.

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55 DTC and NSCC have entered into a limited cross-guaranty agreement (the Second Amended and Restated Netting Contract and Limited Cross-Guaranty Agreement, dated as of October 1, 2002, between NSCC and DTC) that contains arrangements designed to permit transactions to flow smoothly between the DTC system and the CNS system of NSCC, in a collateralized environment. See discussion in response to Principle 20 (FMI links).
If, as a result of applying any portion of the Participants Fund, a Participant’s actual deposit is less than its required deposit, the Participant must, on demand, pay DTC the amount necessary to eliminate the deficiency. A failure to make this payment may result in disciplinary action by DTC against the Participant, under the DTC Rules. Iterative allocations relating to the same loss event may be charged, if necessary to eliminate fully any remaining loss.

Participants are able to limit their liability for loss allocation charges by withdrawing from participation within the specified timeframe under DTC Rule 4. However, they will remain obligated for the charge that triggers their withdrawal, and any prior charge for which a withdrawal election was not timely made.

DTC has never had to implement this loss allocation process.

**Implementation of Default Rules and Procedures**

DTC is well prepared to implement its default Rules, including any discretionary processes. DTC’s internal plans regarding the roles and responsibilities for addressing a default consist of internal procedures of the involved departments (such as, for example, Settlement Operations, ERM and the General Counsel’s Office) that outline the actions that may be taken in the event of a Participant default, and the various roles and responsibilities associated with these actions. Each instance where DTC might determine to cease to act is unique, and the internal procedures take this into consideration.

As noted above, DTC also maintains arrangements with one or more investment advisors and executing brokers to facilitate an actual closeout and liquidation. If a trustee, receiver or custodian has been appointed for the defaulting Participant, DTC will communicate with this representative in accordance with applicable law.

The DTC closeout procedures are subject to ongoing review and development, including incorporating knowledge gained from actual close outs and internal tests, which occur at least once per year. Any material changes to internal plans are presented to the Management Risk Committee and the Board Risk Committee for approval.

**DTC Rules are Publicly Available**

The key aspects of participant-default rules and procedures are provided in the DTC Rules, which are publicly available at www.dtcc.com. DTC’s Rules state clearly what constitutes a default, as described above.

**Involvement of Participants and other stakeholders in testing and review**

DTC periodically tests the mechanics for borrowing under its line of credit facility with the agents and lenders under that facility, so that DTC staff and lenders may be prepared for an actual borrowing under stress conditions.

DTC conducts a simulated closeout at least annually, where members of the Board, DTC’s supervisors and certain other stakeholders (such as representatives from SIPC and the FDIC) 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 DTC’s investment advisor(s). In addition, ERM conducts internal table-top 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, DTC’s supervisors and, as appropriate, other relevant stakeholders.
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.

DTC is not a CCP. Accordingly, Principle 14 does not apply.
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 DTC’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 DTC, as well as for the DTCC group as a whole.

DTCC considers those general business risks to include potential impairment to DTC’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 DTC and/or DTC’s participants; unexpectedly large operating expenses; and operational risk events.

In order to identify, monitor, and manage these risks, the capital management strategy for DTC focuses on the following key objectives:
• Provide financial resources that are sufficient to support DTC’s business, in terms of both current and forecasted needs;
• Allow DTC 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 DTC operates;
• Support a strong credit rating for DTC; 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 DTC 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 DTC 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 at DTC. These elements are brought together to create a comprehensive financial plan that projects DTC’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 for DTC.

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. DTC’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,\(^{56}\) DTC determines its capital requirement as the sum of three comprehensive components:

(i) a general business risk component equivalent to six months of DTC’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 DTC to be in a position to make available a portion, if any, of its retained earnings existing at the time of a Participant default to cover any losses that may result from such a default, arising, for instance, if collateral liquidated is not sufficient to repay borrowing for settlement on the day of the default\(^ {57}\); 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 DTC expects to hold is a function of the analysis of various factors, including the volatility of DTC’s net income and liquid cash resources or liquid net assets; a potential amount related to an extended time horizon stress scenario review of DTC’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 DTC, in terms of economic realities during potential periods of market downturns and contraction.

As of June 30, 2014, DTC maintained liquid net assets funded by equity in an amount exceeding six months of its projected operating expenses. Further, DTC is pursuing additional measures that may result in raising additional equity capital and liquid net assets to satisfy its three-part capital requirement.

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\(^{56}\) The SEC has proposed amendments to the Clearing Agency Standards, including a new Rule 17Ad-22(e)(15) that would require DTC 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 DTC would have to equal to 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 No. 34-71699; File No. S7-03-14 (March 12, 2014).

\(^{57}\) Rule 4 of DTC’s Rules provides that, if a Participant fails to satisfy an obligation to DTC, DTC shall, in such order and amounts as it shall determine, to the extent necessary to eliminate the obligation, apply some or all of the Participant’s fund deposit of the defaulting Participant to satisfaction of the obligation, and DTC may pledge or sell the Participant’s investment in DTC Series A Preferred Stock as well, for this purpose. To the extent that a loss results from the default, under Rule 4, DTC may, in such order and such amounts as it determines, apply Participants Fund deposits of non-defaulting Participants or and/or charge retained earnings of DTC.
DTCC, the corporate parent of DTC, is seeking to raise additional capital through the issuance of additional DTCC common shares to its common shareholders, who are participants of DTCC’s clearing agency subsidiaries. A portion of the equity raised thereby would be available for contribution to DTC.\textsuperscript{58}

Pursuant to DTCC’s Investment Policy described in Principle 16 (Custody and investment risks), DTC’s liquid net assets that may be invested 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, 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 a State member bank of the FRS, DTC also maintains a Master Account for deposits at the FRBNY, the depository at which Participants Fund cash is currently held, as further described in Principle 16 (Custody and investment risks).

\textbf{Plans to Raise Additional Capital}

DTC’s comprehensive financial plan, as described above, is designed, in part, to project DTC’s ability to generate the required level of capital to manage and protect against business risks. DTC 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 DTC, should prove a source of strength to raise and contribute additional capital, as may be approved by the Finance/Capital Committee of the Board.

\textbf{Recovery or Orderly Wind-Down Plan}

DTC’s Recovery and Resolution Program was launched in January 2013 as a multi-year effort that will include close engagement with DTC Participants, its supervisors, and other financial market utilities. As part of this program, DTC 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 DTC’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.

\textsuperscript{58} This proposed approach requires: (i) the amendment and restatement of the Shareholders Agreement, (ii) the amendment of DTCC’s Certificate of Incorporation, (iii) approval by DTCC shareholders and (iv) related changes to DTC Rule 31. 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), 79 FR 73665) 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 DTC Rule 31 was filed with the SEC for immediate effectiveness, published in the Federal Register on November 25, 2014 (Release No. 34-73643 (November 19, 2014), 79 FR 70260).
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.

DTC safeguards assets and investments

DTC safeguards its own assets (cash, cash equivalents and marketable investment securities) and securities and other financial assets that it holds beneficially for its Participants in a well-established structure designed to minimize the risk of loss on and delay in access to these assets. DTC investments are subject to the Rules of DTC and the Investment Policy of DTCC (“the Investment Policy”), as it applies to DTC. Under these requirements, DTC may only invest in instruments with minimal credit, market and liquidity risks, as further described below. Securities assets held for Participants (and their customers) and proprietary assets, are maintained and accounted for separately so there is no commingling.

DTC safeguards securities held for the benefit of Participants

Assets held by DTC include securities and other financial assets held for the benefit of its Participants and their customers, generally held through the indirect holding system, as described in Principle 11 (Central securities depositories), and securities certificates or other instruments that remain in the name of the Participant (or its customer) and are held in physical custody as described in Principle 10 (Physical deliveries). The holding of these assets, protections and access, are described in Principles 10 and 11.

