

DTCC

SETTLEMENT

SERVICE GUIDE

As of June 10, 2026

Copyright

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About Settlement

Overview

This chapter describes DTC's Settlement products. Each section includes a description of the product and how it works, as well as corresponding functions a Participant can use to access the product.

Note: It is the sole responsibility of Participants to perform a daily reconciliation of their activity and positions with the information, reports and statements provided by DTC. Participants must immediately report to DTC any discrepancy between their activity and positions with the information, reports and statements provided by DTC or other issues relating to the accuracy of the information, reports and statements provided by DTC. Such reports must be made to DTC by (i) contacting the applicable DTC Business Line via the DTCC Client Center at <https://www.dtcc.com/client-center> and (ii) providing a written detailed description of the discrepancy to the DTC representative, or as otherwise directed by DTC in writing. DTC shall not be liable for any loss resulting or arising directly or indirectly from mistakes, errors, or omissions related to the information, reports or statements provided by DTC, other than those caused directly by gross negligence or willful misconduct on the part of DTC.

Note: DTC, as it deems appropriate, may extend any deadline, timeframe, or cutoff established by DTC, including, without limitation, to (i) address operational or other delays that could reasonably affect the ability of DTC, a Participant or other stakeholder from meeting the deadline, timeframe, or cutoff; or (ii) allow DTC time operationally to exercise its existing rights under the Rules and Procedures. In addition, times applicable to DTC are standards and not deadlines; actual processing times may vary, based upon the circumstances. Any action taken by DTC in connection with this paragraph shall not establish a precedent for any situation that may occur in the future (or otherwise bind DTC in any manner). DTC disclaims all liability for any losses and/or expenses incurred by a Participant, stakeholder or any third-party resulting from, relating to, or arising from (i) any action taken by DTC in connection with this paragraph, (ii) the determination of DTC to decline to take action pursuant to this paragraph, and/or (iii) the failure of a Participant, stakeholder or any third-party to meet any deadline, timeframe, cutoff or requirement established by a party other than DTC.

About DTC's Settlement Department

DTC's Settlement Department is responsible for overseeing the process of the settlement of Participant transactions. Specifically, the Settlement Department:

- Ensures the collection/disbursement of Participant net settlement obligations and credits through the Fedwire system
- Ensures that major components of DTC's Settlement Service are updating/processing in a timely manner
- Helps resolve problems affecting the settlement process
- Grants input extensions when processing problems arise
- Provides backup to the extent possible when Participant systems go down
- Answers questions regarding all aspects of settlement processing
- Processes deposits and withdrawals of Federal book-entry eligible securities.

Settlement Transactions

There are three main types of transactions processed through the Settlement system.

1. **Deliveries:** DTC's delivery program allows a Participant to settle securities transactions by making book-entry deliveries to another Participant's account. The securities are immobilized in DTC's custody, eliminating the need for physical movement of certificates. DTC reduces the seller's position and increases the buyer's position without the need to move physical certificates. Deliveries can be made with or without the condition of money payment, depending on the applicable Participant's delivery instructions.
2. **Payment Orders (POs):** The payment order service provides Participants with a convenient method for settling amounts of money related to securities transactions that are effected separately through DTC earlier on the same day or on a previous day. Participants can use payment orders to collect option contract premiums, mark-to-market open contracts such as stock loans, and Price Differentials (as defined in the NSCC Rules).
3. **Collateral loans:** The collateral loan service allows a Participant (the Pledgor) to Pledge securities as collateral for a loan or for other purposes and also request the release of Pledged securities. This service allows such Pledges and Pledge releases to be made free, meaning that the money component of the transaction is settled outside of the depository, or valued, meaning that the money component of the transaction is settled through DTC as a debit/credit to the Pledgor's and Pledgee's DTC money settlement account. When Pledging securities to a Pledgee, the Pledgor's position continues to be credited to the Pledgor's account, however with a system notation showing the status of the position as Pledged by the Pledgor to the Pledgee. This status systemically prevents the Pledged position from being used to complete other transactions. Likewise, the release of a Pledged position results in the removal of the notation of the Pledge status of the position and the position would become available to the Pledgor to complete other transactions.

Important Terms

The following terms are important to understanding the Settlement Service:

This term	Refers to
Affiliated Family	An Affiliated Family means each Participant that controls or is controlled by another Participant and each Participant that is under the common control of any Person. For purposes of this definition, "control" means the direct or indirect ownership of more than 50 percent of the voting securities or other voting interests of any Person.
Aggregate Affiliated Family Net Debit Cap	A limit to the settlement debit an Affiliated Family can incur at any point during the processing day.
chill	A systemic way DTC can prohibit a Participant from processing certain activities (for example, valued delivery chill will prevent the Participant from making valued deliveries from its account).
Collateral Monitor (CM)	DTC's calculation for measuring the sufficiency of the collateral in a Participant's account to cover its net settlement obligation.
collateral value	The market value of a security less the applicable DTC haircut.
Computer-to-Computer Facility (CCF/CCF II)	A batch transmission system for input/output based on various protocols between a Participant's mainframe and DTC's mainframe.
Continuous Net Settlement (CNS)	The system employed by NSCC to settle NYSE, AMEX, NASDAQ, and over-the-counter trades.
deliver order (DO)	The term used to define a book-entry movement of shares of a particular security between two DTC Participants.

This term	Refers to
drop	A transaction that does not complete because of insufficient position, Risk Management Controls, and so forth.
haircut	The percentage decrease of a security's market value in determining the collateral value of the security.
initial distribution	The delivery of shares of a new issue from the lead manager and syndicate members to their customers. Shares are considered initial distribution shares until they are sold on the secondary market.
long allocations	Deliveries from NSCC's Omnibus Account 888 to a Participant's DTC account as a result of Continuous Net Settlement processing.
market value	The prior day's closing price of a security for security valuation purposes.
memo segregation	An inventory control mechanism that allows a Participant to protect fully-paid-for securities in its general free account.
Message Queuing (MQ)	A system for messaging across multiple platforms. Developed as part of IBM's WebSphere family, it is also referred to as "WebSphere MQ" or "MQ Series."
Minimum Amount (MA)	DTC's classification for securities in a Participant's account that are not considered collateral.
Money Market Instrument (MMI)	Debt securities such as commercial paper or medium-term notes that are eligible for DTC's MMI Program.
Net Additions (NA)	DTC's classification for securities in a Participant's account that are considered collateral.
net debit cap	A limit to the settlement net debit a Participant can incur at any point during the processing day.
night deliver order (NDO)	A DO input on the day prior to settlement. A reduced rate is charged for NDO transactions.
NSCC Securities Financing Transaction (SFT) Service	A securities financing transaction clearing service offered by NSCC.
payment order (PO)	The payment order service provides Participants with a mechanism for settling amounts of money related to securities transactions that are effected separately through DTC. Participants use payment orders to collect option contract premiums (premium payment order), mark-to-market open contracts such as stock loans (securities payment order), and Price Differentials (SFT PD payment order).
Receiver Authorized Delivery (RAD)	A control mechanism that allows a Participant to review transactions prior to completion of processing. It limits the Participant's exposure from misdirected or erroneously entered DOs, POs, institutional delivery transactions, MMI transactions, reclaims, pledges and releases of pledged securities..
reclamation or reclaim	The return of a DO, PO, institutional delivery transaction or MMI transaction received by a Participant. All reclaims are considered original transactions for purposes of DTC processing and are subject to Risk Management Controls and RAD.
Risk Management Controls	The controls, primarily net debit cap and CM, that are used to provide protection to all DTC Participants against the inability of one or more Participants to settle net settlement obligations.
Settlement progress payments (SPP)	An intraday funds transfer sent via Fedwire to a Participant's DTC Participant account.
Settlement User Interface	Any system or combination of systems that allows for input/inquiry into the DTC Settlement System.
SFT Price Differential ("SFT PD") payment order	A payment order through which the amount of a Price Differential (as defined in the NSCC Rules) is (i) debited from the account of a Participant and credited to the NSCC SFT Account, or (ii) is debited from the NSCC SFT Account and credited to the account of a Participant.
short covers	Deliveries to NSCC's Omnibus Account 888 as a result of CNS.

This term	Refers to
syndicate	A group of broker-dealers that agree to purchase a new issue of securities from the issuer for resale to the investment public.
Unaffiliated Participant	A Participant that is not included in an Affiliated Family.
Unknown Rate	For variable rate MMI Securities, the interest rate that the IPA will pay for the income portion of a presentment.
unvalued additions	Unvalued additions to a Participant's security account that do not carry a related payment obligation with the receipt of securities. They include: <ul style="list-style-type: none"> • Deposits • Free release of pledged securities • Receipt of a free DO • Releases of segregated securities

Preparing to Use the Products

In order to use the products associated with this service, you must have access to one of the following:

- DTC's Settlement User Interface
- Computer-to-Computer Facility (CCF or CCF II) or Message Queuing (MQ).

Contact your Relationship Manager for more information.

Settlement Contact Numbers

For general questions about DTC's Settlement Service, contact DTC via the DTCC Client Center at <https://www.dtcc.com/client-center>. For questions specifically regarding input extensions, call the Settlement Hotline at (212) 855-5800.

Service Topics

Activation / Account Coding

DTC's Activation/Account Coding product describes the various account options available to your Participant account.

Requirements

To use DTC services, you must:

- Become a DTC Participant
- Make your mandatory deposit to DTC's Participants Fund
- Engage the services of a Settling Bank to settle daily on your behalf, and submit a formal Settling Bank agreement to DTC.

Account Options

When you open your account and any time thereafter, you can:

1. Instruct DTC to group multiple accounts into different collateral families and allocate specific percentages of your start-of-day collateral and net debit cap to each family. If we do not receive this instruction, all your accounts will be grouped into one collateral family. See Grouping Accounts Into Collateral Families for more information.
2. Instruct DTC to classify all of your start-of-day positions as collateral. At the opening of business each day, all security positions in the minimum amount (MA) account that are not memo-segregated will be moved into your net additions (NA) account, giving you collateral value credit for those securities. Absent your instructions, DTC will code the MA account for start-of-day positions.
3. Instruct DTC to classify all unvalued additions as non-collateral (such as deposits, free deliver orders (DOs), release of segregated securities). Absent your instructions, DTC will code the NA account.

Warning! You are advised to consider the implications of classifying your securities as collateral. Collateral can be used to support your net debit and therefore can be liquidated by DTC in the event you are unable to pay your settlement obligation.

4. Elect to have the ability to make late, valued transactions to your Settling Bank's Participant account, with the consent of the Settling Bank.
5. Elect to have the ability to withdraw SPP Return /P&I Withdrawal allocations intraday. See Principal and Income Withdrawals and Settlement Progress Payments for more information.
6. Elect to have the ability to chill (block) your account from transactions involving securities eligible for Federal book-entry.
7. Choose between two recycle options. See Recycle Processing for more information.
8. Choose from various memo-segregation options. See Memo Segregation.
9. Elect to have all free DOs entered after 5:00 p.m. eastern time subjected to RAD approval before they are processed by DTC.

Activation/Account Coding Contact Number

More information about Activation/Account Coding may be obtained via the DTCC Client Center at <https://www.dtcc.com/client-center>.

Settlement User Interface

About the Product

The Settlement User Interface is a user interface that features a Navigation Bar and Dashboard. The Navigation Bar allows Participants access to improved inquiry and update capabilities for their settlement transactions. The Dashboard consists of individual windows, each of which offers a view into different settlement related activity.

Transactional Information and Settlement Balance Information Files

A Participant may elect to receive files containing: (a) its DTC settlement transaction information on a daily basis (known as the “Transactional Information File”) and/or (b) its settlement balance information via a feed that would be provided on an intraday basis, with final settlement balance information provided at end-of-day (known as the “Settlement Balance Information File”). Applicable fees are set forth in the DTC Fee Schedule.

Collateral Loan Program

About the Product

The Collateral Loan Program allows you to Pledge securities held in your general free account as collateral for a loan or for other purposes (such as Letters of Credit) to a Pledgee participating in the program. You can also request the Pledgee to release Pledged securities. These Pledges and releases can be free (when money proceeds are handled outside DTC) or valued (when money proceeds are applied as debits and credits to the Pledgee's and Pledgor's money settlement accounts). A Pledgee may, but need not be, a Participant. Only a Pledgee which is a Participant may receive valued Pledges.

How the Product Works

The guidelines for using the Collateral Loan Program are as follows:

1. You can use the Collateral Loan Service function, the Computer-to-Computer Facility (CCF), or Message Queuing (MQ) to submit collateral loan pledges and release requests to DTC. Release returns are also available through CCF and MQ. However, release approval is available only through the Settlement User Interface.
2. You must ensure that the securities you are pledging are available in your general free account.
3. When a stock distribution requiring due bills is declared on securities pledged as collateral, the distribution automatically becomes additional collateral.
4. In the instance of a substantial cash distribution, for which an exchange or similar securities organization would require due bills to accompany stock certificates, for the amount of cash accruing on pledged shares, the Pledgee may direct DTC to pay such funds directly to it as partial repayment of the loan. Otherwise, such funds will be paid by DTC to the Participant.
5. At any time, the pledgee can direct DTC to deliver pledged securities (demand of collateral).
6. Voting rights are assigned to you for pledged securities.

Demand of Collateral

A demand of collateral takes securities that you pledged to a pledgee and places them in the general free account of a DTC Participant designated by the pledgee. Pledgees can enter demand of collateral instructions by using the Demand of Collateral function or by making special arrangements with DTC's Settlement Department. A pledgee that is a DTC Participant can move securities to its DTC Participant account.

Pledges to Federal Reserve Banks

If you are a depository institution maintaining a deposit account at a Federal Reserve Bank (FRB), you can make free pledges and release requests to the FRB. You must use the COLL function to pledge and release pledges to FRBs. FRBs have special requirements and procedural modifications to which DTC has agreed. DTC or an FRB may change these operating procedures no later than one day following receipt of written consent from the other. DTC or the FRB will notify DTC Participants in writing at least 10 business days before such changes become effective. However, if DTC consents to the FRB's request that such changes become effective immediately (according to DTC's Rules and applicable law), Participants will receive immediate notification in writing from the FRB of changes taking effect immediately.

Note- Pledges to FRBs are free of value.

FRB Pledge Eligibility

Pledgor Eligibility: All DTC bank Participants that are members of the Federal Reserve are automatically eligible to pledge securities to FRBs that are DTC pledgee banks using the Participant/non-participant pledge facility.

Non-Participant Eligibility: DTC allows non-participants to pledge collateral to FRBs through DTC bank Participants. Bank Participants and non-participants must provide their American Banking Association (ABA) number and the purpose of the loan.

Pledging Purposes

Any securities you pledge to the FRB through the Collateral Loan Program are deemed pledged to the FRB (as fiscal agents of the United States for its principal, the Treasury Department) when pledged for:

- Treasury Tax and Loan: Collateral for Treasury Tax and Loan account balances under 31 C. F. R. Part 203 (Treasury Circular No. 92)
- Public Purposes: Collateral for deposits of public money under 31 C. F. R. Part 202 (Treasury Circular No. 176).

Any securities you pledge to the FRB through the Collateral Loan Program are deemed pledged to the FRB as principal, as Collateral when pledged for:

- (i) discount window advances under 12 C. F. R. Part 201 (Regulation A of the Board of Governors of the Federal Reserve System) ("Discount") or
- (ii) daylight (funds) overdrafts on the books of the FRB ("Daylight Overdraft")

Collateral pledged for either purpose may be credited to a single Pledgee Account of the FRB.

Note- An indication that a security is pledged for Discount, or Daylight Overdrafts is made when collateral is initially or primarily used for either purposes. However, in accordance with FRB agreements and operating circulars, such collateral so designated, regardless of such designation, shall serve as security for any obligation of the pledgor to the FRB.

Categories of Securities to be Pledged

DTC-eligible securities are generally good for all services provided by DTC. However, the FRB must approve securities pledged to FRBs under the subheading Pledging Purposes. You should contact the appropriate FRB to determine whether the securities pledged are accepted and to inquire about particular instructions for indicating the purpose of the pledge.

Issues Not Acceptable to FRBs

The FRB may not permit the pledging of certain securities that might be DTC-eligible. If a pledge is made in an issue not accepted by the FRB, the FRB will initiate the release of the pledge after receiving pledge notification.

Inquiries

Pledgors can monitor all pledges, releases (Participant and non-participant) and current collateral loan inquiries intraday using the Activity Inquiry functions.

Pledges to the Options Clearing Corporation

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 Options Clearing Corporation (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.

Rollover of Collateral

After an option contract has expired, the option writer may rollover or continue to use the original collateral for subsequent contracts. By following an OCC procedure, you may rollover the collateral without preparing a Release of Collateral form and a new Options Depository Receipt form. Contact OCC for information about this procedure.

Deposits With Options Clearing Corporation

You can deposit securities at DTC between 8:30 a.m. and 1:00 p.m. eastern time for same-day deposit credit. You can then pledge your free position by book-entry to the OCC as follows:

- Segregate underlying securities supporting put and call options
- Pledge U. S. government securities to satisfy OCC put and call margin requirements
- Pledge U. S. government securities to meet clearing fund obligations
- Pledge U. S. government securities of sufficient value to cover the exercise price of put and call option contracts.

Release of Deposits with Options Clearing Corporation on Expired Options

OCC automatically releases securities deposited with it to cover margin requirements on an option contract when the option contract expires. Notification of the released securities is received via the Collateral Loan Services functionality in the Settlement User Interface or automated output.

Note- OCC will begin releasing expired options at the close of business on the Friday following the expiration weekend. On the following Monday, OCC will release the deposits on expired options to DTC.

Deposits to the Options Clearing Corporation Clearing Fund

You can deposit U. S. government securities at DTC to be pledged by book-entry to OCC to meet clearing fund requirements.

The term "U. S. government securities" refers to securities issued or guaranteed by the United States government and having a maturity of 5 years or less from the date of issuance.