DTC invests cash safely under its Rules and DTCC Investment Policy

To the extent DTC invests for proprietary purposes, those investments must be in accordance with the Rules of DTC and the Investment Policy as applicable to DTC, in liquid investments that are readily available, as further described below. DTC does not hold cash for its Participants or maintain deposit accounts. DTC holds proprietary general operating funds cash as well as cash in its Participants Fund. Participants Fund cash, as further described in Principle 7 (Liquidity risk), must be maintained as a liquidity and loss resource to cover settlement in the event of a Participant default and to cover losses due to such an event. Cash also moves through DTC in the form of distributions with respect to securities held by Participants, such as principal and interest payments or dividends, which may be received by
DTC but, once cleared and identified, are allocated to Participants holding the associated securities, for payment through end-of-day net settlement (unless released intraday as DTC Rules permit).

**Participants Fund cash is invested overnight**

DTC’s Participants Fund cash which, as a key liquidity resource for DTC, must be held available for application to complete system-wide settlement as the DTC Rules provide, may be invested overnight. As DTC Rules provide, such investments of the Participants Fund are limited to “securities issued or guaranteed as to principal and interest by the United States or agencies or instrumentalities of the United States or repurchase agreements relating to securities issued or guaranteed as to principal and interest by the United States or agencies or instrumentalities of the United States” or otherwise deposited with a “depository or depositories selected by” DTC. The depository that is currently used is the FRB, but could also include other 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. Under its Rules, DTC remits to its Participants interest at the rate that DTC earns on those investments.

**Cash paid to DTC as principal and interest, dividends and in other distributions on securities**

Another source of cash at DTC is amounts received from securities issuers and their agents as principal and interest, dividends or other distributions on securities held for Participants. To the extent funds and identifying information are received in time, these funds pass through DTC and are credited to the accounts of Participants on the same day that the funds are paid to DTC. To the extent received by DTC late in the day, or without full instructions, or if there is any question as to which Participants may be entitled to these distributions, funds will be held overnight by DTC for allocation the following business day. Unallocated funds are held in deposit accounts or otherwise overnight by DTC at one or more creditworthy financial institutions, and then transferred to DTC’s FRBNY account for payment to Participants following allocation.

**Investment criteria and monitoring**

The Investment Policy outlines the parameters for DTC’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 DTC funds.

Pursuant to the Investment Policy, Participants Fund cash and DTC 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 banks (including the FRBNY);
- 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% 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 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 DTC’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 DTC 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 FRS, subject to oversight of the FRB.

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 DTC’s investment limits with the counterparty, ERM would notify Treasury promptly as to any change, so that Treasury can implement any required adjustment to 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, DTC 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 fulfilment 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 case 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 DTC. 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 & 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 DTC’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 DTC’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 and 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,\(^59\) 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 DTC’s supervisors and other stakeholders in the review of initiatives; and escalation and other standards for review and approval of

\(^{59}\) http://www.bis.org/publ/bcbs195.htm
initiatives by the Board of Directors or Board committees. The policy and related framework also provide the necessary governance and oversight structure to enable DTC 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 DTC, its 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 NIC, as an internal management committee comprised of officer-level subject matter experts, has responsibility for reviewing and approving initiatives that meet designated risk and materiality thresholds. These reviews occur from initial identification and concept development through product launch and post-implementation. Given that initiatives can vary significantly in complexity, risk profile, and internal and external impact, initiatives are categorized in three ways: (1) materiality, (2) business driver, and (3) risk rating. These categories determine the level of governance, including documentation, required for an initiative.

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 senior 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 DTC) 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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60 Created by Stage-Gate® International

61 Robert G. Cooper, *Winning at New Products – Accelerating the Process from Idea to Launch*;
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 limited purpose trust company, State member bank of the Federal Reserve System and registered clearing agency, as well as a designated SIFMU, DTC is subject to continuous monitoring by the SEC, New York State Department of Financial Services and the FRB, which includes review and monitoring of the safety, soundness and effectiveness of DTC’s operational risk management policies and procedures.

**Operational reliability**

DTC 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 incident-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 DTC’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, and 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. DTC performs stress tests periodically to demonstrate that application processing meets or exceeds the applicable business line’s defined requirement. 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 which 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\(^62\); and
- American Society for Industrial Security international\(^63\)
  - 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,
  - Organizational Resilience: Security Preparedness and Continuity Management Systems-Requirements with Guidance for Use-SPC.1,

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\(^63\) http://www.ihs.com/products/industry-standards/org/asis/list/index.aspx
FEMA 452 (A How-To Guide to Mitigate Potential Terrorist Attracts Against Buildings)\textsuperscript{64}, and
FEMA Publication No. 386-7 (Integrating Man made Hazards into Mitigation Planning)\textsuperscript{65}. From these and other similarly applied standards, basic risk management steps are employed to fundamentally determine security priorities and implement appropriate solutions.

\textbf{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 are 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;
- co-ordinate 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

\textsuperscript{64} \url{http://www.fema.gov/media-library/assets/documents/4608?id=1938}
\textsuperscript{65} \url{http://www.fema.gov/media-library/assets/documents/4528?id=1915}
• 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 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 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;67 and

• the NIST cyber security framework consisting of standards, guidelines, and practices to promote the protection of critical infrastructure.68

**Business continuity**

Business continuity management (BCM) is concerned with the governance and implementation of proactive and reactive measures which 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 DTC, will effect and maintain controls that address defined threats which, 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 DTC. The business processes have a relative importance based on the service they provide. DTC 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.

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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 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 time frames greater than five days.

In support of DTC’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 1500 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 U.S. 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 plans enable 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 the BCM area 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 of once per product line or support unit. DTCC also conducts facility specific work area recovery exercises throughout the year, but at a minimum of 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, the Clearing Agency subsidiaries issue Important Notices that establish telecommunications connectivity requirements for major participants and customers. DTC now requires its larger-volume Participants to test their connectivity with DTC at least once a year. This includes testing of connectivity from the Participant’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 focusing 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, DTC potentially poses a number of risks to other entities, while it is also exposed to risks that may originate from other entities.

DTCC does not outsource critical operations. Its material service providers are, however, 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, DTC 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 described in Principle 20 (FMI links) DTC and NSCC have a critical interface for the book-entry movement of securities to settle CNS transactions. The attendant operational risks to both DTC and NSCC are monitored on an ongoing basis through DTCC Operations and Settlement areas, and are subject to DTCC’s Operational Risk Management framework. DTC also acts as NSCC’s settlement agent, to effectuate daily money settlement through use of the FRB’s NSS system. DTC also maintains a subaccount for NSCC in its FRB Master Account for funds, including Clearing Fund payments, received intraday; those funds are swept out of the FRB account overnight. These operations of DTC on behalf of NSCC may create operational risk in either direction and there is external exposure to the FRB and commercial banks to which funds are swept. The DTC settlement system, although conducted in central bank money, also depends on commercial banks as Settling Banks, as further described in Principle 9 (Money settlement). As noted there, DTC has established credit standards for entities providing settling bank services, and for investment and custody services as described in Principle 16 (Custody and investment risks). While Settling Banks are selected by, and act on behalf of, participants, entities providing such services are held to strict operational standards, and are subject to fines and other disciplinary measures should they fail to abide by such requirements. DTC also interfaces with its affiliate, Omgeo, and depends on Omgeo’s services. As Omgeo is a DTCC company, Omgeo is subject to the DTCC Operational Risk Management Framework discussed throughout herein.
As regards risks that DTC might pose to other FMIs, including Participants and linked FMIs, DTC has communication and escalation processes in the event of system issues, to facilitate resolution. As appropriate, DTC also provides an opportunity for relevant FMIs to participate in default management and/or disaster recovery tests.