- Short-term government securities: Securities maturing less than one year from the date of deposit.
- Long-term government securities: Securities maturing one to five years from the date of deposit.

U. S. government securities are valued for clearing fund purposes as follows:

- Short-term government securities: Securities valued at the lesser of par value or 100 percent of their current market value.
- Long-term government securities: Securities valued at the lesser of par value or 95 percent of their current market value.

OCC determines the current market value of U. S. government securities at any given time on the basis of the quoted ask price supplied by the Federal Reserve Bank of New York (FRBNY) on the last day of the preceding month, or such later date as its Margin Committee designates.

Option Exercise & Assignment Loan Program

About the Product

Under this program, a Participant may use securities pledged at The Depository Trust Company (DTC) to meet the Options Clearing Corporation (OCC) margin requirement on these positions as collateral for a loan from an approved lender. The cash proceeds of this loan will then be credited to the Participant's settlement account at the National Securities Clearing Corporation (NSCC).

OCC, DTC, and NSCC have jointly created the loan program to minimize the collateral and financing requirements of common OCC and NSCC member firms by synchronizing the release of OCC's guarantee obligation with satisfaction of the member's obligation to NSCC.

How the Product Works

The Options Clearing Corporation Disbursement (OCCD) function has been developed by DTC and OCC to allow Participants to negotiate loans with pledgee Participants using securities pledged to OCC for margin purposes as collateral. The OCCD function allows Participants to submit collateralization requests that require approval from the pledgee and OCC. The OCCD function allows pledgee Participants to review Participants' collateralization requests and either approve or reject them. Only pledgee-approved collateralization requests appear on OCC's approval screen in the OCCD function. Pledgee approved collateralization requests can then be approved or rejected by OCC. Only collateralization requests approved by both the pledgee and OCC are processed by DTC.

An OCC approved collateralization request generates a Demand of Collateral (DCL) transaction (activity code 58) that moves the securities from the requesting Participant's pledge account (014) to an OCC control account. Once the DCL transaction completes, a valued pledge (activity code 54) will be processed from the OCC control account to the pledgee designated by the Participant in the collateralization request. The valued pledge credit received into the OCC control account is then applied to the Participant's NSCC balance. Participants will see these credits as activity code 35 (OCC Collateral Money) in NSCC's settlement system.

Note: Although Participants will see the DCL transaction from their pledge account to the OCC control account in DTC's Activity Inquiry function, they will not be able to view the valued pledge from the OCC control account to their pledgee in the Activity Inquiry function. However, Participants can determine if the valued pledge portion of the collateralization request has been completed in DTC's system by viewing the status of the collateralization request in the Browse option of OCCD. A "Made" status indicates that the valued pledge has completed in DTC's system. In addition, Participants will see the credits from the valued pledges in their NSCC balances after 2:30 p.m. eastern time.

Once DTC settlement is final (all net-net debits have been received) and DTC releases its risk management controls, the securities are moved from the OCC control account's pledge position to the Participant's pledge position (14 account). The Participant and the pledgee will see this movement as a Participant Swing (activity code 7) in the Activity Inquiry function.

DTC will charge the same fee for processed OCC collateralization requests as it does for valued pledges.

Demand of Collateral Reversals

In the event that a valued pledge from an OCC control account recycles to the pledgee and does not complete (drops) by DTC's valued recycle cutoff at approximately 3:10 p.m. eastern time, DTC will reverse the associated demand of collateral transaction. The demand of collateral reversal will, in effect, "repledge" the Participant's securities back to OCC. The demand of collateral reversal will appear as an adjustment in the Activity Inquiry function.

Pledge Returns

Pledgees should be aware that pledge returns of valued pledges from OCC control accounts will not be permitted systemically. Requests for pledge returns to OCC control accounts should be directed to DTC's Settlement Department. However, pledgees will be permitted to process pledge returns using the normal pledge return process once the securities are swung from the OCC control account to the Participant after DTC releases its risk management controls at approximately 5:00 p.m. eastern time.

Eligibility

Participants wishing to utilize the OCC Collateralization procedures must first contact a representative from OCC's Risk Management Department. In addition to contacting OCC, interested Participants must contact their DTC Relationship Manager and request access to the OCCD function and the OCCA sub-function. Pledgees planning to accept OCC collateralization requests must also contact their Relationship Managers and request access to the OCCD function and the OCCP sub-function.

Participants and pledgees interested in participating in OCC's Collateralization service should request eligibility for their respective OCCD functions and sub-functions with their Relationship Managers at least two days prior to the actual day they anticipate using the service.

Note: All collateralization requests by Participants must be approved by OCC. Therefore, OCC must be contacted before a request is submitted through the OCCD function.

Cutoffs

Eligible Participants are permitted to submit OCC collateralization requests until 11:00 a.m. eastern time. Eligible pledgees are permitted to approve or reject OCC collateralization requests until 1:00 p.m. eastern time, and OCC will be permitted to approve or reject pledgee-approved OCC collateralization requests until 2:00 p.m. eastern time. Participants and pledgees should refer to the OCCD function for detailed instructions on how to use this function.

Repo Accounts

About the Product

Repo accounts enable Participants to distinguish repurchase transactions or other types of financing transactions processed through the mechanism of the Collateral Loan Program from pledges of collateral. A Participant engaging in a repurchase transaction or other type of financing transaction is able to transfer securities to a Repo account of the receiving party instead of a pledgee account of the receiving party. Whenever a Participant instructs DTC to transfer securities to a Repo account, the Participant will be deemed to instruct DTC to transfer to the receiving party the entire interest in the securities, not a security interest or other limited interest.

Background

Previously, procedures in the Collateral Loan Program did not permit Participants to differentiate between a pledge of securities, which involves the transfer of a security interest or other limited interest in the securities, and a sale, which involves the transfer of the entire interest in the securities.

Effective September 2, 1997, DTC implemented procedures to specifically provide Participants with the capability to process repurchase transactions or other types of financing transactions through the mechanism of DTC's Collateral Loan Program.

Repo accounts and pledge accounts are individually identified in DTC's Reference Directory. Organizations interested in establishing a repo account should contact their Relationship Manager.

Procedures for DTC Repo Accounts

The repo account procedures listed below should be used in conjunction with DTC's existing Collateral Loan Program procedures.

The procedures listed below are an addition to DTC's Procedures for Pledgees.

1. Any organization (a 'Receiver') that is eligible to establish a pledgee account at DTC may establish a repo account at DTC. A repo account is available to effect repurchase transactions or other types of financing transactions through use of the procedures in DTC's Collateral Loan Program where the parties wish to distinguish transactions from pledges of collateral. A repo account is identified with a separate account number from any pledgee account of the Receiver, and the repo accounts of Receivers are separately identified in all listings of accounts made available by DTC. Except as modified by these Procedures, all DTC procedures applicable to pledgee accounts are applicable to repo accounts.

2. Whenever a Participant instructs DTC to deliver securities from the account of the Participant to a repo account of a Receiver, the Participant will be deemed to instruct DTC to transfer to the Receiver the entire interest in the securities which are the subject of the instruction, not a security interest or other limited interest in such securities. The terms of the transaction between the Participant and the Receiver (which may be a repurchase transaction or other type of financing transaction) are determined by agreement of the parties to the transaction.
3. The operation of a repo account at DTC is identical to the operation of a pledgee account. As with a pledgee account, voting rights on securities credited to a repo account are assigned to the Participant which delivered the securities to the repo account. Cash dividend and interest payments and other cash distributions on such securities are credited to the account of the Participant. Distributions of securities for which the ex-distribution date is on or prior to the payable date, or in which the distribution is payable in a different security, are also credited to the account of the Participant. Any stock splits or other distributions of the same securities for which the ex-distribution date is after the payable date are credited to the repo account of the Receiver.
4. The instructions for a delivery of securities to a repo account at DTC use the same data fields as the instructions for a pledge to a pledgee account. Those data fields include a mandatory hypothecation code field. A Participant delivering securities to a repo account must enter the number 7, 8 or 9 in the hypothecation code field. The entry of the number 7, 8, or 9 in the hypothecation code field of instructions for a delivery to a repo account does not constitute a notice or representation as to any matter by the delivering Participant. The entry of the number 7, 8 or 9 in the hypothecation code field of such instructions is merely an action needed to effect the delivery through DTC's facilities. A Participant pledging securities to a pledgee account must continue to enter the number 1, 2 or 3, whichever is applicable, in the hypothecation code field. Participants are responsible for entering the appropriate number in the hypothecation code field for all transactions.
5. The DTC reports and statements to the Participant and the Receiver for a transaction involving a repo account are the same as the reports and statements for a transaction involving a pledgee account. If the account number indicated in a DTC report or statement is the account number of a repo account, the information in the report or statement does not represent a pledge of, or other transfer of a limited interest in, the securities credited to the repo account but instead represents a transfer by the Participant to the Receiver of the entire interest in such securities.
6. DTC will accept instructions solely from the Receiver with respect to the disposition of securities credited to the Receiver's repo account. The Receiver may redeliver the securities to the Participant which delivered them to the Receiver's repo account. The Receiver may instruct DTC to deliver securities credited to the Receiver's repo account to the Receiver's DTC Participant account, if the Receiver is also a Participant, or to any other DTC Participant account. DTC has no duty to inquire whether any instruction to DTC from the Receiver is permitted by any agreement among the parties to the transaction. If a Receiver is unable to submit instructions to DTC by automated means, the Receiver may submit instructions by contacting DTC's Settlement Department. Any Receiver that instructs DTC to deliver securities credited to the Receiver's repo account to the Receiver or to a DTC Participant designated by it shall:
 - a. be deemed to represent and warrant to DTC that (i) the Receiver has the right to have the securities specified in such instruction delivered to the Receiver or to a DTC Participant designated by it and (ii) DTC's compliance with such instruction will not violate any notice of levy, seizure or similar notice, or order or judgment, issued or directed by a government agency or court, or officer thereof, and
 - b. indemnify, hold harmless and agree, on demand, to reimburse DTC, its stockholders, officers, directors and employees from and against and for any and all claims, liabilities, obligations damages, actions, penalties, losses, costs, expenses and disbursements,

including, without limitation, attorneys' fees and disbursements ("Claims"), which they may sustain by reason of DTC's compliance with such instruction except for any Claims which result from the gross negligence or willful misconduct of the person asserting a right to indemnification.

Shared Control Accounts

About the Product

Shared control accounts are available as an alternative to "agreement to pledge" arrangements.

Background

When a Participant Pledges securities to a Pledgee at DTC (sometimes called a "hard pledge"), the securities are under the sole control of the Pledgee. Only the Pledgee can redeliver or release the securities.

Shared control accounts are available at DTC as an alternative to agreement to Pledge (sometimes called "agreement to deliver") arrangements. A Pledgee has control over securities delivered by a Participant to the Participant's shared control account at DTC since the Pledgee has the ability to redeliver the securities without further consent by the Participant. Until the Pledgee redelivers the securities, the Participant has the flexibility to redeliver or make substitutions for the securities without obtaining the Pledgee's release of the securities.

Shared controls are separately identified in DTC's Reference Directory. Participants interested in establishing a shared control account should contact their Relationship Manager.

Procedures for DTC Shared Control Accounts

The following procedures are an addition to DTC's Procedures for Pledgees.

1. Any Participant may establish a shared control account at DTC and may designate any DTC Pledgee to be the Pledgee for that shared control account. A Participant may deliver securities (or other financial assets) by a Free Pledge from any of its DTC accounts (the "original account") to its shared control account in order to grant a security interest or other interest in the securities to the Pledgee. The shared control account is an account of the Participant and is identified with a separate account number from any other account of the Participant. A Participant may establish multiple shared control accounts, but only one Pledge can be designated for each shared control account.
2. Except as modified by these procedures, the operation of a shared control account is identical to the operation of a DTC Pledge and all DTC procedures applicable to Pledges are applicable to shared control accounts. No Deliveries Versus Payment, Pledges Versus Payment, or physical deposits can be made to a shared control account and no Deliveries Versus Payment, Pledges Versus Payment, or physical withdrawals can be made from a shared control account. A Participant should not deliver securities to another Participant's shared control account. In the instructions for a delivery of securities to a shared control account, the mandatory hypothecation code field should be completed in the same manner as it is for a Pledge made without the use of a shared control account. The DTC fees and charges for a transaction involving a shared control account are the same as the fees and charges for a Pledge transaction that does not involve a Pledge account. The DTC monthly account usage charges applicable to a shared control account are charged to the Participant. The DTC reports and statements to the Participant and the Pledgee

for a transaction involving a shared control account are the same as the reports and statements for a transaction involving a Pledge that does not involve a shared control account.

3. Voting rights on the securities credited to a shared control account are assigned to the Participant. Cash dividend and interest payments and other cash distributions on such securities are credited to the original account. Distribution of securities for which the ex-distribution date is on or prior to the payable date or in which the distribution is payable in a different security are also credited to the original account. Any stock splits or other distributions of the same securities for which the ex-distribution date is after the payable date are credited to the shared control account.
4. The securities credited to a shared control account cannot be designated as or included in the collateral for any obligation of the Participant or the Pledgee to DTC. DTC has no lien or other interest in any securities credited to a shared control account.

Collateral Loan Program Contact Number

More information about Collateral Loan Programs may be obtained via the DTCC Client Center at <https://www.dtcc.com/client-center>.

Continuous Net Settlement (CNS)

About the Product

Continuous Net Settlement (CNS) is the primary clearing mechanism for the New York Stock Exchange (NYSE), American Stock Exchange (AMEX), National Association of Securities Dealers (NASD), and other marketplaces. The National Securities Clearing Corporation (NSCC) operates CNS, which is the securities industry's largest trade clearance and settlement system.

How the Product Works

For each security, CNS nets down to one net buy and/or sell on all trades expected to settle on the next settlement day, including trades unable to settle on the previous settlement day. After the trades are netted, free book-entry movements at DTC to or from Omnibus Account 888 allow NSCC participants to deliver short covers to NSCC and receive long allocations.

After the trades are netted, free book-entry movements at DTC to or from Omnibus account 888 allow NSCC participants to:

- Deliver short covers to NSCC (for those participants obligated to deliver securities)
- Receive long allocations from NSCC (for those participants entitled to receive securities).

To process transactions smoothly between DTC's system and the CNS system, DTC and NSCC have put in place certain collateralization arrangements and financial guarantees to ensure that:

- Debits created in DTC's system continue to be collateralized when the securities serving as collateral are delivered as CNS short covers, and
- Long allocations, or approximate values of long allocations, are made available to NSCC to cover certain exposures.

Short Covers

When short covers are delivered from your DTC account, NSCC guarantees that:

- The value of securities received versus payment that are used for CNS short covers will be equal to the prior day's closing price, and
- The value of securities not received versus payment that are used for CNS short covers will be equal to the prior day's closing price less an applicable haircut.

In either case, your Collateral Monitor is increased by the amount guaranteed by NSCC. Without these guarantees, deliveries to CNS may not be permitted under DTC's collateralization rules because DTC would have neither the securities nor the collateral in the event of a failure to settle.

Note- The NSCC settlement credit generated from short covers cannot be used to offset your DTC settlement balance intraday. DTC and NSCC legal entity balances will be cross-endorsed before final net settlement figures are published. The short cover guaranty does not apply to ACATS transactions because there are no funds settlement obligations related to ACATS transfers.

Long Allocations

DTC guarantees to NSCC replacement collateral for any long allocations which may be redelivered in the DTC system intraday. Therefore, DTC will only process the redelivery if the Participant has substitute collateral available. The purpose is that collateral will be available if the Participant fails to settle at NSCC.

The collateral treatment of long allocations received into a Participant account is as follows:

1. The Participant does not receive credit for the delivery in its Collateral Monitor; and
2. The securities are classified as collateral (net additions).

CNS Look-Ahead Processing

DTC recognizes that the net effect of a receive and a turnaround delivery might permit the completion of those transactions, whereas in some cases attempting to complete the receive by itself would not allow the transactions to complete because of collateral constraints. Because the CNS account (888) has no Net Debit Cap or Collateral Monitor constraints, DTC's system can perform look-ahead processing to determine whether the net effect of your receive-versus-payment (RVP) transaction (which is recycling for insufficient collateral), and the turnaround CNS transaction (for example, short cover), allows you to remain collateralized. If so, DTC will complete both transactions.

Look-ahead processing helps maximize the smoothness of transactions and limits infusions of collateral by Participants. Although this situation is rarely encountered in transactions daily, DTC provides automated look-ahead processing so that each receive pending for insufficient collateral that has a corresponding turnaround to CNS is checked by this process (unless you place the CNS transaction on hold).

CNS Processing Contact Number

More information on CNS Processing may be obtained via the DTCC Client Center at <https://www.dtcc.com/client-center>.

NSCC ACATS Settlement Accounting Operation - Processing at DTC

NSCC's Rules & Procedures establish the NSCC ACATS Settlement Accounting Operation which interfaces with DTC's system to move securities from the account of one Participant to another. NSCC maintains an account at DTC with respect to the associated securities movements.

When securities that are the subject of an ACATS transfer are credited to a receiving Participant's Account at DTC, those securities will automatically be designated as Minimum Amount (MA), as defined in the DTC rules. Accordingly, when such securities are credited to the receiving Participant's account, DTC will not have any security interest, lien or other claim on those securities and those securities will not constitute Collateral or be counted in the Collateral Monitor of the receiving Participant.

NSCC Securities Financing Transactions (SFT) Service

About the Product

The NSCC SFT Service would provide central clearing for equity securities financing transactions, which are, broadly speaking, transactions where the parties exchange equity securities against cash and simultaneously agree to exchange the same securities and cash, plus or minus a rate payment, on a future date (each, an "SFT").