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, 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 endeavour 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.

DTC’s Access and Participation Requirements

DTC has established participation criteria and requirements relating to financial responsibility, operational capability, and character. These objective and risk-based requirements are designed to limit the risks a participant may present to DTC or to its membership, while facilitating fair and open access by market participants. Eligibility requirements are set forth in DTC’s Rules, which are publicly available on DTCC’s website at www.dtcc.com.

In general, DTC participation requirements are set forth in Rule 2 (Participants and Pledgees) and Rule 3 (Participants Qualifications). DTC has two categories of participation – “Participants” and “Limited Participants” – the classification of which depends on whether the applicant seeks to utilize DTC’s settlement services or not. Applicants seeking membership to DTC’s full range of services (i.e., applicants to become Participants) are subject to more comprehensive rules than are applicants seeking to utilize limited DTC services only.

Under DTC Rule 2, DTC also offers the option to become a Pledgee. A Pledgee is a bank, trust company or other financial institution that DTC approves to be a Pledgee, including a Participant which is approved for this service. A Pledgee that is not otherwise a Participant must enter into an agreement with DTC, satisfactory to DTC, to use the service for the purpose of the book entry pledge of securities held at DTC on behalf of Participants and to facilitate loans to Participants, whether through DTC net settlement or funded outside of DTC.

Generally, the same rules and procedures apply within each DTC participation category, regardless of the identity, type, or location of the applicant. However, some Participant accounts may be subject to additional requirements or restrictions. For example, certain foreign CSDs maintain only free of payment accounts at DTC because of time zone differences. These accounts are systemically restricted by DTC from receiving deliveries of securities versus payment or payment orders, but are not restricted from receiving or delivering securities free of payment. This restriction limits not only DTC’s risks, but also those of the Participant subject to the restriction by preventing misdirected valued transactions. Additional requirements applicable to non-U.S. entities are set forth in DTC Rule 32 (Policy Statements on the Admission of Participants) designed, as may be necessary, to address legal risk and differences in
accounting standards for foreign applicants. Ultimately, an applicant for participation must conform to any condition and requirement that DTC reasonably deems necessary for its and the membership’s protection.69

DTC reviews its risk-based participation criteria periodically. Any material changes to these criteria would be subject to the Proposed Rule Change Process70, which is subject to public comment.

**Participant Application Requirements**

All applicants seeking to become Participants must provide DTC with certain information, depending on the nature and level of service sought by the applicant; this information is reviewed to confirm eligibility. All participants must provide information that is reviewed by ERM to determine whether the applicant has: (1) sufficient financial ability to make the preferred stock investment in DTC, to make anticipated required deposits to the Participants Fund and to meet its obligations to DTC; (2) personnel with sufficient operational background and experience to establish that the firm has the ability to conduct its business with DTC; and (3) appropriate settling bank arrangements.

i. **Type of Legal Entity.** In accordance with Rule 3 of DTC’s Rules, DTC makes its services available generally to regulated eligible institutions, which include (a) corporations that engage in clearance and settlement activities, (b) banks and trust companies subject to U.S. Federal or State supervision or regulation, (c) insurance companies subject to State supervision or regulation, (d) investment companies registered under Section 8 of the Investment Company Act of 1940, as amended, (e) pension funds or other employee benefit funds, (f) broker-dealers registered under the Exchange Act, or, other financial institutions that demonstrate to the Board of Directors that their business and capabilities are such that they could reasonably expect material benefit from direct access to DTC’s services.

ii. **Financial Responsibility.** DTC sets financial requirements for establishing and continuing participation that are based on the type of legal entity and the types of services that the entity will use at DTC. Currently, among other requirements, brokers that have access to all DTC services must have a minimum of $500,000 in excess net capital, and banks must have more than $2 million in equity.

In addition, DTC's Rule 4 (Participants Fund and Participants Investment) provides that all Participants are required to make a deposit to the Participants Fund, with the amount of each Participant's required deposit being fixed by DTC in accordance with its Rules, based on historic activity of the Participant and relative to the aggregate requirements of DTC in sizing the Participants Fund as a liquidity resource.71 As noted above, DTC also offers services to “Limited Participants”

69 Rule 2 also sets out participation disqualification criteria, such as certain criminal or fraud convictions, regulatory suspensions or other “statutory disqualifications” that may impact an applicant’s suitability for participation in DTC.

70 Described in detail under Principle 1 (Legal basis).

71 Participants are also required under Rule 4 to invest in DTC Series A Preferred Stock, which is purchased ratably based on the same factors as those that determine their required deposits in cash to the Participants Fund. The Preferred Stock is an additional resource available to DTC pursuant to Rule 4, in case the Participant defaults.
that do not participate in money settlement and are subject different requirements, as determined by DTC in relationship to the business model, activities and proposed use of DTC services by the entity.

iii. **Operational Capability.** DTC will assess operational capability of each Participant, both in connection with the application process as well as during periodic reviews. DTC’s Operations group, in conjunction with the DTCC Relationship Management group, verifies that the applicant is able to satisfactorily communicate with DTC and fulfill anticipated commitments to, and meet the operational requirements of, DTC with necessary promptness and accuracy, and that the applicant is able to establish appropriate arrangements to effect payment obligations to DTC. Prior to activating membership, DTC applicants are required to conduct connectivity testing with DTC to confirm that they are able to transmit files to, and receive files from, DTC.

All applicants, whether to be a Participant, Limited Participant or Pledgee, must submit required membership application documents depending on the DTC services the applicant seeks to utilize. These application documents include the applicable form of agreement with DTC providing, among other matters, that the applicant will abide by the DTC Rules and agreeing to New York governing law. There is a standard form Participant’s Agreement for full service Participants and a standard form Pledgee’s Agreement for Pledgees; for Limited Participants, the form of agreement will depend on the services to be utilized. Once approved by DTC, the applicant must, if applicable, make its required deposit to the Participants Fund and purchase the required amount of DTC Series A Preferred Stock (as provided in DTC Rule 4 (Participants Fund and Participants Investment)).

DTC is required, under Rule 2, to apply its requirements on a nondiscriminatory basis, and any applicant that is aggrieved by DTC in applying such qualifications is entitled to a right of appeal under DTC Rule 22.

**Ongoing Compliance with Membership Requirements**

DTC monitors its Participants for their ongoing compliance with access criteria through review and analysis of financial and operational information and through regular market, news, and regulatory monitoring. Participants are required to submit annual audited financial statements, and ERM receives monthly or quarterly regulatory reports (i.e., FOCUS or CALL Reports, subject to the applicable regulatory regime), depending on the reporting frequency of the Participant’s reporting. Pursuant to its Rules, DTC may fine Participants that fail to timely provide required information and those fines are reported to the SEC, as required by Rule 19h-1 under the Exchange Act.

In addition, as applicable, information obtained from other self-regulatory organizations and information gathered from various financial publications is analyzed to confirm that the Participant continues to be financially stable. DTC also monitors settlement obligations, capital adequacy, and transaction activity of each Participant on a daily basis to verify that the Participant continues to be capable of meeting its obligations to DTC.

As part of the ongoing monitoring of Participant firms, an internal credit risk rating matrix is utilized to risk rate bank and broker/dealer Participants. This matrix is produced systemically from data contained in the Participants’ regulatory reports. As noted above, Participants are required to provide DTC with regulatory reports and other required financial information on a timely basis pursuant to DTC’s Rules, and are informed by Important Notice as to the due dates for providing this information. 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 Participant’s internal 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 adjustment 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 Participant and may impact the Participant’s Participants Fund requirement.

Participants with an internal credit rating of 5 through 7 are placed on DTC’s Watch List. Participants on this Watch List may be monitored more closely, are subject to enhanced surveillance and have lower net debit caps.

**Retirement, Suspension and Orderly Exit of Participants**

DTC’s Rules contain provisions that facilitate the suspension and orderly exit of Participants that no longer meet the participation requirements:

A Participant may voluntarily retire by notifying DTC in writing. Notwithstanding any such notification, a Participant remains obligated to satisfy any open obligations and liabilities arising out of its membership existing at the time of such notification. DTC will issue an Important Notice to its membership when a Participant voluntarily retires from membership.

DTC Rule 32 (Wind-Down of a Participant) allows DTC to facilitate the orderly wind-down of a Participant’s business when DTC is notified by such Participant that such Participant intends to wind-down its business. Under this Rule, DTC may impose conditions on, or take actions with respect to the “Wind-Down Participant” in order to mitigate risk, including (but not limited to) requiring the Wind-Down Participant to post increased Participants Fund deposits. DTC will retain all of its other rights set forth in DTC’s rules and participant agreements, including the right to cease to act for the Wind-Down Participant. The Rule provides that if DTC declares a Participant to be a Wind-Down Participant, DTC will notify the Participant, all other Participants (via Important Notice) and the SEC of such determination.

DTC Rule 10 (Discretionary Termination) provides DTC with the right to cease to act for a Participant with respect to a particular transaction, program, or transactions generally if, based on DTC’s judgment, adequate cause exists to do so. The Risk Committee of the DTCC Board of Directors has been delegated by the Board with authority to determine whether to exercise this right. For example, DTC may cease to act for a Participant generally if the Participant becomes subject to a formal insolvency proceeding, the Participant fails to perform its obligations to DTC, the Board has reasonable grounds to believe that the Participant has been responsible for fraudulent or dishonest conduct, or the Board has reasonable grounds to believe that the Participant is in or is approaching significant financial difficulty.

DTC Rule 11 (Mandatory Termination) provides that DTC shall cease to act for a Participant upon determining to its reasonable satisfaction that the Participant no longer meets the membership qualifications set forth in DTC’s rules. DTC will notify both DTC’s regulators and all other Participants that it has ceased to act for such Participant. If DTC makes the determination to cease to act for a Participant, DTC may not at any time refuse to deliver such Participant’s Deposited Securities to such Participant; or in the case of a bankruptcy, to the court-appointed Trustee or Receiver, for such Participant.

DTC Rule 12 (Insolvency) provides that DTC shall cease to act for a Participant upon determining to its reasonable satisfaction that the Participant has become insolvent, as defined in Rule 12, except as determined by DTC in any particular case. DTC will notify the insolvent Participant, all other Participants and Pledgees that it has ceased to act for such Participant, stating, at least in general terms, how pending matters will be affected and what steps are to be taken in this connection. As a general rule, unless waived or varied by the Board, DTC will no longer accept instructions from other Participants to
deliver securities to the insolvent Participant and will not accept instructions from the insolvent Participant to deliver or pledge securities to other Participants or Pledgees.
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.

Tiered Participation Arrangements at DTC

DTC, the U.S. central securities depository, exemplifies the indirect holding system for securities and other financial assets in the U.S., as further described above in Principle 11 (Central securities depositories). It maintains accounts for its direct Participants, generally banks and broker dealers, as well as linked CSDs. Those Participants that are themselves securities intermediaries may reflect securities as credited to the accounts of their customers and/or otherwise process securities transactions through DTC on behalf of their customers. Also, DTC Participants may allow financial institutions to process transactions through the Participant's account. In this context, indirect participants are the customers and correspondents of DTC Participants.

Under DTC Rules, Participants are, in all cases, responsible as principal for transactions, activity and holding of securities in their accounts. DTC Participants do not maintain separate customer and proprietary accounts at DTC, so that customer activity is not generally self-evident. DTC does afford its Participants the option to segregate assets, which may be customer assets if so designated on the Participant’s books and records, in order to hold them free and clear of any DTC lien, claim or security interest.

Identification and Monitoring of Indirect Participant Risk

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

During the Participant on-boarding process, DTC requests and reviews, pursuant to its authority under the DTC Rules, and in accordance with its internal processes and procedures established for this purpose,
information from applicants regarding the types of businesses they conduct, including the anticipated activity to be introduced to DTC by such applicants on behalf of indirect participants. Once DTC has accepted a Participant, under DTC Rules, as part of ongoing Participant due diligence, DTC collects information from its Participants on a periodic basis. This information is analyzed to understand the overall business, condition, risk management practices and financial standing of Participants, including information related to the indirect participants that rely on them.

In particular, DTC requires that Participants submit information regarding the amount of revenue and settlement activity that significant indirect participants represent to the Participants, the criteria and procedures used by the Participants for on-boarding indirect participants, as well as the risk management policies and procedures employed by the Participants 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**

DTC employs Rules-based tools including, but not limited to, those described below to manage the risks that both direct and indirect participants may pose to DTC.

*Credit Risk Rating.* DTC’s review of the information received on indirect participants through its Participant on-boarding and periodic Participant due diligence processes described above may factor into the qualitative factors that affect DTC’s credit risk rating of the Participant.

*Adequate Assurances.* DTC also has the authority under its Rules to seek adequate assurances from a Participant, if DTC determines that such adequate assurances are warranted. One basis for such a demand might be based on DTC review of such Participant’s indirect participant relationships.

**Risk Management Controls (Net Debit Cap, Collateral Monitor, LPNC)**

As described in response to Principle 4 (Credit risk), Principle 5 (Collateral) and Principle 7 (Liquidity risk), transactions processed through DTC for Participants are subject to risk management controls. Risk management controls apply to Participant accounts and activities whether the transaction is proprietary to the Participant or on behalf of its customers.
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.

DTC Maintains, Monitors and Manages Links with other FMIs

DTC maintains links with certain other CSDs and FMIs which are described below. In each case, before entering into these relationships, DTC has made sure to identify, monitor, and manage all potential sources of risk arising from the link arrangement and, if such concerns are not satisfied, no link is established.

DTC’s link arrangements are subject to DTC Rules that are designed to comply with and observe these Principles and, in evaluating a counterparty to establish a link, DTC applies these Principles as a standard of observance, including a well founded legal basis. Link relationships of DTC are subject to public rule filing and notices applicable to DTC Rules generally and, for cross border links, the counterparty link must be established in a jurisdiction whose primary securities regulator has agreed with the SEC to any applicable Memorandum of Understanding between the two countries.
**DTC Links to other CSDs**

Linked CSDs are accepted to DTC as Participants, subject to the Rules of DTC like all other Participants. In certain cases (such as the Canadian Securities Depository, with which there is linkage in both directions), special Rules may also apply, which would be filed with the SEC and published for approval under the same approach described for all Rules in Principle 1 (Legal basis). With respect to links in which the investor CSD holds securities on the books of DTC as the issuer CSD, the investor CSD will be required to follow the application process to become a Participant. If it is a foreign financial institution (which all CSD links at DTC are to date), its application will be subject to enhanced scrutiny, including evaluation of its applicable regulatory regime and applicable laws as to which any conflict of law must be resolved in favor of the enforceability of the DTC Rules against the linked CSD under New York law and the law of its jurisdiction.

Once the application of the CSD for participation at DTC is received, it is evaluated for the types of activities to be conducted, whether any book entry transfers will be free of payment only, or also versus payment, what Participants Fund deposit may be required, its net debit cap (if valued transactions are permitted), etc. Currently, only four linked CSDs have the ability to conduct valued transactions. Some of these links support US securities owned by participants of the other CSDs, while others support non-U.S. securities traded in the U.S. In several cases, including with CSDs in Canada and Germany, bilateral links support eligible U.S. and non-U.S. issues.