Initial Transfer of SFT Securities at DTC

The initial transfer of the securities that are the subject of the SFT is typically initiated by the delivering Participant at DTC. The delivering Participant submits a Delivery Versus Payment instruction to DTC to deliver the securities versus the SFT payment amount from the account of the delivering Participant to Account 881, which is the NSCC SFT Account that was established by NSCC at DTC for SFT transactions. The Delivery Versus Payment instruction of the Participant must contain the fourteen-digit UTC Loan ID that was assigned by NSCC to the relevant SFT ("DTCC Reference ID").

Once DTC receives a corresponding Delivery Versus Payment instruction from NSCC to deliver the subject securities versus the SFT payment amount from the NSCC SFT Account to the account of the receiving Participant, DTC will use look-ahead processing to process the pair of Delivery Versus Payment instructions, as discussed below.

If DTC does not receive the corresponding Delivery Versus Payment instruction from NSCC by 3:10pm ET, then the Delivery Versus Payment instruction from the delivering Participant will be rejected.

NSCC Instructions to DTC

NSCC submits two types of instructions to DTC in connection with SFT transactions at NSCC: (i) Delivery Versus Payment, and (ii) SFT Price Differential ("SFT PD") payment orders. All instructions submitted to DTC by NSCC must contain the DTCC Reference ID. With the exception of the initial transfer of the SFT securities described above, NSCC will submit all instructions to DTC in pairs.

For each Delivery Versus Payment transaction in connection with an SFT, NSCC submits a pair of instructions to DTC: (i) one instruction as the Special Representative (as defined in DTC Rule 6) of the delivering Participant to deliver the securities that are the subject to the SFT versus the SFT payment amount from the account of the Participant to the NSCC SFT Account, and (ii) one instruction, on NSCC's own behalf, to deliver the securities that are the subject of the SFT versus the SFT payment amount from the NSCC SFT Account to the account of the receiving Participant. Upon receipt of the pair of

instructions from NSCC, DTC will use look-ahead processing to process the pair of Delivery Versus Payment transactions, as discussed below.

An SFT PD payment order is a payment order in the amount of a Price Differential calculated by NSCC, in accordance with NSCC Rules, in connection with cleared SFT activity at NSCC. For further information about the calculation of Price Differentials by NSCC in connection with the NSCC SFT Service, see NSCC Rule 56. For each SFT PD, NSCC submits a pair of instructions to DTC: (i) one SFT PD payment order as the Special Representative (as defined in DTC Rule 6) of the payee Participant to credit the amount of the Price Differential to the account of the payee Participant and debit the amount of the Price Differential to the NSCC SFT Account, and (ii) one SFT PD payment order, on NSCC's own behalf, to credit the NSCC SFT Account the amount of the Price Differential and debit the amount of the Price Differential from the account of the payor Participant. Upon receipt of the pair of instructions from NSCC, DTC will use look-ahead processing to process the pair of SFT PD payment orders.

NSCC SFT Account Look-Ahead Processing

With respect to Delivery Versus Payment instructions and SFT PD payment orders, look-ahead processing determines whether (i) the pair of instructions from NSCC are consistent in terms of the number of subject shares, dollar amount, CUSIP and SFT UTC Loan ID, and (ii) the net effect of processing the instructions will not violate the respective net debit caps, collateral monitor or other Risk Management system controls of the Participants that are on each side of the Delivery Versus Payment or SFT PD transactions. If the look-ahead is satisfied, DTC will process the pair of instructions. If the look-ahead is not satisfied, then the pair of instructions will recycle until the look-ahead is satisfied or until the 3:10pm cutoff, when all recycling transactions are dropped.

The purpose of using a look-ahead process for Delivery Versus Payment and SFT PD transactions through the NSCC SFT Account is: to reduce the blockage of transactions processing through the NSCC SFT Account while maintaining the risk management controls of the delivering/receiving or payor Participant, as the case may be. In addition, the NSCC SFT Account has a Net Debit Cap of \$1, for the purpose of preventing the processing of the pairs of Delivery Versus Payment and SFT PD transactions until the look-ahead is satisfied.

Note: In an effort to ensure that the processing through the NSCC SFT Account operates effectively, the Delivery Versus Payment transactions and the SFT PDs to/from the NSCC SFT Account are not subject to RAD, and reclaims from the NSCC SFT Account are blocked.

End-of-Day Settlement Process

Overview

DTC's Settlement Operations group controls and coordinates the settling of Participant accounts and Settling Bank accounts on DTC's systems. A Settling Bank is a bank Participant that settles for itself and may settle for other Participants for which it is the designated Settling Bank, including other bank Participants. A Settling Bank can be located in any Federal Reserve district, but it must have access to the Settlement User Interface and online access to the National Settlement Service ("NSS") provided by the Federal Reserve Banks (individually and collectively, the "Fed" unless indicated otherwise) and Fedwire®.

Note—A Participant must make formal arrangements with DTC and a Settling Bank for that Settling Bank to be designated as the Settling Bank to settle with DTC on the Participant's behalf. Each Settling Bank must sign an agreement with DTC prior to the bank performing as a Settling Bank. The actual settlement

process occurs through NSS and is initiated when DTC posts final figures for Participants and Settling Banks.

Although the actual settlement process begins with the posting of final settlement figures at approximately 3:45 p.m. eastern time each day, DTC operates a settlement system that provides Participants and Settling Banks with online reports throughout the processing day. These reports reflect intraday gross debits, gross credits, and the net debit or credit for each Participant, as well as a net-net figure for each Settling Bank.

The end-of-day net-net settlement balance for each Settling Bank that settles on behalf of more than one Participant is the net of the net debit and net credit balances of all Participants for which that Settling Bank settles, after cross-endorsement with the National Securities Clearing Corporation (NSCC), including the Settling Bank's own settlement obligations as a Participant if it settles for itself.

A Settling Bank may refuse to settle on behalf of another Participant for which it is the designated Settling Bank, in accordance with the processing schedule and other provisions set forth below. It is the primary obligation of each Participant to ensure that its net settlement balance, if any, is settled timely. If a Settling Bank does not settle on behalf of a Participant, as a result of a refusal to settle or otherwise, the Participant must make alternative arrangements to make payment to DTC via Fedwire® as set forth below. A Participant that acts as its own Settling Bank, whether or not it settles for others, may not refuse to settle for itself; if it does not fund its settlement obligation, it will be in default under the DTC Rules and Procedures.

Note- Any Settling Bank that settles for both Participants of DTC and members of NSCC will have its net-net credit or debit balances at DTC and NSCC aggregated and netted to one consolidated debit amount or credit amount, as applicable.

Example of the Calculation of a DTC Settling Bank's Net-Net Settlement Balance:

The following details illustrate an example of how the settlement process works for DTC:

- Settling Bank ABC settles for Participants 1, 2, and 3.
- Participant 1 has a gross debit of \$2 million and a gross credit of \$1 million, giving it a net debit of \$1 million.
- Participant 2 has a gross debit of \$3 million and a gross credit of \$2 million, giving it a net debit of \$1 million.
- Participant 3 has a gross debit of \$2 million and a gross credit of \$3 million, giving it a net credit of \$1 million.
- Settling Bank ABC's net-net settlement balance would be a debit for \$1 million, which is the sum of the net debits and credits of Participants 1, 2, and 3.

As illustrated in the example, net-net settlement reduces the number and the dollar amount of payments due to DTC. In the example, DTC would instruct the Fed to charge the Settling Bank's American Banking Association (ABA) routing number for \$1 million via NSS.

Note—Although each Settling Bank settles with DTC on one net-net amount, the Settling Bank is responsible for collecting final net debits from, and paying final net credits to, the Participants it represents.

About the Netting Process

As part of the net-net process, DTC employs a netting procedure with NSCC called cross-endorsement. Under cross-endorsement, each Participant's net debit at one organization is netted against the amount of its net credit, if any, at the other organization.

Looking back at the previous example, if Participant 1 had a net credit of \$1 million at NSCC, it would be applied to its DTC net debit of \$1 million, making its DTC net balance zero. This would make Settling Bank ABC's net-net balance zero and eliminate the need to settle a debit with DTC. (Participant 1's net balance would be zero after the cross-endorsement process; Participant 2's net balance would still be a debit of \$1 million, but this debit would be offset by Participant 3's net credit of \$1 million.) While the cross-endorsement process impacts the net-net figures of Settling Banks by affecting the net balances of the Participants for which they settle, the process is transparent to Settling Banks and is simply a component of each Participant's net balance.

Limitation of Participant Net Debit Caps by Settling Banks

A Settling Bank can limit the net debit cap assigned to each Participant it represents. However, the maximum amount set by a Settling Bank cannot exceed the Participant's system-calculated net debit cap established by DTC.

To establish or change the net debit cap for a Participant for which it settles, the Settling Bank must submit a letter of instruction to DTC requesting the amount of the net debit cap for the Participant. This letter should be sent via e-mail to DTCProductRisk@dtcc.com using the Settling Bank's e-mail domain, or via mail or overnight delivery addressed to:

**The Depository Trust Company
Executive Director, Enterprise Risk Management
570 Washington Blvd.
Jersey City, NJ 07310**

DTC will process an instruction received by 2:30 p.m. eastern time, in time to be effective as of the opening of the next business day.

Settling Bank Processing Schedule

The following table shows the processing schedule for Settling Banks. All times are eastern time.

At this time	This process takes place ¹
<p>3:45 p.m. (approximately)</p>	<p>All settlement balances become final and the settlement period begins:</p> <ul style="list-style-type: none"> • DTC posts the final net debit or net credit for each Participant and the final net-net debit or net-net credit for each Settling Bank. • Verification that final net cutoff has taken place; the message 'Final Figures' and the time they became final will appear in the Settlement User Interface. Settling Banks can view their respective final net-net settlement balances via the Settling Bank Account Statement made available via the Settlement User Interface. • Settling Banks that settle for other Participants must acknowledge their net-net settlement balances at this time (the system will not allow this until final figures are posted). However, a Settling Bank that settles only for itself (only its own Participant account) is not required to acknowledge its settlement balance. • Once final figures are posted, DTC sends periodic reminder messages to each Settling Bank until the Settling Bank either affirmatively acknowledges its balance or notifies DTC of its refusal. (Note that reminder messages may still be generated after the Settling Bank has been deemed to have acknowledged its settlement balance in accordance with the "Acknowledgment and Refusal Procedures" set forth below. Notwithstanding delivery of reminders, once a Settling Bank is deemed to have acknowledged its balance it may not notify DTC of a refusal to settle for a Participant for which it is the designated Settling Bank). • A Settling Bank with a final net-net debit must ensure that funds are available in its Fed account for payment via the NSS. (See Settlement Payment for Net-Net Debit Balances below for more information.)
<p>The later of : 4:15 p.m. and the time that is 30 minutes after net-net settlement balances are first made available</p>	<p>Cutoff for each Settling Bank to acknowledge its net-net settlement balance or notify DTC that it refuses to settle for one or more Participants for which it is the designated Settling Bank (the "Acknowledgment Cutoff Time").</p>
<p>Approximately 4:30 p.m. (subject to settlement extensions)</p>	<p>DTC processes an NSS file ("NSS File") with the Federal Reserve Bank of New York ("FRBNY") to debit or credit each Settling Bank's NSS account, as applicable. Note: If instructed by DTC, in the event that NSS is unavailable, Settling Banks in a net-net debit balance must remit payments to DTC via Fedwire[®] by the later of 5:00 pm or 1 hour ¹after net-net settlement balances are first made available, except that all such payments must be remitted prior to the close of the Fedwire[®].</p>

¹ DTC interfaces with Settling Banks via the Settlement User Interface.

At this time	This process takes place ¹
5:00 p.m.	<p>Cutoff for Participants to enter valued DOs and pledges to their Settling Banks and the Settling Bank's authorization of those transactions:</p> <ul style="list-style-type: none"> • Eligible Participants can process valued DOs and pledges to a Participant or to pledgee accounts of their Settling Bank (for example, to a Participant or pledgee account specified in advance by the Settling Bank, not just any Participant or pledgee within the Settling Bank) • These transactions can be processed after final figures and before 5:00 p.m. because they only affect a Participant's net figures, not those of the Settling Bank. <p>Note—DTC programmatically subjects these transactions to the Settling Bank's authorization via the Receiver Authorized Delivery (RAD) process. Also, to become eligible to process these transactions, Participants must sign an agreement with their Settling Bank and notify DTC about it.</p>

Acknowledgment and Refusal Procedures

Each Settling Bank that is the designated Settling Bank for another Participant or for other Participants must use the Settling Bank Acknowledgment function to perform acknowledgment activities promptly after final figures have been posted and by the Acknowledgment Cutoff Time. Once the message 'Final Figures' appears on the Settlement screen, each Settling Bank that settles for other Participants should access the Settling Bank Acknowledgment function and take one of the following actions:

1. Acknowledge its entire net-net settlement balance, or
2. Refuse to settle for one or more other Participants for which it is the designated Settling Bank.

Subject to Item 7 and Item 9 below, if a Settling Bank that settles for other Participants does not, by the Acknowledgment Cutoff Time (i) affirmatively acknowledge its net-net settlement balance or, alternatively (ii) notify DTC that it refuses to settle for one or more Participants for which it is the designated Settling Bank, then, at the Acknowledgment Cutoff Time, the Settling Bank is deemed to have acknowledged its net-net settlement balance. If the net-net settlement balance is a debit, then the Settling Bank's Fed account will be charged; if the net-net settlement balance is a credit, then the Settling account will be credited.

The following additional procedures also apply to the acknowledgment and refusal process:

1. A settling Bank that settles for other Participants must acknowledge its net-net settlement balance or refuse to settle for one or more other Participants for which it is the designated Settling Bank by the Acknowledgment Cutoff Time, but cannot refuse to settle for itself.
2. A Participant that is a Settling Bank only for itself (and not for any other Participant) need not acknowledge its balance and cannot notify DTC that it refuses to settle.
3. A notification to DTC by a Settling Bank of the Settling Bank's refusal to settle for a Participant for which it is the designated Settling Bank is a refusal to settle all settlement obligations of that Participant (including the Participant's main account and all subaccounts thereunder).
4. After a Settling Bank notifies DTC of its refusal to settle for one or more Participants for which it is the designated Settling Bank, DTC extracts from the net-net settlement balance of that Settling Bank the net balance(s) of the Participant or Participants for which the Settling Bank has refused to settle, and provides the Settling Bank with an adjusted settlement statement reflecting the Settling Bank's adjusted net-net settlement balance (the "Post-Refusal Adjusted Balance"). The Settling Bank's

response to provide an acknowledgement of the Post-Refusal Adjusted Balance is immediately required.

5. Subject to Item 7 and Item 9 below, if a Settling Bank that has been provided with a Post-Refusal Adjusted Balance does not immediately affirmatively acknowledge its Post-Refusal Adjusted Balance, then, the Settling Bank is deemed to have acknowledged its Post-Refusal Adjusted Balance. If the Post-Refusal Adjusted Balance is a debit, the Settling Bank's Fed account will be charged; if the Post-Refusal Adjusted Balance is a credit, the Settling Bank's Fed account will be credited.
6. If, after the initial release of final settlement figures, a Settling Bank's net-net settlement balance is adjusted by DTC for any reason other than as a result of a Settling Bank's refusal to settle on behalf of a Participant for which it is the designated Settling Bank, then the Acknowledgment Cutoff Time for that Settling Bank would change to become 30 minutes after DTC advises the Settling Bank of the adjusted net-net settlement balance.
7. If a Settling Bank cannot (i) by the Acknowledgment Cutoff Time, send an acknowledgment or refusal instruction, or (ii), if applicable, send an immediate acknowledgment of the Post-Refusal Adjusted Balance, to DTC then it must immediately contact DTC using the Settlement Hotline at (212) 855-5800. If a Settling Bank complies with this Item 7, then it will not be deemed to have acknowledged its balance. If the problem is due to a connectivity issue with DTC, DTC Settlement Operations may then direct the Settling Bank to submit its acknowledgement/refusal instruction via e-mail to settlementstaff@dtcc.com, or as otherwise specified by DTC at that time.
8. In order to facilitate timely processing of the NSS File, DTC maintains its discretion to exclude a Settling Bank's balance from the NSS File, and proceed with NSS settlement, if the Settling Bank does not acknowledge its net-net settlement balance by the Acknowledgment Cutoff Time, or if the Settling Bank has provided a refusal, does not immediately acknowledge its Post-Refusal Adjusted Balance, as applicable. If a Settling Bank's debit balance is excluded from the NSS File, then, the Settling Bank must pay it via Fedwire[®] in accordance with the instructions provided below.
9. For a Settling Bank that is the designated Settling Bank for other Participants, DTC will attempt to contact the Settling Bank if (i) no acknowledgment or notice of a refusal to settle on behalf of one or more Participants for which it is designated as the Settling Bank is received by the Acknowledgment Cutoff Time, (ii) if applicable, the Settling Bank has failed to respond to DTC to acknowledge its Post-Refusal Adjusted Balance, or (iii) the Settling Bank has not contacted DTC in accordance with Item 7 above. If (x) DTC is able to contact the Settling Bank, and (y) the Settling Bank notifies DTC that it cannot, at that time, acknowledge or refuse its net-net settlement balance or acknowledge their Post-Refusal Adjusted Balance, as applicable, then the Settling Bank will not be deemed to have acknowledged its net-net settlement balance or Post-Refusal Adjusted Balance, as applicable. If the Settling Bank cannot be reached, the Settling Bank will be deemed to have acknowledged its net-net settlement balance or Post-Refusal Adjusted Balance, as applicable.

DTC uses the most recent contact information provided by the Settling Bank to DTC. Each Settling Bank must ensure that it maintains up-to-date and accurate contact details with DTC to facilitate DTC's ability to contact a Settling Bank regarding settlement issues. A Settling Bank must promptly provide its DTC Relationship Manager with up-to-date and accurate contact details for this purpose on an ongoing basis when previously provided contact details are no longer accurate.

Settlement Payment for Net-Net Debit Balances

In the event that a Settling Bank has insufficient funds when the NSS file is run, or if Settling Banks must use Fedwire® because NSS is not available, a Settling Bank with a net-net debit settlement balance must fulfill its payment obligation to DTC by the later of 5:00 p.m. eastern time and the time that is one hour after the time that final figures are provided by DTC, except that all such payments must be remitted prior to the close of the Fedwire®. DTC's receipt of funds after the deadline will result in a late fee charged to the Settling Bank. (See Ultimately Funds Settlement / Failure to Acknowledge Fees.)

1. A Settling Bank must settle its net-net debit settlement balance via NSS unless it has notified DTC of a connectivity issue with DTC or other good faith reason it cannot do so. NSS will allow DTC to instruct the Fed to debit the Settling Bank's account at the Fed for its net-net debit balance. If the Settling Bank's account has sufficient funds, it will be debited. Upon confirmation from the Fed, the Settling Bank's DTC account will be credited to reflect payment of its net-net debit. If the Settling Bank's account has insufficient funds, DTC will receive notification from the Fed that the account was not debited. If this occurs, DTC will notify the Settling Bank of its deficiency. The Settling Bank must then transfer the required funds to DTC by Fedwire®.
2. Any Settling Bank that settles for both Participants of DTC and members of NSCC will have its net-net credit or debit balances at each of DTC and NSCC aggregated and netted to one consolidated amount (See attached **ADDENDUM A**). At the end of each settlement day, after the acknowledgment process is complete, DTC will instruct the Fed to debit the Fed account of each such Settling Bank which has a Consolidated Settlement Debit Amount by the amount determined in accordance with **ADDENDUM A**.
3. If a Settling Bank settles only for NSCC participants, DTC will instruct the Fed to debit such bank's Fed account by the amount of its net-net debit owed to NSCC. If the Settling Bank's account at the Fed has sufficient funds, it will be debited. If the Settling Bank's account has insufficient funds, DTC will receive notification from the Fed that the account was not debited. If this occurs, DTC will notify the Settling Bank of the deficiency. Any Settling Bank with a deficiency must then transfer the funds to DTC by Fedwire®.

Note— Each Settling Bank must monitor its Settling Bank Account Statement through the Settling Bank Statement function in the Settlement User Interface to ensure that funds have been credited to their account and that no debit balance exists. The Settling Bank must be prepared to transfer funds to DTC by Fedwire® if (i) there is a deficiency in its Fed account, (ii) the NSS File has been processed excluding the Settling Bank's debit balance, as applicable, in accordance with the Acknowledgment and Refusal Procedures above, or (iii) NSS is unavailable or inoperable. DTC requires that a bank representative authorized to transfer funds be available at the Settling Bank until settlement is complete. If a Settling Bank is unable to access NSS due to extenuating circumstances and will send its wire directly to DTC's FRBNY account for its debit balance, that Settling Bank must notify the DTC Settlement group prior to the Acknowledgment Cutoff Time.

If funds need to be transferred to DTC's account at the FRBNY:

- Prepare wire instructions in accordance with guidance updated and published by DTC from time to time.
- Submit the instruction. DTC posts the payment as a credit to the Settling Bank's Account Statement when payment for the net-net debit is received.
- Review the Settling Bank's net-net balance via the Settling Bank Statement function to ensure that DTC receives the funds.

Untimely Funds Settlement/Failure to Acknowledge Fees

1. If DTC makes a borrowing as a result of the failure of a Settling Bank or Participant to complete timely settlement the Settling Bank or Participant will be charged interest on that borrowing as follows:

Interest Rates for Borrowings Made Due to Untimely Payment of Funds

Net Debit of Settling Bank or Participant	Rate (percent)
First \$5 million	2.0
Next \$20 million	1.5
Next \$50 million	1.0
More than \$75 million	0.5

Note: A Settling Bank will not be charged interest under this provision with respect to the settlement balance of a Participant or Participants for which the Settling Bank settles where the Settling Bank timely notified DTC of its refusal to settle on behalf of such Participant or Participants.

Example:

Interest is calculated overnight on a 360 day/year basis. For a net debit of \$100 million, the interest calculation is:

$$[(\$5 \text{ mm} \times 2\%) + (\$20 \text{ mm} \times 1.5\%) + (\$50 \text{ mm} \times 1\%) + (\$25 \text{ mm} \times 0.5\%)] / 360$$

which equals \$2,847.

2. a. Settling Banks and Participants are charged flat fees in accordance with the table below if their net settlement obligations are not timely satisfied. This fee is in addition to any interest charged pursuant to Item 1 above.

b. In addition to Item 2a. above, a Settling Bank that settles on behalf of other Participants shall also be charged flat fees in accordance with the table below if it does not, by the Acknowledgment Cutoff Time, (i) affirmatively acknowledge its net-net settlement balance or (ii) notify DTC that it refuses to settle for one or more Participants for which it is the designated Settling Bank. The Settling Bank will not be charged a fee for failure-to-acknowledge or notify DTC of its refusal if it notifies DTC in accordance with Item 7 or Item 9 of the Acknowledgment and Refusal Procedures above that it cannot acknowledge or refuse its net-net settlement balance. This fee is in addition to any fee(s) for failure to timely satisfy a net settlement obligation charged pursuant to Items 1 and 2.a. above.

Flat Fees—Untimely Satisfaction of Settlement Balance /Settling Bank Failure-to-Acknowledge its Net Debit or Credit Settlement Balance

Net Balance of Settling Bank or Participant	First Occasion	Second Occasion	Third Occasion	Fourth Occasion
\$	\$	\$	\$	\$
0 to 100,000	100	200	500	1,000
Between 100,000 and 900,000	300	600	1,500	3,000
Between 900,00 and 1,700,000	600	1,200	3,000	6,000
Between 1,700,00 and 2,500,000	900	1,800	4,500	9,000
More than 2,500,000	1,000	2,000	5,000	10,000

Example:

For a first occasion \$100 million net debit, total fees equal \$2,847 (fee interest) + \$1,000 (flat fee) = \$3,847.

Note—

- The number of occasions will be determined as a cumulative sum of the number of occasions incurred by a Settling Bank pursuant to Items 2.a. and 2.b. above over a rolling three-month period. If a Settling Bank or Participant, as applicable, exceeds four occasions in a three-month period, it will be subject to further fees and/or other actions at DTC's discretion.
- DTC may waive the fee in appropriate circumstances (e.g. such as a DTC system delay).
- A Settling Bank will not be charged a flat fee under this provision with respect to the settlement balance amount of a Participant or Participants for which the Settling Bank settles where the Settling Bank timely notified DTC of its refusal to settle on behalf of such Participant or Participants.

Settlement Contact Number

For more information about Settlement processing, call DTC's Settlement Hotline at 212-855-5800.

Settlement Processing Schedule²

The following table describes the DTC Settlement processing schedule. All times are eastern time.

Cutoff Time ET	This Occurs
1:15 p.m.	DTC's cutoff for syndicate closings.

² To be read in conjunction with the Settling Bank Processing Schedule above.

Cutoff Time ET	This Occurs
1:30 p.m.	DTC releases all pending delivery account (PDA) positions and reverts to default recycle processing.
2:00 p.m.	Cutoff for: <ul style="list-style-type: none"> Valued MMI issuances
2:30 p.m.	Cutoff for: <ul style="list-style-type: none"> An Issuing and Paying Agent (IPA) to replace the Unknown Rate with a final rate for distribution - the IPA must successfully transmit the final rate to DTC before 2:30 PM ET.
2:45 p.m.	Cutoff for: <ul style="list-style-type: none"> RAD approval of MMI valued issuance deliver order transactions.
2:55 p.m.	Cutoff for: <ul style="list-style-type: none"> Entering release requests designating position as eligible for CNS. Processing Valued MMI transactions for issuances, MMI DOs and maturity presentments in the MMI Optimization process.
3:00 p.m.	Cutoff for: <ul style="list-style-type: none"> DTC's receipt of an IPA's MMI Funding Acknowledgement or refusal to pay notification. An IPA to notify DTC of a Temporary Acronym Payment Failure (as defined below). SFT transactions cannot be entered into after 3:00pm. Forced Receiver Authorized Delivery (RAD) period begins. <p><i>Note</i> – A Participant can continue to enter valued and free transactions. However, all valued transactions are forced into RAD and require the receiving Participant's approval.</p>
3:10 p.m.	Cutoff for: <ul style="list-style-type: none"> Pledgees to approve pledge release requests designating position as CNS-eligible. Valued recycle cutoff. All non-MMI valued, CNS / SFT transactions and fully paid for and secondary MMI deliveries or maturity presentments that cannot be completed because of insufficient position, collateral, or net debit cap are dropped from the system. <p><i>Note</i>—All valued transactions input or approved by Participants after this time will not recycle; they will either complete or drop.</p>
3:15 p.m.	Optional "Push" profile that allows Participants to establish a standing withdrawal request for SPP returns and P&I withdrawals. Cutoff for government deposits and withdrawals.
3:20 p.m.	Cutoff for Settlement payment withdrawals and principal and income withdrawals. Note- These are manual withdrawals as opposed to the "Push" profile described above.

Cutoff Time ET	This Occurs
3:20 p.m.	<p>Forced RAD Delivery Period ends. Cutoff for entering:</p> <ul style="list-style-type: none"> • Valued original DOs including unmatched reclaims • Original POs • Valued pledges • Valued pledge release requests. <p><i>Note</i>—If a Participant has made prior arrangements with DTC and its Settling Bank, the Participant can continue to submit valued transactions to its Settling Bank.</p>
3:30 p.m.	<p>Cutoff for:</p> <ul style="list-style-type: none"> • Pledges to approve valued pledge release requests and enter valued release returns • RAD approval or cancellation for valued transactions (except MMI valued issuance DOs).
3:45 p.m.	DTC calculates DTC and NSCC cross-endorsement balances.
3:45 p.m.	DTC finalizes settlement balances for Participants and Settling Banks.
5:00 p.m.	<p>Cutoff for:</p> <ul style="list-style-type: none"> • Entering free Fed pledges to the Fed with extensions upon request to the Fed. • Pledgors' requests for release of positions pledged to the Fed. • Fed to input pledge release returns. • Entering valued DOs and pledges to a Settling Bank. • Settling Banks to authorize valued DO and pledge transactions. • MMI issuing agents to enter free original issuances (new CUSIP). • DTC to lift Risk Management Controls. • Free non-MMI DOs input after 5:00 p.m. to RAD if that option is activated by the receiving Participant.
6:15 p.m.	<p>Cutoff for:</p> <ul style="list-style-type: none"> • Entering free additional MMI issuances (existing CUSIP) and free deliveries • Pledgors to enter free pledges and free release requests • MMI issuing and paying agents to withdraw MMI securities. • IPA deadline to set the MMI MP Pend or Issuer Priority Control (IPC) profile that will be effective for next processing day. • OCC member's release of deposit request and authorization to release positions pledged to the OCC.

Cutoff Time ET	This Occurs
6:30 p.m.	Cutoff for: <ul style="list-style-type: none"> • Approving or cancelling free MMI issuances through RAD. • Inputting day and night position transfer instructions (MA-to-NA transfers). • Pledges to enter free pledge release returns. • Pledges to approve free pledge release requests.
6:35 p.m.	Recycle cutoff for all free transactions.
6:45 p.m.	Cutoff for inputting segregation instructions.
10:45 p.m.	Cutoff for the Authorization and Exemption function.
11:00 p.m.	NDO cutoff.

Extension Requests

DTC cannot grant any Participant an extension of the foregoing deadlines unless a substantial volume of transactions is involved. A Participant should notify DTC as early in the processing day as possible if it thinks it may need to request an input extension. This will allow DTC to discuss alternative methods of input.

To request an extension call DTC's Settlement Hotline at 212-855-5800.

DTC/NSCC Settling Bank Netting Arrangements

Any Settling Bank that settles for both Participants of DTC and NSCC will have its net-net credit or debit balances at DTC and NSCC aggregated and netted to one consolidated debit amount or credit amount as applicable.

DTC shall provide NSCC with services with respect to NSCC's money settlement operations as described in, and in accordance with, the following procedures³:

1. For purposes of this procedure, the following terms have the meanings specified:
 - (a) "Common Settling Bank" means any entity that has qualified and acts as a Settling Bank for both DTC and NSCC in accordance with their respective rules and procedures.
 - (b) "DTC Credit Amount" or "NSCC Credit Amount" means, as applicable, any net-net credit settlement payment due from the relevant clearing agency to a Common Settling Bank, as determined in accordance with the Rules and Procedures of the relevant clearing agency.
 - (c) "DTC Debit Amount" or "NSCC Debit Amount" means, as applicable, any net-net debit settlement payment due to the relevant clearing agency from a Common Settling Bank, as determined in accordance with the respective Rules and Procedures of the relevant clearing agency.
 - (d) "Consolidated Settlement Debit Amount" means on any settlement day the net sum, if a negative number (i.e. debits being deemed negative numbers, and credits being deemed positive numbers) of a Common Settling Bank's applicable DTC Debit or Credit Amount, plus its applicable NSCC Debit or Credit Amount.
2. For each Common Settling Bank on each settlement day, DTC, as Settlement Agent, shall aggregate and net the DTC Credit and/or Debit Amount of the Common Settling Bank with the applicable NSCC Credit or Debit Amount of such Common Settling Bank and:
 - (a) If the Common Settling Bank has both a DTC Debit Amount and an NSCC Debit Amount, then following the acknowledgement of those respective balances by such bank in accordance with DTC and NSCC's procedures, DTC shall instruct the FED to debit the FED account of such Common Settling Bank by the aggregate sum of such debit balances. DTC, upon receipt of such monies, shall credit NSCC with the amount of the NSCC Debit Amount, and credit DTC with the amount of the DTC Debit Amount, from such Common Settling Bank.

³ DTC will act as "Settlement Agent" (as that term is used in the Federal Reserve Board's Operating Circular 12 and in NSCC's Rule & Procedures) for NSCC and NSCC's Settling Banks, for purposes of (i) receiving and paying, as NSCC's settling bank and for the account of NSCC, end-of-day money settlement payments from or to, as applicable, NSCC Settling Banks and Participants, (ii) with respect to the FED's National Settlement Service, as the means of effecting such money settlement for NSCC, and (iii) netting the amounts of those Settling Banks that act as such for both DTC and NSCC, and crediting the account of either NSCC, or DTC, as the appropriate clearing agency, with the settlement amounts determined in accordance with this procedure.

Settler Agreements provided by the Settling Bank to DTC for delivery to the FRB are hereby deemed to include the Settling Bank's NSCC settlement obligations as well as their DTC settlement obligations.

(b) If the Common Settling Bank has both a DTC Credit Amount and an NSCC Credit Amount, then at the time established in DTC and NSCC's procedures, DTC shall instruct the FED to credit payment to the FED account of the Common Settling Bank with the aggregate sum of such credit balances, and shall debit NSCC with the amount of the NSCC Credit Amount, and debit DTC with the amount of the DTC Credit Amount, for such Common Settling Bank.

(c) If the Common Settling Bank has a Debit Amount at one clearing agency and a Credit Amount at the other, then:

--If the sum of such DTC Credit Amount and NSCC Debit Amount (or DTC Debit Amount and NSCC Credit Amount, as the case may be) is a positive number, that excess amount (i.e. equal to the positive number) shall be owed by the clearing agency with the Credit Amount to the Common Settling Bank, shall be paid to the Common Settling Bank in the manner provided in clause 3(b) above, and the clearing agency with the Credit Amount shall pay the other clearing agency an amount equal to the Common Settling Bank's Debit Amount owed to the other clearing agency, in full satisfaction of the settlement obligation of the Common Settling Bank to the other clearing agency.

--If the sum of such DTC Credit Amount and NSCC Debit Amount (or DTC Debit Amount and NSCC Credit Amount, as the case may be) is a negative number,

then the absolute value of that amount shall be owed by the Common Settling Bank to the clearing agency to which the Common Settling Bank has a Debit Amount, such amount shall be paid by the Common Settling Bank via NSS in the manner provided in clause 3(a) above in full satisfaction of the settlement obligation of the Common Settling Bank to such clearing agency, and the clearing agency with the Credit Amount shall pay the other clearing agency an amount equal to the Common Settling Bank's Credit Amount, in full satisfaction of the settlement obligation of the clearing agency from whom such Credit Amount was owed to the Common Settling Bank.

--If the sum of such amounts equals zero (i.e. the Credit Amount due from one clearing agency equals the Debit Amount owed to the other clearing agency), then the clearing agency that owes the Credit Amount to the Common Settling Bank shall pay the amount of such Credit Amount to the other clearing agency in full satisfaction of both the settlement obligation of the Common Settling Bank to the clearing agency owed the Debit Amount and the settlement obligation of the clearing agency that owes the Credit Amount to such Common Settling Bank. In that instance, no payment shall be due to or from such Common Settling Bank to or from either DTC or NSCC.

3. Notwithstanding the foregoing, if any Common Settling Bank fails to pay its Consolidated Settlement Debit Amount by the time specified in DTC and NSCC's procedures, then (i) if that bank has an NSCC Debit Amount, NSCC shall implement its failure to settle procedures, and (ii) if that bank has a DTC Debit Amount DTC shall implement its failure to settle procedures.

4. Under FRB Operating Circular No. 12, DTC, as Settlement Agent, has certain responsibilities in allocating an indemnity claim made by a FRB as a result of NSS. In making such an allocation, NSCC and DTC will first apportion any such liability between them (and their respective Participants) in proportion to the amount of the net-net debit due to each clearing agency by the Settling Bank to which the indemnity claim relates. If that Settling Bank owed a debit to one and had a credit due from the other clearing agency, then the entire indemnity amount will be allocated to the clearing agency to which the Settling Bank owed the debit amount (and for which, via NSS, its FRB account was debited) relating to the indemnity claim. NSCC and DTC will then further allocate the FRB claim among their Participants for whom the Settling Bank was then acting. If for any reason such allocation is not sufficient to fully satisfy the FRB indemnity claim, then the remaining loss will be allocated pro rata among all the applicable clearing agency's Participants in the same manner as provided in NSCC's and DTC's Rules with respect to a general (i.e., non-system related) loss.