- **CSD Links in which DTC is the Investor CSD.** DTC currently has three “outbound” links involving a DTC account at a non-U.S. CSD (each an “Issuer CSD” within the terminology of these Principles) in order to enable DTC Participants to access the services or assets of the Issuer CSD through DTC’s relationship with the Issuer CSD: (1) Clearstream Bank AG ("Clearstream") in Germany, (2) SIS SegaInterSettle AG (“SIS”) in Switzerland and (3) CDS in Canada. The CDS “northbound” link includes Canadian dollar settlement, as further provided in DTC Rules. The other two links are free of payment only. The existing links have been established pursuant to relevant rule filings with the SEC, subject to a public comment period.

Where DTC has a link to an Issuer CSD, DTC operates the link via an omnibus account. DTC maintains accounts for its own Participants on DTC’s records and in accordance with their rights and obligations under the DTC Rules. A key legal difference in the holding of these securities is that Cede, the DTC nominee, is not the registered holder on the books of the issuer; rather, the linked CSD is itself the registrar and/or the direct holder *vis a vis* the issuer, the securities may be denominated in currencies other than U.S. dollars and the Issuer CSD is initially responsible for asset servicing.

- **CSD Links in which DTC is the Issuer CSD.** All “in-bound” links involving a non-U.S. CSD (each an “Investor CSD” in the terminology of these Principles) having an account at DTC are considered DTC Participants and the Investor CSDs undergo the same Participant application and approval process as all other Participants, with certain expanded requirements to ensure the enforceability of DTC Rules (e.g., requiring a Memorandum of Understanding between the CSD’s regulator and the SEC; more extensive credit review and quarterly financial reporting, legal opinions, confirmation of anti-money laundering policies and procedures, appointment of agent for service of process and U.S. tax withholding arrangements) and to accommodate special operating differences between DTC and the Investor CSD. This framework is supported by the framework described under Principle 1 (Legal basis) with respect to the legal basis of the DTC Rules, including its membership application process and requirements.

106
Investor CSDs that have DTC participant accounts with DVP settlement services are: (1) CDS, Canada; (2) CAVALI, Peru; (3) Merval, Argentina; and (4) Depósito Central de Valores, Chile.

Other Investor CSDs that have DTC accounts for free of payment transaction only, with no cash services other than corporate actions and billing are: (1) Clearstream, Germany; (2) CREST International Nominees Ltd., UK and Ireland; (3) Caja de Valores, S.A., Argentina; (4) Tel Aviv Stock Exchange Clearing House (TASECH), Israel; (5) Monte Titoli, S.p.A., Italy; (6) Japan Securities Depository Center, Inc.; (7) Central Depository (Pte.) Ltd., Singapore; and (8) Hong Kong Securities Clearing Company Limited.

DTC uses the same risk controls as it employs with respect to the rest of its membership to measure, monitor and manage the credit and liquidity risks arising from its links to Investor CSDs. As is the case with respect to any Participant, the net debits of Investor CSDs with DVP links must be fully collateralized. Investor CSDs are also required to make Participants Fund Deposits and are subject to risk and loss mutualization.

For links with Investor CSDs that may only process free of payment deliveries, there is no settlement risk and deliveries/receives may be final intraday as described in response to Principle 8 (Settlement finality).

The CDS Link

DTC has established with CDS a “northbound” Canadian-Link Service (“CDS Link Service”) with CDS that supports valued transactions settled in Canadian dollars. This Canadian-Link Service enables DTC Participants to clear and settle two categories of securities transactions – cross-border Canadian dollar securities transactions with participants of CDS (“CDS Participants”) and intra-DTC Canadian dollar securities transactions with other DTC Participants. The Canadian-Link Service also enables DTC Participants to transfer Canadian dollar funds to CDS Participants (through the facilities of CDS) and to other DTC Participants (through Canadian settlement banks acting for DTC and such DTC Participants). As with U.S. dollar transactions, security positions received versus Canadian dollars are immediately available for redelivery in DTC as long as sufficient collateral and debit cap controls exist.72

As a result, and taking the “inbound” CDS link into account, the DTC’s Canadian Link provides Participants with a single depository interface for U.S. and Canadian dollar transactions and reduces cross-border processing costs and inefficiencies. The link also eliminates the problems associated with maintaining split inventories by permitting Participants to concentrate U.S. and Canadian security positions in their DTC accounts. This eliminates the need for Participants to maintain some portion of a position in a dually-listed issue in CDS for Canadian dollar settlements and the remainder in DTC for

72 As mentioned in response to Principle 9 (Money settlement), DTC Participants settle their Canadian dollar obligations with DTC’s Canadian dollar concentration bank (Royal Bank of Canada). At the end of each business day, DTC performs a single net Canadian dollar settlement with CDS. DTC utilizes the services of Royal Bank of Canada for Canadian dollar settlement as DTC does not have direct access to The Bank of Canada. Canadian Dollar Settlement accounts for less than 0.20% of DTC’s average daily valued settlement volume. Royal Bank of Canada is a DTC Settling Bank (on behalf of its participants using the southbound link with CDS) and is therefore subject to requirements and monitoring applicable to all Settling Banks.
U.S. dollar settlements. It also eliminates the need for Participants to reposition inventory in preparation for corporate action events and or transaction processing.

Several CSDs also have Pledgee accounts with DTC in order to receive U.S. securities collateral in pledge. Each of these accounts is covered by a separate Pledgee Agreement of the relevant CSD, and is subject to DTC Rules applicable to Pledgee arrangements.

The level of CSD activity at DTC is insignificant in comparison to total DTC activity.

**DTC Links to Affiliates and other FMIs**

**NSCC**

DTC has critical links to its affiliate, NSCC. NSCC’s CNS system relies on an interface with DTC for the book-entry movement of securities to settle obligations. DTC also acts as NSCC’s settlement agent, for purposes of effecting end-of-day net funds settlement. To support the interface of DTC and NSCC, and protect against Participant default, DTC and NSCC also maintain the Second Amended and Restated Netting Contract and Limited Cross Guaranty Agreement, as described below.

As provided for in the rules of NSCC and in the DTC Rules, CNS settlements are effected through transmission of instructions to DTC, on behalf of the DTC Participant/NSCC Member. CNS short positions (i.e., obligations to deliver) are compared against Members’ DTC accounts to determine securities availability. If securities are available, they are transferred from the NSCC Member’s account at DTC to NSCC’s account at DTC, to cover the NSCC Member’s short obligations to CNS. CNS long positions are transferred from the NSCC account at DTC to the accounts of NSCC Members at DTC, in accordance with the applicable algorithm built into the system. CNS deliveries made through DTC are made free of payment on a gross basis intraday on settlement date, with funds settlement occurring on a net basis (on the books of NSCC) at the end of the settlement day.

NSCC end-of-day money settlement is centralized with DTC, to obtain the benefit of funds netting and thus reduce funds transfers for Common Members. As part of this process, the net settlement debits or credits of Common Members are netted to produce a single net amount for each Common Member; those amounts are then further netted at the Settling Bank level to produce a single net-net debit or credit amount for each Settling Bank. Settlement is effected, with DTC acting as NSCC’s settlement agent, in central bank funds through NSS (as further described in response to Principle 9 (Money settlements)). These arrangements are also reflected in the DTC Rules and in the Rules and Procedures of NSCC, as well as in the DTC/NSCC Netting Contract and Limited Cross-Guaranty (which is structured as a netting contract under FDICIA).

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73 For further detail as to NSCC, please refer to the NSCC Disclosure Framework on the DTCC website - www.dtcc.com.

74 These provisions are contained chiefly in the DTC Settlement Service Guide and DTC Rule 6 (Services), and NSCC Rule 11 (CNS System) and NSCC Procedure VII (CNS Accounting Operation).