Special Procedures Relating to Settling Bank Processing on Behalf of Participants

In addition to the above, the following procedures apply when a Settling Bank does not timely satisfy its settlement balance. Unless these procedures indicate otherwise, each paragraph of these procedures applies whether a Settling Bank's settlement balance is a net-net credit or a net-net debit (or a net credit or net debit if the Settling Bank settles only for itself). A reference in these procedures to the Participants that settle through a Settling Bank is also a reference to the Settling Bank itself as a Participant. As supplemented by these procedures, all DTC agreements, rules and procedures relating to Settling Banks and Participants remain in effect.

1. If a Settling Bank that is the designated Settling Bank for other Participants ("Subject Settling Bank") does not timely settle with DTC on a given settlement date ("Due Date") in accordance with the timeframes provided in the DTC Settlement Service Guide, DTC will notify each Participant that settles through the Subject Settling Bank. Each Participant must be prepared in advance to arrange for another bank to pay or receive funds via Fedwire® on the Participant's behalf upon the instruction of DTC.
2. In its discretion, DTC may decide not to make payments on the Due Date to some or all of the Participants that settle through the Subject Settling Bank and have net credit balances. DTC will make such payments through the Subject Settling Bank on the next business day following the Due Date ("Next Business Day") if, by 10 a.m. on the Next Business Day (the "SB Cure Time"), the Subject Settling Bank completes settlement with DTC and/or all Participants with net debit balances that would otherwise have settled through the Subject Settling Bank have wired payment to DTC in accordance with the preceding paragraph. If the Subject Settling Bank does not complete settlement by the SB Cure Time, DTC may make such payments to Participants only when DTC settles with all of the Participants that otherwise would have settled through the Subject Settling Bank and had net debit balances on the Due Date.
3. If the Subject Settling Bank and defaulting Participants complete settlement with DTC by the SB Cure Time, DTC will charge the Subject Settling Bank for any interest charges and other costs associated with liquidity costs of completing settlement. Once DTC has completed settlement with the Subject Settling Bank, each Participant that settles through the Subject Settling Bank will be deemed to have settled with DTC for purposes of its net settlement balance on the Due Date and, if any of these Participants also paid its settlement obligation to DTC directly by Fedwire®, those Participants must resolve their obligations with the Settling Bank and, to the extent, if any, that DTC has been overpaid, it will refund the amount directly to the affected Participant unless instructed otherwise by the affected Participant. DTC will not be responsible for any obligations of the Subject Settling Bank to or from such Participants.

Honest Broker

About the Product

Honest Broker is a procedure to facilitate the liquidation of security positions that have been pledged by book entry in DTC. It is exercised only in extraordinary circumstances, for example, when a pledgee is unwilling to release securities to a pledgor (typically, a broker under financial stress).

Requesting that DTC Perform the Role of Honest Broker

A pledgor may request that DTC perform as an honest broker for the pledgor's pledged securities.

DTC's Honest Broker procedure will be activated when requested by a pledgor when pledgees are unwilling to return pledged securities directly to a pledgor, but only at DTC's option after consultations with concerned parties indicate that such action is appropriate.

If the Honest Broker procedure is activated, DTC will notify pledgees and Participants of its activation and will advise them of the possibility that deliveries in settlement of their transactions with the pledgor may be received from the DTC HB Account rather than from the pledgor's DTC Participant account. In performing the role of honest broker, DTC will act as agent for the pledgee and will undertake no risk other than that arising from its own gross negligence.

Responsibilities of the Pledgor

As the pledgor, DTC's Director of Compliance will notify you that the Honest Broker procedure will be made available. After you are notified, you must

- Identify the affected pledgees to DTC and
- Notify the affected pledgees of your intent to use the Honest Broker procedure.

DTC will grant you access to the Honest Broker functions, which consist of various options that allow you to execute and cancel deliver order (DO) transactions and to maintain the Pledgee-CUSIP Assignment List and enter CNS deliver orders.

Pledgee-CUSIP Assignment List

Via the Honest Broker function, you must specify which CUSIP numbers affect each pledgee participating in the Honest Broker procedure. For each CUSIP number for which you have initiated a DO, you must type the corresponding pledgee Participant number.

Note- The pledgee-CUSIP assignments specified using this option will remain in effect from one day to the next, unless you cancel them.

DTC will provide you with output via the Settlement User Interface detailing complete and incomplete honest broker DOs, as well as honest broker DOs that identify the pledgees whose shares were used to complete the DOs.

Collection of DO Liquidation Data

Via the Honest Broker function, you can enter DO instructions for trades that you want to complete using securities pledged to the pledgees.

Note- DTC will not allow any repurchase (repo) transactions (reason code 81) or due bill deliveries in the Honest Broker function.

You can also use the Honest Broker Function to

- Browse previously input DO transactions in the Honest Broker Control Account for transactions input on the same day.
- Cancel transactions in the queue. Canceling a transaction requires a reason for the cancel, and the item must be canceled on the same day that it was entered.

Responsibilities of the Pledgee

Once the Honest Broker procedure has been made available to the pledgor, as the pledgee, you must

- Receive notification from the pledgor that the Honest Broker procedure will be used.
- Confirm this understanding with DTC by calling DTC's Settlement Hotline at 212-855-5800.

Notice of Participation

If you elect to participate in the Honest Broker processing, you must notify DTC of your intent to do so.

Participating pledgees must identify the corresponding pledgee Participant number (for pledgees with multiple Participant account numbers) that they will use to deliver positions to the DTC HB Account.

Note- If you are not a Participant, you must request that DTC establish a Participant account number to use in Honest Broker processing.

How a Pledgee is Activated for the Honest Broker Process

DTC's Director of Compliance will notify you that the Honest Broker procedure will be made available. DTC will provide access to the Honest Broker function using your designated Participant account. Access to this function allows you to

- Browse the Honest Broker DOs input by the pledgor and
- Deliver previously demanded pledged securities to the HB Account for use in completing the Honest Broker DOs.

On settlement date, you will be able to review the details of the Honest Broker DOs via the Honest Broker function.

Securing Pledged Positions or Surrendering Positions to the DTC Honest Broker Account

You can remove securities from the pledgor's account by using the Demand of Collateral function (DCL). Via DCL, you can move the pledged securities from the pledged account of the pledgor to your unpledged (free) account or any other Participant account you designate, including the DTC HB Account.

Honest Broker Pledgee Free Deliveries

If you have previously demanded securities you are able to move, via the Honest Broker function, the demanded securities to the DTC HB Account for redelivery. You will be required to enter the CUSIP number and quantity of shares for each previously pledged security you want to surrender to the Honest Broker facility for redelivery.

Settlement of Completed Honest Broker Deliveries

At the end of the processing day, if you have delivered pledged securities (which DTC will operate, acting exclusively as agent for the pledgee delivery securities to the account) to the DTC HB Account, you will receive from DTC your pro rata share of

- Proceeds received by DTC for redeliveries made in such issue and
- Securities that had not been redelivered.

Your pro rata share of settlement proceeds will be credited to your Participant settlement account.

Note- For pledgees with multiple Participant accounts, this credit will be applied to the account previously designated.

The crediting of these proceeds, which will be applied as code 78 adjustments, will occur just before DTC's final settlement figures are produced.

Transactions in Honest Broker processing will be included on the regular daily activity and settlement reports. The Settlement Department can also provide individual reports upon request.

How the Product Works

Following is an outline of the Honest Broker procedure.

1. DTC will activate its Honest Broker procedure only upon a pledgor's request when pledgees are unwilling to return pledged securities directly to a pledgor and only after it consults with the concerned parties to determine that taking this action is appropriate.

DTC may also activate the procedures in case of a pledgor's extended operational outage.

DTC will notify pledgees and DTC Participants when the Honest Broker procedures are activated. DTC will advise Participants of the possibility that deliveries in settlement of their transactions with the pledgor, if any, may be received from the DTC Honest Broker Participant Account (DTC HB Account).

Note- In performing the role of honest broker, DTC will undertake no risk other than that arising from its own gross negligence.

2. DTC will establish a DTC HB Account for the receipt and redelivery of the pledged securities.

3. In operating the DTC HB Account, DTC will act exclusively as agent for the pledgees delivering securities to the DTC HB Account.
4. Each pledgee must notify DTC of its intent to use the Honest Broker procedure and will use DTC's Demand of Collateral procedure (see Collateral Loan Program for more information) for pledged positions that the pledgee intends to deliver to the DTC HB Account. Pledgees can enter demand of collateral instructions by using the Demand for Collateral function (DCL).

Note- Using DTC's Demand of Collateral procedure a pledgee can move securities from its DTC pledge account to the general account of any DTC Participant (other than the pledgor), including its own Participant account or the DTC HB account.

5. In accordance with the function cutoff times, the pledgor will provide the following information via the Honest Broker function to each affected pledgee, and to DTC:
 - The identity of each issue for which the pledgee is requested to deliver shares to the DTC HB Account.
 - For each issue, information on the pledgor's transactions proposed to be settled that day by redelivery of the pledged positions). This information will be in standard deliver order (DO) format for each delivery and will include quantity, price, and settlement amount.
 - The DTC HB Account number to which each redelivery is to be made.

Note- Pledgees will be able to view this information using the Honest Broker functionality.

6. On settlement date, DTC will provide to the pledgees
 - Pricing information on short positions in National Securities Clearing Corporation's (NSCC's) Continuous Net Settlement (CNS) system; and
 - The aggregate delivery price for each issue (assuming that all of the shares are delivered).
7. The pledgee can decide whether to deliver pledged positions to the DTC HB Account using the Honest Broker function.
8. The pledgor will advise the DTC Participants that their expected deliveries will be made from the HB account rather than from the pledgor's own account. Provided that no bankruptcy ruling or court-imposed stay has occurred, shares will then be delivered from the DTC HB Account with deliveries made in descending price-per-share order (other than deliveries to settle open NSCC CNS short positions, which will be affected first).

Note- DTC will not process free deliveries. All settlement credits will be made to the DTC HB Accounts. DTC will make special arrangements with NSCC for related money credits for CNS short positions.

9. For each issue, DTC will allocate on a pro rata basis to any pledgee that had delivered pledged securities to the DTC HB Account
 - Proceeds received from the redeliveries and
 - Securities remaining in the account (including deliveries that were reclaimed or otherwise not completed).

Honest Broker Contact Number

More information on Honest Broker for Redelivery of Pledged Securities may be obtained via the DTCC Client Center at <https://www.dtcc.com/client-center>.

Affirmed Transactions

DTC may accept eligible affirmed institutional transactions (“Affirmed Transactions”) from a utility that provides a matching service⁴ (“Matching Utility”). The Matching Utility must be (i) a clearing agency registered pursuant to Section 17A of the Securities Exchange Act of 1934, as amended (the “Act”), (ii) an entity that has obtained an exemption from such registration from the U.S. Securities and Exchange Commission, or (iii) a “qualified vendor” for trade confirmation/affirmation services as defined by the rules of a self-regulatory organization. A Matching Utility must establish a connection to DTC in accordance with DTC’s reasonable requirements in order to be able to submit Affirmed Transactions to DTC. In this regard, in order for a Matching Utility to establish and maintain a connection with DTC the Matching Utility must be able to balance with DTC in an automated way⁵ and communicate transactions to and from DTC with the necessary mandated fields.⁶ Also, Matching Utilities that intend to establish a new connection with DTC must promptly contact DTC in order to start planning for establishment of the connection and allow adequate time to develop and adequately test the interface prior to the date it expects to implement its connection to DTC.

A Participant that is a counterparty to an Affirmed Transaction as submitted to DTC by a Matching Utility is deemed to have authorized the Matching Utility to provide an instruction to DTC, on the Participant’s behalf, to process the Affirmed Transaction in accordance with DTC’s Rules and Procedures. The submission of such Affirmed Transaction by the Matching Utility to DTC, on behalf of such Participant, constitutes the duly authorized instruction of the Participant to DTC to process the Affirmed Transaction in accordance with the Rules and Procedures.

A Matching Utility that elects to enter into an arrangement to interoperate with another Matching Utility (“Interoperability Arrangement”) maintains the sole responsibility to ensure that its customers, including DTC Participants that are their customers, are operationally prepared to process Affirmed Transactions relating to the Interoperability Arrangement prior to the submission of such Affirmed Transactions to DTC.

DTC may provide information to a Matching Utility on the processing status of institutional transactions in Eligible Securities (“Status Information”) that are (i) Affirmed Transactions submitted to DTC by the Matching Utility and (ii) other institutional transactions that may have been confirmed at the Matching Utility and received a Control Number relating to the Matching Utility, and are submitted directly to DTC by a Participant in an instruction containing the Control Number (collectively, “Eligible Transactions”). The Status Information provided to the Matching Utility would include, as applicable, the status of an Eligible Transaction (e.g., the Delivery of Securities has been made within DTC, the transaction is pending

⁴ A “matching service” is an electronic service to match trade information, centrally, between a broker-dealer and its institutional customer.

⁵ For each Matching Utility interfacing with DTC, DTC requires the Matching Utility to deliver a daily message on each business day shortly after noon from the Matching Utility with their accepted item counts of institutional delivery transaction totals for Settlement Date minus one transactions. DTC’s system will compare the totals from the Matching Utility to its accepted item counts. If the totals match, an “acknowledged balance” balance file will be sent to the Matching Utility. If the totals do not match, DTC will respond with the list of Settlement Date minus one control numbers received from the Matching Utility, along with their respective transaction types for the originating Matching Utility to compare.

⁶ The mandated fields for this purpose are the transaction control number, DTC receiver and deliverer account number, CUSIP, message type, share quantity, market type, buy-sell indicator, broker ID, ID agent internal account number, broker internal account number, agent bank ID, settlement amount, origination entity, recipient of message, institution, and settlement date.

Delivery within DTC, or the transaction was reclaimed (i.e., sent back to the Deliverer)) and a reason for any pending status (e.g., the Deliverer has insufficient inventory in the applicable Securities, the Deliverer has insufficient Collateral, the Receiver to the transaction has insufficient Net Debit Cap, etc.). The Status Information would also include information (“Identifying Information”) to facilitate the Matching Utility’s ability to identify the applicable Eligible Transaction and reconcile the Status Information to the Eligible Transaction in its records. Identifying Information would include, but not be limited to, (i) the applicable Control Number (ii) identification numbers of the Participants to the transaction, (iii) quantity of Securities, (iv) dollar amount of the transaction, and (v) an indicator of whether the transaction was submitted to DTC by the Matching Utility or directly by a Participant. DTC may charge a fee (“Status Information Fee”) to Matching Utilities that receive Status Information as set forth in the DTC Fee Guide.

Prior to providing Status Information to a Matching Utility, DTC would obtain the written agreement, in such form as determined by DTC from time to time (“Status Information Agreement”) from the Matching Utility that includes (i) a request from the Matching Utility to receive Status Information from DTC, (ii) an agreement by the Matching Utility that the Matching Utility will not distribute Status Information to any third party other than (a) the Participants indicated on the Status Information and (b) the institutional customers that are counterparties to the transaction for which the Participants indicated on the Status Information are acting with respect to the transaction, (iii) the agreement of the Matching Utility that the Matching Utility will indemnify, hold harmless and agree, on demand, to reimburse DTC, its stockholders, officers, directors and employees from and against and for any and all claims, liabilities, obligations, damages, actions, penalties, losses, costs, expenses and disbursements, including, without limitation, attorneys’ fees and disbursements (“Claims”), which they may sustain by reason of DTC’s providing Status Information to the Matching Utility, except for any Claims which result from the gross negligence or willful misconduct of the person asserting a right to indemnification, (iv) the agreement of the Matching Utility to pay the Status Information Fee, (v) the agreement of the Matching Utility to notify DTC immediately if the Matching Utility becomes aware of Status Information provided to it by DTC being distributed to a third party other than as authorized pursuant to (ii) above, and (vi) the acknowledgement of the Matching Utility that DTC may terminate the Status Information Agreement in the event that (a) DTC becomes aware that the Matching Utility has used or distributed the Status Information in a manner that violates the terms of the Status Information Agreement, (b) the Matching Utility does not pay the Status Information Fee in accordance with the terms of the Fee Schedule, or (c) DTC submits a rule filing to the SEC, that is approved by the SEC or otherwise becomes effective pursuant to the Securities Exchange Act of 1934, to discontinue DTC’s distribution of Status Information to Matching Utilities.

DTC will develop the mechanism necessary for DTC to directly provide Status Information to a Matching Utility for each transaction submitted to DTC to which a customer of the Matching Utility is a party to the transaction and matched the transaction via the Matching Utility, regardless of whether or not that Matching Utility submitted the transaction to DTC, subject to (i) the agreement by the Matching Utility to pay DTC for the reasonable cost to cover for the development of the mechanism by DTC and (ii) the Matching Utility subscribing to receive Status Information, as described above. To the extent that the transaction is an interoperable transaction submitted to DTC by another Matching Utility, then in order to receive Status Information for the interoperable transaction, the Matching Utility would be required to submit an indicator to DTC for the purpose of notifying DTC that a customer of the Matching Utility is a party to the transaction.

Investment Identification

About the Product

At your request, DTC will segregate securities for the account of a firm, partner, officer, stockholder, or for an omnibus account.

Securities are segregated by the serial number appearing on the Investment Identification Instruction form. The serial number appears on the Participant Daily Activity Statement on the date of activity and is

reported on the end-of-month statement until you no longer have a position in the issue or you have instructed DTC to release the securities from segregation.

Dividends and interest due are allocated as follows:

1. Cash dividends and interest due are allocated to the Investment Identification positions and other positions. Allocations appear on your Dividend/Reorganization Cash Settlement List.
2. Stock dividends are calculated on the Investment Identification positions and other positions, and are credited to your general free account on the payable date.
3. Stock splits are calculated on the general free and pledged positions as well as the Investment Identification account. The dividend is added to each respective account on settlement date.
4. DTC allocates cash merger and mandatory put payments as well as municipal and corporate redemption payments for positions segregated on DTC's books.

Investment Identification activity is recorded on your Participant Daily Activity Statement. Check your statement to be sure your transactions were properly processed and recorded.

Warning! Under DTC's Rules and Procedures you are responsible for verifying the accuracy of your Participant Daily Activity Statement. You must report discrepancies to DTC's Reconciliation division as soon as possible after you receive the statement.

Investment Identification Contact Number

More information on Investment Identification may be obtained via the DTCC Client Center at <https://www.dtcc.com/client-center>.

Look-Ahead Processing

DTC's Look-Ahead process runs on two minute intervals and selects pairs of transactions that when processed simultaneously will not violate the involved Participants net debit cap, collateral or other Risk Management system controls.

The Look-Ahead process reduces transaction blockage for securities by identifying a receive transaction pending due to a net debit cap insufficiency and determines whether an offsetting delivery transaction pending because of a quantity deficiency in the same security would permit both transaction pending because of a quantity deficiency in the same security would permit both transactions to be completed in compliance with DTC's Risk Management system controls. DTC's processing system, Account Transaction Processor (ATP) calculates the net effect to the collateral and net debit cap controls for all three Participants involved and if the net effect will not result in a deficit in the collateral or net debit cap for any of the three Participants, ATP processes the transactions simultaneously.

DTC's Look-Ahead process also allows Money Market Issuance Deliveries pending for a Custodian's or Dealer's net debit cap to complete against Maturity Presentments pending for an Issuing/Paying Agent's net debit cap. The processing system calculates the net effect of the dollar amount of offsetting transactions in the accounts of the two Participants involved. If the net of the transactions results in positive risk management controls in those two accounts, the transactions will be completed.

OCC Market Loan Program

In order to reduce the possibility of mis-matched stock loans, look-ahead matches on number of shares and dollar amount in addition to CUSIP on stock loan transactions in the OCC account.

Settlement Optimization

In lieu of the Look-Ahead process, DTC may run other automated processes that identify a transaction processing order that optimizes the number of Participant transactions that are able to be processed for settlement (“Settlement Optimization”). Factors evaluated for Settlement Optimization may include, but are not limited to, a Participant’s available positions, transaction priority, and risk management controls. Settlement Optimization may include running multiple processes and/or processing scenarios before the optimal transaction processing order is identified for settlement.

Settlement Cycles

DTC settlement processing occurs in two cycles: a day cycle and a night cycle. The day cycle runs on the day of settlement. The night cycle begins running the evening of the Business Day prior to the day of settlement. The Look-Ahead process and Settlement Optimization may be run in either settlement cycle.

Memo Segregation⁷

About the Product

Participants can protect fully-paid-for customer securities using the Memo Segregation function. Memo Segregation is similar to the Segregation function, which allows a Participant to protect fully-paid-for customer securities by moving them from a free position to a protected (segregated) position. However, whereas Segregation allows a Participant to move only existing positions, Memo Segregation allows the Participant to create memo-segregated positions within its free positions, thus allowing the Participant to protect anticipated, fully-paid-for customer securities.

How the Product Works

A Participant can have its Memo Segregation counter automatically increased upon receipt of certain transactions. The Participant can also allow positions resulting from certain transactions to be available for redelivery (turnaround) regardless of Memo Segregation constraints. DTC gives the Participant two options for creating Memo Segregation positions:

1. Provide DTC with specific Memo Segregation transactions using the Memo Segregation function, instructing DTC to establish or adjust Memo Segregation positions.
2. Provide DTC with standing instructions to have certain types of transactions automatically increase Memo Segregation positions, and ignore Memo Segregation positions in order to allow redeliveries (turnarounds) to complete.

To provide DTC with standing instructions, submit a Memo Segregation Request form. To get a copy of this form a Participant should contact its Relationship Manager.

⁷ See ANNEX A for descriptions of the reason codes referenced in this Memo Segregation section.

Non-Optional Memo Segregation Transactions

Independently of the preceding options, the following transactions always reduce a Participant's Memo Segregation position:

- Withdrawals-by-transfer (WTs) Certificates-on-demand (CODs)
- Free deliver orders (DO), except those processed with reason codes 10 - 29, 98, 100, 220, 260 - 268, 270-278, 280 - 288, 290 – 291, 396, 600-619, 704-708, and CNS short covers
- Deliveries processed with reason codes 95, 97, 630, 640 and reclaim codes 197, 631, and 641 (free and valued).

When one of these transaction types is processed against a Participant's account with a Memo Segregation position, the system checks the Participant's free account. If sufficient shares exist, both the free position and the Memo Segregation position are reduced by the amount of the transaction.

Note- If the free position is greater than the Memo Segregation position, and the transaction is for the entire free amount, the Memo Segregation position is reduced to zero; it does not become a negative value.

Optional Memo Segregation Indicators

A Participant can activate any of the below Memo Segregation indicators by providing DTC with a standing Memo Segregation instruction. When the Participant activates a Memo Segregation indicator, the Participant's free position and Memo Segregation position are automatically updated according to the indicators that the Participant has elected.

<i>Activate Indicator</i>	<i>To</i>
1	Automatically increase the Participant's Memo Segregation counter upon the receipt of: <ul style="list-style-type: none"> • Free and valued DOs with reason codes 40, 99, 330, & 340 • DRS-related Deliveries with reason codes 390 and 391 • WT reversals • Positions resulting from voluntary and mandatory reorganizations.
2	Automatically increase the Participant's Memo Segregation counter upon receipt of transactions with reason codes 41-48, 331-338, and 341-348.
3	[Reserved]
4	Turnaround securities positions, regardless of Memo Segregation constraints, for positions received from DOs with reason codes 10, 30, 200, and 600, except those with reason codes 10, 20, 200, 201, 260, 270, 280, or 290.

Activate Indicator	To
5	Turnaround securities positions, regardless of Memo Segregation constraints, for positions received from: All DOs, except those with reason codes 20-29, 40 - 48, 99, 201, 261-268, 270-278, 290, 291, 330-338, 340-348, 390, 610-619, 705-707 and CNS receives from the "C" account except if the turnaround is a reason code 10, 20, 200, 201, 260, 270, 280, or 290.
6	A Participant may elect to increase automatically its Memo Segregation counter by the units of securities credited to the Participant's account in any ACATS transfer to that account.

Memo Segregation indicators 4 and 5 control the capability that allows certain positions to be used for turnarounds up to the amount of the received position, regardless of Memo Segregation constraints.

Even if the Participant has no pending deliveries at the time a position is received from a DO with reason code 10 or 30, DTC retains, throughout that day's processing cycle, a notation of the number of shares received from such deliveries. DTC also processes any deliveries regardless of when they are submitted that day, up to that number, regardless of the Participant's Memo Segregation position.

Memo Segregation Contact Number

More information about Memo Segregation may be obtained via the DTCC Client Center at <https://www.dtcc.com/client-center>.

Money Market Instrument (MMI) Processing

MMIs are subject to, and are processed in accordance with, Rule 9(A), Rule 9(B), Rule 9(C) of DTC and the Procedures set forth in this Settlement Service Guide.

MMI Funding Acknowledgment by the IPA

Subject to DTC risk controls, DTC processes maturing Presentments for delivery versus payment to the applicable IPA with respect to an Acronym in the Rules and these Procedures only after an acknowledgment ("MMI Funding Acknowledgment") is made by the IPA to DTC whereby either: (i) the value of issuances approved by receivers via Receiver Authorized Delivery (RAD) alone⁸ or a combination of receiver-approved issuances plus an amount the IPA(s) has been funded by the issuer exceed the Acronym's Presentments, or (ii) the IPA acknowledges it will fund the entire amount for the gross value of an Acronym, regardless of issuances. ⁹An IPA must make an MMI Funding Acknowledgment using the Decision Making Application (DMA). When an MMI Funding

⁸ An affirmative MMI Funding Acknowledgement by the IPA is not required in the case that the aggregate amount of RAD approved Issuances of an Acronym exceeds the aggregate amount of Presentments. In this instance, the IPA is deemed to provide a standing instruction to process transactions in the Acronym, subject to Risk Management Controls. Any such instruction or deemed instruction by the IPA is irrevocable once given.

⁹ In the case where an affirmative MMI Funding Acknowledgment by the IPA is required for Presentments to be processed, the MMI Funding Acknowledgement must be a notification provided by an IPA to DTC with respect to an Acronym, that the IPA acknowledges and affirms its funding obligation for a maturing Acronym either (i) in the entire amount of the Acronym or (ii) for an amount at least equal to the difference between the value of Issuances and the value of the Presentments. In the case of (ii) above, the IPA may (later that day) increase the funding amount it acknowledges, but in no event may the IPA reduce the amount of its obligation previously acknowledged that day.

Acknowledgement has occurred, it constitutes the IPA's instruction to DTC to attempt to process transactions in the Acronym.

Testing for Position and Risk Management Controls

After an IPA has acknowledged that it will fully fund the Acronym, then the transactions are sent to the processing system and attempted against position and Risk Management Controls. If the IPA provides an MMI Funding Acknowledgement for only partial funding of the entire amount of Presentments for an Acronym, DTC tests Risk Management Controls of deliverers and receivers with respect to that Acronym to determine whether Risk Management Controls would be satisfied by all deliverers and receivers of the Acronym and all parties maintain adequate position to complete the applicable transactions, i.e., "MMI Optimization". In the case that the aggregate amount of RAD approved Issuances of an Acronym exceeds the aggregate amount of Presentments, Risk Management Controls for all deliverers and receivers are tested using MMI Optimization as well.

As indicated above, when partial funding from the IPA is necessary, transactions are routed to MMI Optimization. In MMI Optimization, it is generally required that all deliverers and receivers of the Acronym must satisfy risk management controls and delivering Participants hold sufficient position, in order for the transactions in that Acronym be processed. However, as long as the Issuances that can satisfy Deliverer and Receiver risk controls for that Acronym are equal to or greater than the Maturing Presentments of that Acronym, the applicable transactions (i.e., those that pass risk controls) are processed.

Note: If there are multiple IPAs for an Acronym, DTC determines funding based on the satisfaction of conditions for all deliverers and receivers with respect to all Presentments, Issuances and applicable DOs in the Acronym and MMI Funding Acknowledgements for all IPAs with Issuances and Presentments in the Acronym. No instruction of an IPA to DTC to process the subject MMI transactions shall be effective until MMI Optimization is satisfied with respect to all transactions in the Acronym.

Money Market Instrument (MMI) Acronym Payment Failure Processing

MMI Acronym Payment Failure processing is designed to protect DTC and notify Participants if there is no timely MMI Funding Acknowledgment from the IPA(s) for an Acronym for which presentments are due on that day and/or DTC is aware that the issuer of an Acronym is insolvent and therefore payments due to Participants relating to presentments for that Acronym will not be funded by IPA(s) through DTC settlement ("Acronym Payment Failure"). Using the IPA Decision Making Application or automated messaging, IPAs can notify DTC that they refuse to pay for Presentments, for an MMI Acronym. An IPA must inform DTC of its refusal to pay in accordance with the timeframe set forth in the Settlement Processing Schedule above. After DTC verifies the default it begins MMI Issuer Failure procedures.

In the event that an IPA does not fund, then the rights of the IPA as a Participant and all Participants that are party to the subject MMI transactions shall be resolved outside of DTC.

How the Process Works

If there is an Acronym Payment Failure, DTC will initiate the following process, pursuant to which DTC:

- Prevents further issuance and maturity activity at DTC for that Acronym.
- All CUSIPs under the failed Acronym are blocked so that no Participant may instruct any delivery of such Acronym on that Business Day. The block will be lifted the following Business Day.

- Devalues all of the Issuer's MMIs for collateral monitor calculations.
- Notifies Participants of the event

Notwithstanding the occurrence of an Acronym Payment Failure, the IPA shall remain liable for funding pursuant to any MMI Funding Acknowledgment.

Temporary Acronym Payment Failure Process

“Temporary Acronym Payment Failure” with respect to Income Presentments occurs when an IPA notifies DTC of issuer's temporary inability to fund Income Presentments (IPs) and therefore the IPA refuses to pay Income Presentments for the Acronym. This is a situation that DTC expects the issuer and/or IPA to resolve by the next Business Day. Using the IPA Decision Making Application (IPA DMA) or automated messaging, IPAs can notify DTC that they refuse to pay Income Presentments for an MMI acronym for which there is a Temporary Acronym Payment Failure. When DTC receives such a notification, it:

- Temporarily devalues to zero all of the Issuer's MMIs for Collateral Monitor purposes. (The value will be reinstated the following Business Day if the funding is paid.)
- Automatically submits these transactions for processing the next Business Day.
- Notifies Participants of the delayed payment.
- Blocks from DTC's systems all further issuances and maturities by that Issuer for the rest of the Business Day.

Note: An IPA cannot notify DTC of a Temporary Acronym Payment Failure for the same Acronym on consecutive days. If a Funding Acknowledgment of the Acronym is not made by the IPA on the Business Day following the day of a Temporary Acronym Failure, then DTC will follow the Acronym Payment Failure process with respect to the Acronym as described above.

Note- An IPA may notify DTC of a Temporary Payment Failure for Income Presentments only if the issuer's only obligations that day are IPs.

Acronym Payment Failure Contact Number

For more information on DTC Acronym Payment Failure processing, call DTC's Settlement Operations Hotline at (212) 855-5800.

Participants Fund and Preferred Stock Investment

Purpose

The Participants Fund and the Participants Preferred Stock Investment provided in DTC Rule 4 create liquidity and collateral resources to support the business of DTC and to cover losses and liabilities incident to that business. For this purpose, every Participant has a Required Participants Fund Deposit and a Required Preferred Stock Investment; the amount of each is based on the Participant's activity at DTC as further explained in this Service Guide. Additionally, a Participant may make a Voluntary Participants Fund Deposit, to further support its activities. The Required and Voluntary Participants Fund Deposits must be in cash, which, if a Participant fails to settle for any reason, are available to DTC as

immediate liquidity to complete settlement and collateral to support any borrowing against DTC lines of credit.

Amounts

Each Participant must make a minimum deposit of \$7,500 to the Participants Fund. Many Participants are required to deposit additional amounts based upon a 60 business day rolling average of the Participant's six highest intraday net debit peaks. A Participant's portion of the Participants Fund is in direct relation to the liquidity requirements generated by the Participant and its Affiliated Family, if any, as more fully described below.

The aggregate Participants Fund includes two component amounts: the Core Fund and the Liquidity Fund. The Core Fund is set by DTC at an aggregate amount of \$450 million and is comprised of the Base Fund and the Incremental Fund. The Base Fund is the sum of minimum deposits by all Participants, i.e., the amount that is \$7,500, times the number of Participants, at any time. The Incremental Fund is the balance of the Core Fund up to \$450 million; this is the amount that must be ratably allocated among Participants that are required to pay more than a minimum deposit.¹⁰ The Liquidity Fund component (set at \$700 million) applies to certain Unaffiliated Participants and Affiliated Families as described in the Liquidity Fund subsection below.

The Required Preferred Stock Investment of a Participant must be in a minimum amount of a par value of \$2,500. A Participant's actual Required Preferred Stock Investment is calculated on a substantially similar basis to the calculation of the Required Participants Fund Deposit.

How the Required Deposit to the Participants Fund and the Required Preferred Stock Investment are Calculated for a Participant

DTC monitors the levels of each Participant's net settlement debits during each Business Day and records the highest net debit. This measure of liquidity is referred to as the Participant's intraday net debit peak.

Required Participants Fund Deposit Calculation

For a Participant, its Required Participants Fund Deposit will include a deposit to the Base Fund and some or all of the following: the (i) Incremental Fund (which together with the Base Fund comprises the Core Fund) and/or (ii) the Liquidity Fund.

The aggregate amount of all Participants' Required Participants Fund Deposits is \$1.15 billion.

Core Fund

Each Participant's Required Participants Fund Deposit for the first \$450,000,000 (i.e., the total amount of the Core Fund) of the aggregate Participants Fund (for all Participants) is calculated taking account of the following:

The minimum deposit is \$7,500 per Participant which, across all Participants (the number of which may vary from time to time) adds up to an aggregate threshold amount of cash in the Participants Fund (i.e., the Base Fund). The difference, if any, between the total amount of the Base Fund and the total amount of the Core Fund, \$450,000,000, (i.e. the "Incremental Fund") is then allocated among all Participants that are required to deposit more than the minimum of \$7,500. The amount assessed above the minimum

¹⁰ Those Participants whose "PF Averages" (as defined below) exceed the total amount of the Base Fund are required to make a Deposit to the Incremental Fund.

deposit of \$7,500 is based on each Participant's average (the "PF Average") of its six largest intraday net debit peaks over a rolling 60 business day period and the ratio of each Participant's PF Average to the PF Averages of other Participants.

In order to determine the amount a Participant must deposit to the Incremental Fund, DTC makes the following calculations.

First, DTC determines the PF Average of each Participant as the rolling average, over 60 Business Days, of the Participant's six highest intraday net debit peaks.

Second, DTC arrays these PF Averages from highest to lowest and "ranks" them accordingly. As a result, each Participant will have a "PF Average Rank", an absolute number that is the Participant's numerical ranking in this array.

Each Participant's PF Average is compared to the next lowest ranked PF Average and DTC calculates the difference between the amounts of the two PF Averages as the "Ranked Amount Difference".

Separately, a "Factor" is calculated by dividing the total amount of the Incremental Fund, by the PF Average of the Participant with the highest PF Average Rank minus the amount of the Base Fund.

Finally, the amount that a Participant shall Deposit to the Incremental Fund ("Required Incremental Fund Deposit") is calculated as the sum of each Participant's Ranked Amount Difference divided by the Participant's PF Average Rank, and multiplied by the Factor, for all Participants with a PF Average Rank that is less than or equal to the PF Average Rank of the Participant.