75 See the DTC Settlement Service Guide, and NSCC Procedure VIII (Money Settlement Service).
The DTC/NSCC Netting Contract and Limited Cross-Guaranty includes special cross-guarantees and related arrangements designed to permit transactions to flow smoothly between the DTC system and the CNS system in a collateralized environment. These guarantees ensure, among other things, that debits to DTC settlement accounts of Participants continue to be collateralized sufficiently, under the collateral monitor, when securities are delivered into the CNS system as short covers, and reduce risk at NSCC by ensuring that long allocations, or the approximate value of long allocations, will be made available to NSCC in a default situation.76

The operational risks of the DTC/NSCC Netting Contract and Cross-Guaranty Agreement are monitored on an ongoing basis through DTCC Operations and Settlement areas, and are subject to DTCC’s Operational Risk Management framework. Processes and procedures to implement this agreement are monitored and managed through DTCC’s automated Collateral Monitor risk management control and Failure-to-Settle system, which are reviewed and tested on a regular basis.

**Omgeo**

DTC also has a key Interface with its affiliate, Omgeo LLC. For institutional trades, DTC accepts electronic transmission of affirmed/matched trades from any service provider that has SEC approval to provide such services in the U.S. market. Currently, Omgeo, a wholly owned subsidiary of DTCC, is the only such approved provider.

While not an FMI, Omgeo provides global trade confirmation and trade matching systems that provide a significant source of institutional transactional activity to the DTC system. In this regard, institutional investor trades that are DTC eligible and affirmed in Omgeo’s trade confirmation and trade matching systems are passed to DTC’s settlement system electronically for automated settlement on a trade-for-trade basis. DTC Participants that are obligated to deliver securities give electronic authorization to DTC to process the deliveries from their Account and, if they have a sufficient quantity of such securities and satisfy risk management controls the deliveries are processed.

**DTCC-Euroclear Global Collateral Ltd. (DEGCL)**

In September 2014, DTCC, the corporate parent of DTC, entered into a joint venture with Euroclear to create a global collateral processing utility. This will become an important link for DTC as the service is developed over the next two years or so.

DEGCL, organized under the laws of the UK, will offer two utilities: the Margin Transit Utility (MTU) and the Collateral Management Utility (CMU). The MTU will provide straight-through processing of margin obligations settlement; the CMU will address the global challenge of sub-optimal collateral allocation and mobility. The joint venture will facilitate access by other CSDs, CCPs, Custodians and settlement agents.

Both utilities will generate collateral transactions to be settled at DTC by the delivery or pledge of DTC-eligible securities among DTC Participants. As part of this structure, subject to regulatory approval, DTC will establish a link with Euroclear, which will become a Participant at DTC. Once sufficiently

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76 See discussion of default management process in response to Principle 13 (Participant-default rules and procedures).
developed and specified, service features at DTC will be reflected in appropriate Advance Notices and/or Rule Filings.

**OCC and Federal Reserve Bank Pledge Services**

The Options Clearing Corporation (“OCC”) and Federal Reserve Banks have special pledge arrangements with DTC that are subject to provisions in the Rules (see the Settlement Service Guide).

OCC is a Participant and a Pledgee. The OCC’s Participant account was opened for its Market Loan Program in which the OCC acts as central counterparty for stock loan transactions. In this capacity, the OCC submits stock loan deliver orders to DTC on a locked-in basis on behalf of the parties to the transactions.

The OCC’s Pledgee account was opened to allow OCC’s members (generally also DTC Participants) to meet their margin obligations with the OCC by pledging securities to the OCC’s Pledgee account in DTC. That is, a Participant writing an option on any options exchange may fully collateralize that option by pledging the underlying securities by book-entry through DTC to the OCC. If the option is called (exercised), the securities may be released and delivered to the holder of the call. If the option contract is not exercised, OCC validates a release of the pledged securities, which are then returned to the participant's general free account.

DTC maintains an automated interface with 12 Federal Reserve Banks, allowing DTC Participants that are depository institutions to pledge collateral securities from their DTC accounts to Pledgee Accounts of these Federal Reserve Banks. The automated interface allows deposits and withdrawals processed through DTC’s Collateral Loan system to flow directly into the FRS collateral system.
Principle 21: Efficiency and effectiveness

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

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

DTC is efficient and effective in meeting the requirements of its Participants and the markets it serves, providing central securities depository and 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, DTC strives for maximum efficiency in its operations and technology, and responsiveness to the needs of its Participants in the scope of services provided.

Scope of services responsive to market needs

DTC provides basic central security depository and securities settlement services that are part of its fundamental directive as a registered clearing agency under the Exchange Act. In providing these services, DTC seeks to enhance and expand the scope of services to support an evolving market, often in response to initiatives requested by its Participants and other industry parties. One example of this approach is the MMI program (described above), which was initiated to solve industry problems, and has grown and changed along with the market.

Current initiatives responsive to industry requirements may also be found in the MMI sector. As set forth in a DTC White Paper dated December 2013, “Increasing Certainty and Promoting Intraday Settlement Finality: A Service Description for Money Market Instruments,” DTC plans to further optimize MMI processing and improve settlement finality by eliminating late day reversals of MMI issuance and presentment transactions due to issuing and paying agent refusal to pay. This is just one example of DTC’s continuing commitment to the evolving needs of the markets it serves.

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

- DTC 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.
DTC 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.

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

DTC Participants 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. DTC also establishes Ad Hoc Working Groups, as necessary, in order to assist with more discrete programs, products or processes.

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

**Low cost pricing for accessibility of services**

DTC’s efficiency is ultimately reflected through its pricing. DTC 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, DTC also strives to drive down risk. (For a description of DTC’s risk management processes, see Principle 3 (Framework for the comprehensive management of risks).)

DTC has in place procedures to control costs and to regularly review pricing levels against costs of operation. DTC 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 Directors of the price impact. The budget is reviewed by several Board committees and approved annually by the Board of Directors, as is any change in service fees. DTC’s fees are cost-based plus a markup as approved by its 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 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**

DTC is a wholly owned subsidiary of DTCC which, as described in response to 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 DTC’s services. As further described in Principle 2, in addition to management representatives, the Board also includes independent 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 & Technology Committee, Finance/Capital Committee, Audit Committee and Risk Committee, are structured so that DTC’s operations, delivery
systems and technologies, services and products meet the needs of DTC’s Participants and the markets that DTC serves.

**Goals and Objectives**

DTC sets corporate goals annually by senior management, which are approved by the Board of Directors. The overarching 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 of Directors, 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 & 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 DTC, FICC 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 DTC’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 to the Board of Directors.

- DTCC also measures the effectiveness of DTC’s technology process through industry standard methodologies such as the Capability Maturity Model Integration and Information Technology Infrastructure Library.

- 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.

DTC 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

DTC, as a mature FMI, has developed and uses proprietary communication standards and data formats, which, by virtue of their wide acceptance and long-standing usage by its Participants, are an accepted industry standard for domestic transactions processed through DTC. DTC also uses and accommodates internationally accepted communication standards and messaging formats that are widely used by international financial markets.

DTC supports industry standard communications interfaces, for example, through the Internet, through a direct interface (direct end-to-end line) via DTCC’s SMART network, and through SWIFT, which is a secure messaging service provided by the Society for Worldwide Interbank Financial Telecommunications. These communications interfaces are available for all entities that interface with DTC systems, including any linked FMIs. Additionally, Participants are eligible to use any one or a combination of the communications interfaces supported by DTC. Participants identify their communications interface(s) during the on-boarding process, and may modify these elections at any time subsequently, as needed.

DTC systems use internationally accepted file transfer and message queuing standards as well as online interfaces for communications. DTC uses multiple communication formats in its systems, including proprietary messages, and ISO 15022 and 20022 messaging formats for interacting with its Participants and other connected parties. DTC uses ISINS in a number of applications to identify securities, particularly in global applications and newer U.S.-based applications; older applications use CUSIPS (and tickers, etc.).