Note: Pursuant to the calculation set forth above, based on the PF Average for each Participant, the calculation ratably allocates the Incremental Fund to calculate the required cash deposit of each Participant. Participants with the highest PF Averages will, accordingly, be required to make the largest required deposits and Participants with the lowest PF Averages will be required to make smaller deposits or even, potentially, no amount above the \$7,500 minimum.

Liquidity Fund

The remaining \$700,000,000 aggregate amount of Required Participants Fund Deposits (i.e., the Liquidity Fund) is allocated proportionately among (i) Unaffiliated Participants that have Net Debit Caps that exceed \$2.15 billion and (ii) Participants whose Affiliated Families' have Aggregate Affiliated Family Net Debit Caps that exceed \$2.15 billion, in the following manner:

Step One:

DTC will calculate the Unaffiliated Participant's or Affiliated Family's portion of the \$700,000,000:

- a. First, it will determine the Unaffiliated Participant's or the Affiliated Families' "Overage" amount, which is the amount by which the Net Debit Cap for an Unaffiliated Participant or the Aggregate Affiliated Family Net Debit Cap for an Affiliated Family exceeds \$2.15 billion up to and including \$2.85 billion.
- b. Second, it will calculate the allocation percentage for an Unaffiliated Participant or Affiliated Family:

$$\frac{\text{Overage of the Unaffiliated Participant or Affiliated Family}}{\text{Sum of ALL Unaffiliated Participant and Affiliated Family Overages}} = X\%$$

- c. Third, it will multiply X% by \$700,000,000 to determine the Unaffiliated Participant's or Affiliated Family's allocation amount.
- d. The sum of all Unaffiliated Participant and Affiliated Family allocations equals \$700,000,000.

Step Two:

For Participants of Affiliated Families, DTC will determine each Participant's portion of the Affiliated Families allocation amount from Step One, above.

- a. First, it will calculate the Participant's allocation percentage, which is based on the Participant's individual Net Debit Cap in relation to its Affiliated Family's Aggregate Affiliated Family Net Debit Cap.

$$\frac{\text{Participant Net Debit Cap}}{\text{Aggregated Affiliated Family Net Debit Cap}} = Y \%$$

- b. Second, it will multiply Y% by the Affiliated Family allocation amount to determine the Participant's portion of the Affiliated Family allocation.
- c. Third, it will complete this calculation for all Participants within each Affiliated Family that has an Overage.

The sum of all Participant portion amounts will equal the total allocation amount of the Participant's Affiliated Family.

Since an Unaffiliated Participant is not part of an Affiliated Family, it is not subject to this Step Two. Rather, its allocation portion is X% as calculated in Step One "b" above.

Adjustments to a Required Participants Fund Deposit

DTC may increase the Required Participants Fund Deposit of a Participant as provided in Rule 9(A), including due to a credit, market, operational, or other concern regarding the Participant. For illustrative purposes, typically, the following factors may be taken into consideration for such an increase:

- (a) the Participant's liquidity arrangements,
- (b) the Participant's overall financial condition,
- (c) published news or reports and/or regulatory observations relating to the Participant, and
- (d) the Participant's internal credit rating, if any.

Required Preferred Stock Investment Calculation

The following are the steps taken to calculate the Required Preferred Stock Investment Calculation:

1. The minimum investment is \$2,500 per Participant which, across all Participants (the number of which may vary from time to time) adds up to an aggregate threshold amount. The difference, if any, between that aggregate threshold amount and \$150,000,000 (the "PS Differential") is then allocated ratably among all Participants based on each Participant's average (the "PS Average") of its six largest intraday net debit peaks over a rolling 60 business day period as of the last day of each quarter year.

2. The calculation and reallocation among Participants of the Required Preferred Stock Investments are performed as of the last business day of each quarter. Based on the PS Average as of the last business day of the quarter for each Participant, the calculation incrementally allocates the PS Differential to calculate the Required Preferred Stock Investment for each Participant. Participants having the highest PS Averages will, accordingly, be required to make the largest investment and Participants with the lowest PS Averages will be required to make smaller investments or even, potentially, no amount above the \$2,500 minimum.

Settlement of Participants Fund Deposits

The Required Participants Fund Deposit for each Participant is recalculated daily.

Settlement of Required Participants Fund Deposits Calculated at the End of a Month

After settlement on the last Business Day of each month, DTC calculates each Participant's Required Participants Fund Deposit. Each Participant will be notified of its new Required Participants Fund Deposit on the first Business Day of the following month. If a Participant's Required Participants Fund Deposit, as calculated on the last Business Day of a month, exceeds its Actual Participants Fund Deposit, then the Participant will be notified of the increase, and the amount representing the difference between the Participant's Required Participants Fund Deposit and Actual Participants Fund Deposit will be systematically charged to the settlement account of the Participant. The amount, once collected through settlement, (a) will be treated as a Deposit by the Participant to the Participants Fund and (b) will be noted on applicable information and/or reports made available to the Participant as a Participants Fund contribution (Activity Code 70-01).

Collection of Required Participants Fund Deposits Calculated on an Intra-month Basis

A Participant is required to Deposit the difference between its Actual Participants Fund Deposit and its Required Participants Fund Deposit calculated on an intra-month basis, i.e., on a Business Day other than the last Business Day of a month, only if the Participant:

- (a) has not been placed on the Watch List (as defined pursuant to Rule 1) and the difference between the Participant's Required Participants Fund Deposit and a reference amount (the determination of which is described below) ("Reference Amount") (i) is equal to or exceeds \$500,000 and (ii) represents a percentage increase of 25 percent or more over the Reference Amount ("Standard Threshold"), or
- (b) has been placed on the Watch List and the difference between the Participant's Required Participants Fund Deposit represents a percentage increase of 10 percent or more over the Reference Amount ("Watch List Threshold").

The Participant shall satisfy any deficit in its Required Participants Fund Deposit that it is required to satisfy pursuant to this subsection, on the same Business Day that the difference is calculated and a report or other notification of the deficit is made available to the Participant.

The Reference Amount equals the Participant's Required Participants Fund Deposit as previously calculated on the latter of:

- (a) the last Business Day of the prior month;
- (b) the most recent Intra-month Business Day (prior to the then current Business Day), when the amount resulting from daily calculation of the Participant's Required Participants Fund

Deposit met or exceeded either the Standard Threshold or the Watch List Threshold and a deficit collection was effectuated; and

- (c) the most recent intra-month Business Day (prior to the then current Business Day) when DTC effected an adjustment to the Participant's Required Participants Fund Deposit in accordance with Rule 9(A).

Return of Excess Deposits

At least quarterly, if a Participant's Actual Participants Fund Deposit is greater than its Required Participants Fund Deposit, DTC will so notify the Participant. The Participant may request, on a monthly basis, the return of any part of its excess deposit. A Participant may maintain an excess deposit (i.e., Voluntary Participants Fund Deposit) that could reduce administration or activity caused by the monthly calculation or intra-month calculation.

This section shall apply only to the calculation and collection of DTC Participants Fund Deposits, as described above, and does not supersede or limit any provisions of the DTC Rules or any rights of DTC in accordance with applicable law and DTC's Rule and Procedures, including but not limited to with respect to transactions in securities and money payments.

Reallocation of Preferred Stock

On the first settlement cycle of each quarter, the aggregate of the Required Preferred Stock Investment of all Participants will be reallocated among all Participants, based up the recalculation of each Participant's Required Preferred Stock Investments as described above. A Participant may be credited a settlement amount if it is selling Preferred Stock or debited as settlement amount if it is purchasing additional Preferred Stock, as appropriate.

Submitting an Initial Participants Fund Deposit or a Voluntary Deposit

For initial deposits by new Participants and voluntary deposits by existing Participants, wire the funds to DTC, formatting the instruction to conform to Fedwire standards for Fed fund transfers. Participants should prepare and submit wire instructions in accordance with guidance updated and published by DTC from time to time.

Payment Orders

About the Product

DTC's Payment Order service allows you to settle money payments for transactions that were processed separately. A payment order authorizes DTC to credit and debit corresponding payee and payor accounts at DTC based on Participant instructions and satisfaction of all applicable DTC risk management controls before the order is processed.

How the Product Works

Premium Payment Order (PPO) and Securities Payment Order (SPO)

A Participant wanting to collect money (the payee Participant) from another Participant (the payor Participant) first contacts the payor Participant to reach agreement on the amount payable. The payee Participant then submits to DTC a premium payment order (PPO) or a securities payment order (SPO). The PPO is typically used to collect a net option contract premium for an opening writing or closing

purchase transaction. The SPO is typically used to collect a mark-to-market payment based on the difference between the current and previous market value of an open securities contract.

The following are sample situations in which you could use PPOs and SPOs.

- A bank's customer writes an opening call option. Through DTC the bank deposits underlying securities with the Options Clearing Corporation (OCC). The bank (the payee Participant) submits to DTC a PPO crediting its settlement account for the amount of the net option contract premium and debiting the account of the broker (the payor Participant) for the same amount.
- A bank's customer purchases a closing call option. OCC releases underlying securities previously deposited with it through DTC. The broker (the payee Participant) submits to DTC a PPO crediting its settlement account for the amount of the net option premium and debiting the account of the bank (the payor Participant) for the same amount.
- A Participant delivers securities to another Participant through DTC in a stock loan transaction. Thereafter, the market value of the securities increases significantly. The lender (the payee Participant) submits an SPO to DTC crediting its settlement account for the amount of the difference between the original and new market values and debiting the account of the borrower (the payor Participant) for the same amount.
- To facilitate the capability of a Participant delivering securities for value (the payee Participant) to make an intraday withdrawal of funds that the Participant receiving the securities for value (the payor Participant) would choose to fund with an SPP, as separately agreed between the Participants and DTC, (i) payor Participant would direct an SPP to credit a DTC designated account (the conduit account) instead of its own settlement account; (ii) payor Participant would initiate an SPO to debit the conduit account and credit its settlement account the same value as the SPP (as though the payor Participant had directed the SPP to credit its own account); (iii) payee Participant would have DTC process an SPO to debit the payee Participant's settlement account and credit the conduit account an amount not to exceed the lesser of (A) payee Participant's net credit balance and (B) payor Participant's SPP; and then (iv) payee Participant would have DTC facilitate an SPP Returns/P&I Withdrawal Request to withdraw the corresponding SPP amount from the conduit account, as though it were withdrawing an SPP from its own account.

SFT Price Differential (SFT PD) Payment Order

For a description of SFT Price Differential payment orders, please see NSCC Securities Financing Transactions (SFT) Service.

Note- You can use Participant Settlement Statements to get a list of Settlement activity codes and their descriptions.

Receiver Authorized Delivery (RAD)

About the Product

RAD allows Participants to review and either approve or reject incoming transactions before they are processed. Unless otherwise noted in DTC's Rules and Procedures, client-initiated settlement instructions, including valued DOs, POs, pledges and releases of pledged securities are subject to RAD controls. MMI transactions are subject to RAD regardless of whether they are free of payment or for value.

Participants are allowed to set their own RAD limits on a global or bilateral level. Global limits apply to all contra-participants and bilateral limits allow Participants to set individual limits against a specific contra-participant.

Stock Loans

Participants may establish bilateral and global RAD profile limits specifically for their stock loan and stock loan return activity. Applicable stock lending transactions will be checked against the receiver's stock lending profile limits for passive approval or will otherwise await the receiver's active approval based on the parameters of the profile. Absent a Participant establishing a Stock Loan RAD limit profile, a Participant's transactions will be subject to the RAD functionality applicable to ordinary DOs, including the established DTC limits as well as Participant established bilateral and global limits.

Approving or Cancelling Deliveries

You can approve or cancel transactions received via DTC's Settlement User Interface or an automated RAD messaging process.

Turning RAD Limits On and Off

You can turn off RAD limits via DTC's Settlement User Interface and allow DTC to process all your incoming deliveries. You may want to turn off your RAD limits, for example, when you are unable to modify the bilateral limits of your contra-participants because of time constraints. Your bilateral RAD limits will not be in effect until you turn them back on via the Settlement User Interface.

Transactions that are automatically routed to RAD are not affected by your decision to turn off RAD processing; they always require your approval before processing.

Free Transactions

Participants can force free receives (DOs) to their RAD if input after 5:00 p.m. eastern time. Forcing them will effectively block free receives from being booked into a Participant's account between 5:00 p.m. and the free delivery cutoff of 6:15 p.m.

Unless designated otherwise by a profile, all MMI free receives are sent to RAD, at all times. Participants who elect to turn on RAD at 5:00 p.m. will have all their free receive activity routed to RAD for approval or cancellation. This will aid Participants who choose not to monitor their account for free delivery activity after 5:00 p.m., and are not aware of these free receives until the next day. Participants can update their accounts to turn on RAD at 5:00 p.m. for all free receives via a profile in the Settlement User Interface.

Indexed Principal Transactions

You can view and act on MMI transactions in RAD for issues that contain an indexed principal feature. Deliver Order (DO) transactions are directed to RAD whenever:

- An issuing/paying agent (IPA) initiates a DO in an MMI program that allows for indexed principal as a possible feature of any issue under the program, or
- A dealer/sales agent initiates a turnaround DO in an MMI program that allows for indexed principal of any issue under the program, or
- A Participant other than an IPA initiates a DO in an issue already designated as having an indexed principal feature.

Wind-Down Participant

DTC may, in its discretion, apply RAD to all DOs and POs initiated by a Wind-Down Participant, regardless of value. Receiving Participants may raise their RAD limits to manage such transactions.

RAD Contact Number

More information on RAD may be obtained via the DTCC Client Center at <https://www.dtcc.com/client-center>.

OCC Market Loan Program

All reclaims to the OCC account will recycle until the OCC submits a redelivery back to the lender or until the reclaim drops at the recycle cutoff. If the OCC does not submit a delivery to the lender, then the borrower's reclaim to the OCC will drop at the recycle cutoff, i.e., the borrower will retain the securities and the debit for the stock loan delivery it received from the OCC.

Note- OCC Market Loan Program transactions bypass RAD.

Recycle Processing

About the Product

When DTC receives instructions to effect a transaction, it may first be processed through one of several DTC systems before any DTC accounts are updated. For example, a transaction involving a delivery of securities may first be processed through one or more of the following:

- The Receiver Authorized Delivery (RAD) system
- The Money Market Instrument (MMI) system.

After the transaction is processed, it is entered into DTC's Account Transaction Processor (ATP) system, where it is checked for various criteria (see Reasons for Recycling) before it is completed.

One critical function of ATP is Recycle Processing, also referred to as Pend Processing. DTC's recycle processor holds Participant transactions that cannot immediately complete. All transaction types recycle if they cannot immediately complete, except:

- Minimum amount (MA) to net additions (NA) moves (using Collateral Moves functions)
- Releases of collateral
- Memo segregations (using the Memo Segregation functions)
- Segregations (using the Account Segregation Releases function)
- Transactions input with the "prevent pend" option (see below).

Note- These transactions will be dropped if they cannot complete when ATP performs its initial check.

Reasons for Recycling

Transactions can recycle because of Risk Management Controls or insufficient position. A transaction may recycle under any of the following circumstances:

1. The deliverer has insufficient position to complete the transaction.
2. Completing the transaction would make the deliverer's collateral monitor negative, that is, the total remaining collateral in the deliverer's account is less than the resulting net settlement obligation. This could happen if the collateral value of the securities to be delivered exceeds the settlement value that would be credited to the deliverer's account, or if the delivery is free and the deliverer's collateral monitor is not sufficient to absorb the decrease.
3. Completing the transaction would cause the total value in the receiver's account, including the securities involved in the transaction, to be less than the resulting net settlement obligation, that is, the receiver's collateral monitor would be made negative. This could happen if the amount that would be charged against the receiver's account exceeds the collateral value of the applicable securities and the receiver's collateral monitor is not sufficient to absorb the decrease.
4. Completing the transaction would cause the receiver's net settlement obligation to exceed its net debit cap.

How Recycling Works

The recycling system operates within a single processing day. A transaction that remains incomplete at the end of the processing day is dropped from the recycle processor. Dropped transactions must be reentered on a subsequent day.

Transactions will automatically recycle unless you expressly tell DTC not to recycle it when the transaction is input. This option, referred to as "prevent pend," is available for most types of deliveries. When instructed, DTC drops the transaction if it cannot complete immediately.

Note- The recycle processor also allows you, as a deliverer, to cancel ("kill") a recycling transaction using the Pending Transactions or Activity Inquiry functions. To activate these functions, contact your Settlement Access Coordinator.

How DTC prioritizes risk management recycles differs from how it prioritizes insufficient position recycles. The following topics explain how these transactions are prioritized.

Risk Management Recycles

DTC automatically gives priority to transactions that are recycling as a result of risk management controls as follows:

- Specific types of transactions are given priority over others. See the Prioritization Schedule for the priority order.
- Within the transaction types, transactions are given priority on the basis of:
 1. Settlement value (for valued transactions), or
 2. Market value (for free transactions, such as free deliveries or withdrawals).

Note- This prioritization schedule defines only the *order* in which DTC *attempts* to complete recycling transactions. DTC completes any transaction it can. If the first transaction on the recycling queue cannot be completed, DTC will move to the next transaction and attempt to complete it.

Warning! If you have multiple Participant accounts, you must be aware of how your account structure affects your recycling transactions. If you have grouped your accounts into a family structure (see Grouping Accounts into Collateral Families), *all* your accounts within that family share the same collateral monitor and net debit caps. This also means that *all* transactions within a family share the same risk management recycling queues.

For example, suppose you have accounts A and B in a collateral family and have two RVP deliveries recycling against your net debit cap, one for account A and one for account B. The larger of these deliveries is placed first on the recycling queue. Hence, when settlement credits are applied against either account A or account B, the larger delivery is attempted first.