When necessary, DTC is able to translate a message to its proprietary format and reply back in multiple formats. Conversion is performed by an internal utility within DTC that supports the various message formats.
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.

DTC Rules Are Public

DTC provides its Participants with comprehensive rules and procedures, including a schedule of its fees. These are readily available on DTCC’s website, to Participants, DTC’s supervisors and the public. Through other publications (including this Disclosure Framework) and Participant outreach, DTC also provides sufficient information to enable Participants to understand the risks, fees, and other material costs they incur by participating at DTC.

Rules and Procedures

DTC Rules, including its “Operational Arrangements Necessary for Securities to Become and Remain Eligible for DTC Services,” Service Guides, and related policies and procedures are filed with the SEC for 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). Participants 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 Participants and other interested parties the prior opportunity to comment on proposals, to
understand what such proposals provide and how stakeholders may be affected. Rules filed for immediate effectiveness are typically administrative and not controversial. Fee filings may be made immediately effective, but are objective and transparent to Participants, which may then elect whether and to what extent to utilize services for which there may be changes in fees. DTC 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 Rules may be instigated from a number of sources, including internal review and lessons learned from actual events or simulations, process or product enhancements, Participant feedback, and evolving regulatory requirements.

In addition to its Rules, DTC 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.

**Design and Operations**

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

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

**Participant Rights, Obligations and Risks**

Participant rights, obligations and risks are reflected in the Rules, including but not limited to: (i) participation requirements, (ii) DTC’s ability to cease to act, either temporarily or definitively, in providing services to a Participant, (iii) Participants being subject to requests for additional assurances of financial and operational capabilities, (iv) the obligation of Participants to make deposits to the Participants Fund and purchase DTC Preferred Stock, (v) Participant rights and obligations under the loss allocation process, (vi) Participant obligations in their use of the services, including with respect to certain indemnifications of DTC, (vii) Participant compliance with applicable law, (viii) settlement and payment obligations, (ix) settling bank requirements, and (x) disciplinary sanctions (including fines) and a Participant’s right to appeal a decision adverse to it.

DTC Rules contain information referring to non-routine, though foreseeable, events, including but not limited to: (i) events that could trigger a suspension of services to a Participant, (ii) application of the Participants Fund for liquidity to complete settlement when a Participant defaults on its settlement obligation, (iii) allocation of losses, (iv) adjustments to risk controls as necessary to protect DTC and its Participants, (v) required additional assurances with respect to a Participant’s operational and financial capacity, and (vi) the right of DTC to withhold the return of excess Participants Fund deposits. The Rules also provide for authority and reporting of waivers and/or suspension of the Rules, in the event of such a

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77 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 Participants and stakeholders.
contingency. These provisions recognize, and provide for, a degree of discretion to management, to enable DTC to address situations as facts and circumstances may require.

Training and other resources

DTC offers training to new Participants prior to membership activation, which facilitates new Participants’ understanding of DTC Rules, as well as the risks that such Participant may face from joining DTC. Additional training tools to help Participants learn how to more effectively use DTC’s products and services are made available on www.dtclearning.com. The DTC Participant Handbook is another educational resource that is provided to enhance Participants’ understanding of the DTC Rules, procedures and the risks associated with participation. DTC also provides formal training on an ad-hoc basis to existing Participants, upon request.

The initial and ongoing membership requirements serve to demonstrate that DTC’s Participants are able to: (i) satisfactorily communicate with DTC, (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 DTC. Participants must demonstrate operational readiness both during the membership on-boarding process before being provided with access to DTC’s systems, as well as on an ongoing basis as part of their continuing membership requirements. Each DTC Participant 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 Participants understand DTC’s rules, procedures, and the risks they face from participating in DTC.

If a Participant is observed to be lacking appropriate understanding of the DTC Rules, requirements or procedures, 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 DTC Rules, procedures and the risks of participation may include one-on-one coaching, webinars or other forms of additional training and/or telephone support. DTC also maintains the right to institute disciplinary proceedings, including fines, for a Participant’s violation of the DTC Rules.

Fees

DTC publicly discloses its fees for individual services and volume discounts, as well as descriptions of DTC’s priced services. This information is available on DTCC’s website, www.dtcc.com.

Generally, a forecast of fee changes is provided to Participants during the 3rd quarter of the year. The fee changes are then finalized, approved by the Board of Directors and filed with the SEC during the 4th quarter of the year with an effective date of the following January 1. DTC notifies Participants of all fee and service changes via Important Notices that are available on DTCC’s website. Mid-year fee changes are also filed with the SEC and Participants 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 DTC’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 DTC has completed the Disclosure Framework under the FMI Principles. DTC intends to update the Disclosure Framework every two years, at a minimum. Previously, DTC has posted
biennial self-assessments pursuant to CPSS-IOSCO’s Recommendations for Securities Settlement Systems, the predecessor regime on similar subjects.

DTCC discloses other quantitative information regarding DTC in the DTCC Annual Report, which is published annually, and in the DTC 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, DTC’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

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 Participants on www.dtcclearning.com or upon request. All such information is available in English.
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 analysed.

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

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
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</thead>
<tbody>
<tr>
<td>ADM</td>
<td>Application Development and Maintenance Group</td>
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<tr>
<td>Affiliated Family</td>
<td>A family of affiliated DTC Participants</td>
</tr>
<tr>
<td>AML</td>
<td>Anti-Money Laundering</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>
</tr>
<tr>
<td>BCM</td>
<td>Business Continuity Management</td>
</tr>
<tr>
<td>BRC or Board Risk Committee</td>
<td>Risk Committee of the Board of Directors</td>
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<tr>
<td>BSA</td>
<td>Bank Secrecy Act of 1970</td>
</tr>
<tr>
<td>CCP</td>
<td>Central Counterparty</td>
</tr>
<tr>
<td>CDS</td>
<td>CDS Clearing and Depository Services Inc., the Canadian CSD and provider of CCP services</td>
</tr>
<tr>
<td>Cede</td>
<td>Cede &amp; Co., the nominee of DTC</td>
</tr>
<tr>
<td>Clearing Agency</td>
<td>A self-regulatory organization that operates either as a clearing corporation or a CSD. Entities acting as clearing agencies in the U.S. are required to register with the SEC. (Source: SEC website, <a href="http://www.sec.gov">www.sec.gov</a>)</td>
</tr>
<tr>
<td>Clearing Agency Standards</td>
<td>Minimum requirements for registered Clearing Agencies pursuant to Exchange Act Rule 17Ad-22</td>
</tr>
<tr>
<td>CNS</td>
<td>NSCC’s Continuous Net Settlement System</td>
</tr>
<tr>
<td>Collateral Monitor or CM</td>
<td>Collateral Monitor, a DTC risk management control</td>
</tr>
<tr>
<td>CMU</td>
<td>Collateral Management Utility, a DEGCL service</td>
</tr>
<tr>
<td>CSD</td>
<td>Central Securities Depository</td>
</tr>
<tr>
<td>DEGCL</td>
<td>DTCC-Euroclear Global Collateral Ltd, a joint venture between DTCC and Euroclear to enhance collateral processing globally</td>
</tr>
<tr>
<td>DNS</td>
<td>Deferred net settlement</td>
</tr>
<tr>
<td>Dodd-Frank</td>
<td>The Dodd- Frank Wall Street Reform and Consumer Protection Act of 2010</td>
</tr>
<tr>
<td>Acronym</td>
<td>Description</td>
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<tr>
<td>DRS</td>
<td>Direct Registration Service</td>
</tr>
<tr>
<td>DTC</td>
<td>The Depository Trust Company</td>
</tr>
<tr>
<td>DTC Rules</td>
<td>The Rules &amp; Procedures of DTC</td>
</tr>
<tr>
<td>DTCC</td>
<td>The Depository Trust &amp; Clearing Corporation</td>
</tr>
<tr>
<td>DVP</td>
<td>Delivery Versus Payment</td>
</tr>
<tr>
<td>ERM</td>
<td>Enterprise Risk Management</td>
</tr>
<tr>
<td>FAST</td>
<td>Fast Automated Securities Transfer</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>FDICIA</td>
<td>The Federal Deposit Insurance Corporation Improvement Act of 1991</td>
</tr>
<tr>
<td>FICC</td>
<td>Fixed Income Clearing Corporation</td>
</tr>
<tr>
<td>FMI</td>
<td>Financial Market Infrastructure</td>
</tr>
<tr>
<td>FRB</td>
<td>The Board of Governors of the FRS</td>
</tr>
<tr>
<td>FRBNY</td>
<td>The Federal Reserve Bank of New York</td>
</tr>
<tr>
<td>FRS</td>
<td>The Federal Reserve System</td>
</tr>
<tr>
<td>IAD</td>
<td>Internal Audit Department</td>
</tr>
<tr>
<td>IPA</td>
<td>Issuing and Paying Agent for MMIs</td>
</tr>
<tr>
<td>ITIL</td>
<td>Information Technology Infrastructure Library</td>
</tr>
<tr>
<td>LPNC</td>
<td>Largest Provisional Net Credit, a DTC risk management control</td>
</tr>
<tr>
<td>MMI</td>
<td>Money Market Instrument</td>
</tr>
<tr>
<td>MRC</td>
<td>Management Risk Committee</td>
</tr>
<tr>
<td>MTU</td>
<td>Margin Transit Utility, a DEGCL service</td>
</tr>
<tr>
<td>Net Debit Cap</td>
<td>Net Debit Cap, a DTC risk management control</td>
</tr>
<tr>
<td>NIC</td>
<td>New Initiatives Committee</td>
</tr>
<tr>
<td>NSCC</td>
<td>National Securities Clearing Corporation</td>
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<tr>
<td>Abbreviation</td>
<td>Description</td>
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<tr>
<td>NSS</td>
<td>The National Settlement System of the FRS</td>
</tr>
<tr>
<td>OCC</td>
<td>The Options Clearing Corporation</td>
</tr>
<tr>
<td>OFAC</td>
<td>Office of Financial Assets Control</td>
</tr>
<tr>
<td>OLA</td>
<td>Orderly liquidation authority under Dodd Frank, Title II</td>
</tr>
<tr>
<td>ORM</td>
<td>Operational Risk Management Group</td>
</tr>
<tr>
<td>Participants Fund</td>
<td>Participants Fund provided under DTC Rule 4.</td>
</tr>
<tr>
<td>Pledgee</td>
<td>A DTC Participant or other financial institution for which DTC maintains a Pledgee Account under the DTC Rules</td>
</tr>
<tr>
<td>Pledgor</td>
<td>A DTC Participant that pledges securities to a Pledgee by DTC book-entry</td>
</tr>
<tr>
<td>Rules</td>
<td>The Rules &amp; Procedures of DTC</td>
</tr>
<tr>
<td>SEC</td>
<td>U.S. Securities and Exchange Commission</td>
</tr>
<tr>
<td>Securities Act</td>
<td>The Securities Act of 1933</td>
</tr>
<tr>
<td>SFTI</td>
<td>NYSE Secure Financial Transaction Infrastructure</td>
</tr>
<tr>
<td>Shareholders Agreement</td>
<td>The DTCC Shareholders Agreement</td>
</tr>
<tr>
<td>SIFMU</td>
<td>Systemically Important Financial Market Utility</td>
</tr>
<tr>
<td>SIPA</td>
<td>Securities Investor Protect Act of 1970, as amended</td>
</tr>
<tr>
<td>SIPC</td>
<td>Securities Investor Protection Corporation</td>
</tr>
<tr>
<td>SMART</td>
<td>DTCC’s Securely Managed and Reliable Technology network</td>
</tr>
<tr>
<td>SWIFT</td>
<td>A secure messaging service provided by the Society for Worldwide Interbank Financial Telecommunications</td>
</tr>
<tr>
<td>TRM</td>
<td>Technology Risk Management</td>
</tr>
<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 New York UCC or NYUCC</td>
</tr>
<tr>
<td>WAR</td>
<td>Work Area Recovery</td>
</tr>
</tbody>
</table>
VI. Additional Publicly Available Resources

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

<table>
<thead>
<tr>
<th>Publicly Available Resources</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. Statutes, Laws, Regulations and Reports</strong></td>
</tr>
<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>
</tr>
<tr>
<td>New York Business Corporation Law at <a href="http://public.leginfo.state.ny.us">http://public.leginfo.state.ny.us</a></td>
</tr>
<tr>
<td>New York Uniform Commercial Code Articles 4A, 8, and 9 at <a href="http://public.leginfo.state.ny.us">http://public.leginfo.state.ny.us</a></td>
</tr>
<tr>
<td>NY Banking Law 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>
</tr>
<tr>
<td><strong>2. DTC and DTCC Documents</strong></td>
</tr>
<tr>
<td>Board Code of Ethics</td>
</tr>
<tr>
<td>Board of Directors Committee Charters</td>
</tr>
<tr>
<td>Board of Directors Mission Statement and Charter</td>
</tr>
<tr>
<td>DTC Important Notice with Nominations Solicitations Letter and Procedures for the Annual Nomination</td>
</tr>
</tbody>
</table>
and Election of Directors

<table>
<thead>
<tr>
<th>DTC Participant Handbook (at dtcelearning.com)</th>
</tr>
</thead>
<tbody>
<tr>
<td>DTC Rules, Organization Certificate &amp; By-laws</td>
</tr>
<tr>
<td>DTC Service Guides (as follows):</td>
</tr>
<tr>
<td>• Canadian Link Service</td>
</tr>
<tr>
<td>• Custody</td>
</tr>
<tr>
<td>• Deposits</td>
</tr>
<tr>
<td>• Distributions</td>
</tr>
<tr>
<td>• Redemptions</td>
</tr>
<tr>
<td>• Reorganizations</td>
</tr>
<tr>
<td>• Settlement</td>
</tr>
<tr>
<td>• Underwriting</td>
</tr>
<tr>
<td>DTCC By-laws</td>
</tr>
<tr>
<td>DTCC Mission and Vision Statement</td>
</tr>
<tr>
<td>Identification of Board of Directors</td>
</tr>
<tr>
<td>Identification of Senior Management Team</td>
</tr>
<tr>
<td>Important Notices</td>
</tr>
<tr>
<td>Management Committee Structure</td>
</tr>
<tr>
<td>Nominations Policy</td>
</tr>
<tr>
<td>Operational Arrangements (Necessary for Securities to Become and Remain Eligible for DTC Services)</td>
</tr>
<tr>
<td>Principles of DTCC Governance</td>
</tr>
<tr>
<td>Procedures for the Annual Nomination and Election of the Board of Directors</td>
</tr>
<tr>
<td>Rule Filings, Advance Notices, and related Regulatory Approval Orders</td>
</tr>
<tr>
<td>White Papers and Industry Reports</td>
</tr>
</tbody>
</table>

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### 3. Financial Statements and Reports

<table>
<thead>
<tr>
<th>Description</th>
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<tbody>
<tr>
<td>DTCC Annual Reports, including Consolidated Audited Financial Statements</td>
</tr>
<tr>
<td>DTC Audited Financial Statements</td>
</tr>
<tr>
<td>DTC Interim (Unaudited) Financial Statements</td>
</tr>
</tbody>
</table>