Insufficient Position Recycles

If you enter a transaction to deliver or pledge securities, (such as a transaction to remove securities from your account) and you do not have enough position to complete the *entire* transaction, DTC will pend the transaction until you have enough position to cover the entire delivery.

Note- An exception to this rule: DTC *does* allow for partial NSCC Continuous Net Settlement (CNS) and ACATS deliveries.

DTC offers you two options for recycling your insufficient position transactions:

- Option 1- Automatic Prioritization
- Option 2- First In, First Out (FIFO) with Blockage.

To select a recycle option, you must complete a Recycle Option Instruction form. Request the form by emailing DTCCIntegration@dtcc.com.

Option 1: Automatic Prioritization

If you select option 1, DTC will recycle your transactions using the same criteria used for Risk Management Control recycles. See the Prioritization Schedule for the priority order.

Note- If DTC cannot complete the first transaction on the queue due to Risk Management Controls, the position is immediately made available to complete other transactions. Therefore, once the Risk Management Control requirements have been met, position may no longer be available for the transaction and the transaction will then recycle because of insufficient position.

If you wish to control the order in which your transactions recycle, option 1 may not suit your needs.

Option 2: First In, First Out with Blockage

The difference between option 2 and option 1 is that with option 2 the recycle processor maintains the order in which transactions are entered into the Account Transaction Processor (ATP), meaning FIFO ordering. Except for CNS deliveries, which are always given the highest priority, transactions are not prioritized by transaction type or size.

Note- If the first transaction in the recycling queue cannot complete, DTC does *not* attempt to complete any other transactions in the recycling queue, even if there is sufficient position available, until it has completed the first transaction in the queue. This feature is known as "blockage."

To further allow you to control the order in which your transactions complete, once a transaction for a specific security recycling exists, DTC automatically recycles all subsequent transactions for that security. This ensures that after sufficient position exists for the first transaction, it will complete.

Note- Segregations do not recycle, so DTC uses the existing position to complete those transactions regardless of what transactions are recycling.

Pending Delivery Account

DTC helps ensure the integrity of the FIFO queue by temporarily holding your position for transactions recycling due to risk management controls. This account is called the Pending Delivery Account (PDA). After your position is moved to the PDA, it is not available for other transactions that are recycling for insufficient position.

You can use the POSM function to move your PDA position back to your general free account to complete other items on the recycle queue. You can do this regardless of the deliveries that created the PDA position. For example:

Suppose a single delivery of 100 shares creates a 100-share PDA position in your account. The POSM function's PDA release feature allows you to move any quantity up to 100 shares from your PDA account back to your general free account. Assuming you release 75 shares from the PDA, when the 100-share delivery clears Risk Management Controls, the system looks for 100 shares in the PDA. With only 25 shares remaining in the PDA, the system looks for the additional 75 shares in your general free account to complete the 100-share delivery. If the shares are there, the delivery completes; if not, the delivery is placed at the end of your recycle queue, and the 25 shares in the PDA are released back to your general free account.

At the cutoff for syndicate closings (approximately 1:15 p.m. eastern time), DTC releases all PDA positions back to your general free account. At that time DTC also disables the "blockage" feature of

option 2, allowing transactions for which there is sufficient position to complete while attempting to complete transactions you entered in FIFO order.

Warning! DTC cannot ensure FIFO ordering of transactions requiring RAD approval.

Pend Hold

Pend Hold allows you to hold and release ("unhold") transactions. DTC will not process held transactions until the holding Participant releases the hold. Participants will be permitted to hold pending deliverer orders and pledge transactions, including reclaims of deliveries, and pending deliveries to Continuous Net Settlement (CNS short covers), with the exception of DOs to and from the NSCC SFT Account. Only the initiator (deliverer or pledgor) of a transaction will be permitted to hold or release a pending transaction. Moreover, only transactions that pend for insufficient position may be held.

To give you additional flexibility DTC offers two hold options: hold with blockage and hold without blockage.

DTC maintains separate logical recycle queues for transactions pending for insufficient position.

Newly introduced transactions (including CNS exemption overrides) for securities that have transactions held with blockage will be processed using DTC's current recycle logic. That is, a new transaction that you introduce using option 1 will be processed when the transaction is received. A transaction can either complete or not complete. A transaction that cannot complete because the initiating Participant has insufficient position will be moved to the position recycle queue. There it will be mixed (in order of transaction type or settlement value) with other transactions already in the recycle queue.

New transactions that you introduce using option 2 will not be processed on receipt. Instead, they will be forwarded directly to the position recycle queue of the initiating Participant. Option 2 procedures keep transactions pending for position in FIFO order; therefore, newly introduced transactions will be placed at the bottom of the position recycle queue.

Regardless of the recycle option elected, newly introduced transactions that are placed below a transaction that is held with blockage are subject to the blockage feature. Newly introduced transactions that are placed above a transaction held with blockage are not subject to the blockage feature. DTC's hold procedures will not alter the current process of placing at the top of the position recycle queue deliver orders with reason codes 540, 560, and 570 and deliveries to CNS.

Pending Transaction Account

You can reserve position for pending transactions in DTC's Pending Transaction Account (PTA) using the PTA indicator available in the Deliver Order functions. If you want specific transactions to be subject to the PTA procedures (to have the position reserved), set the PTA indicator to Y. Transactions with the PTA indicator left blank are not subject to the PTA procedures.

How PTA Processing Works

PTA transactions input into DTC's system are subject to DTC's normal editing and processing requirements (including DTC's Risk Management Controls). PTA transactions that meet all of DTC's editing and processing requirements complete in DTC's system and no position is reserved in the PTA account. Likewise, transactions that recycle for an insufficient position will not affect your PTA account. Only PTA transactions that recycle as a result of risk management controls (which means that the delivering or pledging Participant has sufficient position to complete the transaction) will cause position to be reserved in the PTA account. Non-PTA transactions that recycle as a result of risk management

controls do not affect your PTA account. After position is reserved in your PTA account, it is no longer available for any other transactions you may initiate. The transactions associated with positions in the PTA account recycle normally (the PTA indicator does not affect recycle algorithms), and the position remains in the PTA account until any of the following occurs:

- Your Risk Management Controls change to allow completion of the transaction. The position is automatically released from your PTA account at the PDA cutoff (approximately 1:30 p.m. eastern time).

Note- This condition applies to *valued* PTA transactions only; positions reserved for *free* PTA transactions are not automatically released at the PDA cutoff, and positions for *valued* PTA transactions entered after the PDA cutoff will not be reserved in the PTA.

- The intended receiver cancels the PTA transaction.
- DTC releases its risk management controls at approximately 5:00 p.m. eastern time.

PTA Transactions Subject to a Hold with Blockage

PTA procedures allow delivering Participants to place holds, and holds with blockage, on a PTA transaction that is recycling for insufficient position only. You cannot place holds and holds with blockage on PTA transactions that are recycling for insufficient other NA.

Delivering Participants are permitted to place holds and holds with blockage on non-PTA transactions (a transaction with the PTA indicator set to N) that are recycling for insufficient position or insufficient other net additions (NA). Additionally, free PTA transactions recycling for insufficient other NA that are subject to a hold with blockage (because a non-PTA transaction above the PTA transaction in the position recycle queue has a hold with blockage placed on it) are automatically released from the hold status when DTC releases its risk management controls.

Cancellation of PTA Transactions

Only receiving Participants can cancel a recycling PTA transaction. Delivering Participants of PTA transactions that recycle for Risk Management Controls cannot cancel them. The position associated with cancelled PTA transactions is automatically released from the PTA account and made available to the delivering or pledging Participant for other PTA or non-PTA transactions.

Receiving Participants can cancel only PTA transactions that recycle for Risk Management Controls (including PTA transactions that recycle for insufficient other NA). Only delivering Participants can cancel non-PTA recycling deliveries and PTA deliveries recycling for insufficient position.

Prioritization Schedule

The following table shows the order in which DTC places transactions for Risk Management Controls and option 1 recycling.

Note- These criteria do not apply to CNS deliveries, which recycle for position only.

Order	Transaction	Criteria (Market or Settlement Value)
1	MMI Interest/Principal Presentments	Settlement Value
2	MMI Maturity and Reorganization Presentments	Settlement Value
3	Voluntary Reorganization Instructions (RRG account) Note- Instructions processed with contra-CUSIPs, such as tender offers and put bonds, are included with Free Deliver Order/Free Pledge Releases below.	Market Value
4	Valued Pledges and Releases	Settlement Value
5	Free Pledges	Market Value
6	Valued Deliver Orders	Settlement Value
7	Free Deliver Orders/Free Pledge Releases	Market Value
8	Payment Orders	Settlement Value
9	SPP Return/P & I Withdrawal Requests	Settlement Value
10	Rush Withdrawals/CODs	Market Value
11	Withdrawals By Transfer	Market Value
12	Position Transfers Between MA and NA	Market Value

Principal and Income Withdrawals

About the Product

Principal & Income (P&I) withdrawals allow you to withdraw intraday principal and income payments for non-Money Market Instrument issues that DTC has received from paying agents and allocated to your settlement accounts down to a zero balance. You may not make a P&I withdrawal if it will put you into a debit balance. These payments include dividends, interest and other periodic payments, as well as reorganization and redemption payments. You can request that these payments be wired to your DTC Settlement Bank intraday, before the settlement period.

How to Withdraw

You can submit P&I withdrawal requests via the Settlement User Interface only using the SPP Return/P&I Withdrawal Request option, if you have activated this option. The SPP Return/ P&I Withdrawal Request screen shows the bank account eligible to receive wires of P&I funds from DTC on your behalf. To request a withdrawal, enter the amount of funds to be sent to the chosen bank account destination. You can enter P&I withdrawal requests on business days until 3:20 p.m. eastern time.

Note- The total amount you withdraw cannot put you into a debit balance. You may withdraw your available P&I funds, (that is, the sum of all your P&I payments allocated to this account, less any previous P&I withdrawals) down to a zero balance. The minimum amount you can withdraw is \$100,000.

The SPP Return/P&I Withdrawal Request option in the Settlement User Interface also allows you to view the status of your P&I withdrawal requests. You can view the following:

- Total P&I payments allocated to your account
- Total amount of funds requested
- Amount available for withdrawal (total P&I payments less previous withdrawals submitted)
- Total amount of funds that have been wired to your bank
- Total amount of withdrawal requests cancelled by DTC, if any.

P&I withdrawals are subject to Risk Management Controls and will not be permitted if your account will be put into a debit balance. Dropped items are recorded on your Drop report.

P&I Withdrawals that have successfully completed are reflected on your settlement statements as "funds transfer debit transactions" (Activity Code 95-3). DTC will provide you with a recap of your funds transfer activity.

The Settlement Progress Payment (SPP)/ Principal & Interest (P&I) Push Profile:

In order to simplify the SPP/P&I withdrawal process and to allow Participants to maximize the return of available liquidity, DTC offers the SPP/P&I "Push Profile" which allows Participants to establish a standing withdrawal request. Rather than requiring Participants to manually request the return of their SPP/P&I credits, DTC will "push" available SPP/P&I credits to Participants that have established an SPP/P&I profile via the Settlement User Interface. The push of funds will occur after the valued recycle cutoff and

the funds will be sent to the Participant's Settling Bank for the account specified in the SPP/P&I Push Profile.

Participants will be able to set a minimum balance they want remaining in their account based upon their settlement balance at the time of the "push".

P&I Withdrawals Contact Number

More information about P&I Withdrawals may be obtained via the DTCC Client Center at <https://www.dtcc.com/client-center>.

P&I withdrawals are subject to Risk Management Controls and will not be permitted if your account will be put into a debit balance. Dropped items are recorded on your Drop report.

P&I Withdrawals that have successfully completed are reflected on your settlement statements as "funds transfer debit transactions" (Activity Code 95-3). DTC will provide you with a recap of your funds transfer activity.

Settlement Progress Payments

About the Product

If you approach or reach your net debit cap or have insufficient collateral, you can continue to receive deliveries (and avoid having transactions recycle) by wiring Fed fund payments to DTC. This procedure is called Settlement Progress Payments (SPP).

Note- SPPs must be received prior to the valued recycle cutoff time, which normally occurs at 3:10 p.m. eastern time, in order to prevent valued transactions from dropping.

Submitting an SPP

Your SPP instructions should conform to the Fedwire formatting standards for Fed fund transfers. Participants should prepare and submit wire instructions in accordance with guidance updated and published by DTC from time to time.

Returning an SPP

Using the SPP Returns/P&I Withdrawal Request, you can request the withdrawal of all or a portion of an SPP, subject to DTC's risk management controls. You can request that these payments be wired to your DTC Settlement Bank, or another designated bank agreed with DTC, intraday, before the settlement period. Contact your Relationship Manager to obtain access to this update capability. DTC must receive your request no later than 3:20 p.m. eastern time. When DTC receives your request, it:

- reviews whether you have sufficient collateral and a credit balance to process the request under DTC's risk management controls, and
- if sufficient, sends the funds via Fedwire to your Settling Bank as indicated on your standing wire instructions with DTC or as otherwise agreed.

Note- DTC will not return the funds if doing so would put your account into a debit balance.

Wire Instructions

Before using the SPP Return/P&I Withdrawal Request function, you must activate your account for this option and supply DTC with specific wire instructions for your DTC Settling Bank as outlined in Important Notice # 4582-09. This information will be stored in DTC's wire instruction database and may be accessed when you submit SPP returns or P&I withdrawal requests. Each instruction must include:

- Your Participant number
- The American Banking Association (ABA) routing number of the receiving bank which must be your Settling Bank
- Your Settling Bank's Telegraphic ID
- Your account number at the receiving bank.
- Beneficiary Name
- Beneficiary Account Number
- Beneficiary Address including the Street, City, State, Zip and Country

Note- You can add information to the wire instructions, such as a department name, if desired.

DTC will maintain up to five wire instruction formats in its wire instructions database. Complete the Wire Instructions form for Settlement Progress Payment Returns and Principal and Income (P&I) Payment Withdrawals attached to Important Notice # 4582-09 and send it to:

DTCC's Membership Onboarding/Account Administration group at least two weeks prior to the desired effective date. The executed form(s) should be sent via e-mail (PDF) to DTCAA@dtcc.com.

The Settlement Progress Payment (SPP)/ Principal & Interest (P&I) Push Profile:

In order to simplify the SPP/P&I withdrawal process and to allow Participants to maximize the return of available liquidity, DTC offers the SPP/P&I "Push Profile" which allows Participants to establish a standing withdrawal request. Rather than requiring Participants to manually request the return of their SPP/P&I credits, DTC will "push" available SPP/P&I credits to Participants that have established an SPP/P&I profile via the Settlement User Interface only. The push of funds will occur after the valued recycle cutoff and the funds will be sent to the Participant's Settling Bank for the account specified in the SPP/P&I Push Profile.

Participants will be able to set a minimum balance they want remaining in their account based upon their settlement balance at the time of the "push".

Risk Management Controls

About the Product

Risk Management Controls protect DTC and its Participants from the inability of one or more Participants to pay their settlement obligations. Risk Management Controls are based on guidelines established by the Federal Reserve Bank (FRB). DTC currently employs three primary Risk Management Controls for processing securities:

- Collateralization (Collateral Monitor)
- Net Debit Cap
- Issuer/Participant Number (IPN) Collateral Control.

Collateralization

Collateralization ensures that your account has sufficient collateral for DTC to liquidate if you fail to pay your settlement obligation and become insolvent. DTC's collateralization procedures prevent the completion of transactions that would cause your net debit to exceed the total available collateral in your account.

DTC operates on a fully collateralized basis. You are required to have sufficient collateral in your account to support net settlement debits you incur. Transactions that would cause your net debit to exceed the total value of collateral in your account are held in a recycle (pend) queue until sufficient collateral is available.

Your primary sources of collateral are:

- Cash deposited to the Participants Fund
- Proprietary or firm positions (such as dealer, investment, or margin positions) that you designate as collateral
- Securities received (and not paid for) versus payment
- Securities added to your account and not received versus payment (such as deposits, free deliveries, free pledge releases, release of segregated securities) that you designate as collateral.

Collateral Valuation of Securities

The value of securities designated as collateral is based on the prior business day's closing market price, less a haircut. Haircuts are used to protect DTC and its Participants from price fluctuations if DTC is required to liquidate collateral of an insolvent Participant. Furthermore, because DTC may have to finance a Participant's failure overnight, DTC's haircut structure takes into consideration haircuts imposed by our line-of-credit banks. The full market value of securities is not normally obtainable from a bank that accepts securities as collateral to support a loan; banks generally consider the relative price volatility of the collateral and impose a haircut on the market value of securities. Securities that are not acceptable to DTC's line-of-credit banks do not receive collateral value in our system; therefore, a 100 percent haircut is applied to these securities.

DTC employs haircuts ranging from 2 to 100 percent. Because the collateral value of securities is based on their prior day's closing market prices, these haircuts may not be sufficient in cases where prices fall dramatically intraday. DTC can reprice and modify haircuts of selected issues intraday and can systemically revalue the collateral of Participants holding these securities.

Using the Collateral Monitor to Measure Available Collateral

DTC tracks collateral in your account by a control position called the Collateral Monitor (CM). At the opening of each business day, your CM is credited with your Participants Fund deposit. At all times, the CM reflects the amount by which the collateral in your account exceeds the net debit in your settlement

account. In other words, the CM equals the sum of the value of your collateral and net settlement obligation.

For example, if you have collateral securities with a market value of \$10,000 and a 10 percent haircut, the value of your collateral is \$9,000. If you also incurred a debit of \$8,000, your CM is \$1,000 $\{(10,000 - [0.1 \times 10,000]) + (-\$8,000)\}$.

Conceptually, every transaction translates into a collateral flow and a cash flow, one a credit and the other a debit. The net value of these two flows is used to update the CM. Since the value of securities as collateral is subject to a haircut on the market value, the cash component (for settlement value) of each transaction is generally greater in value than its securities component. Thus, the completion of a delivery versus payment generally results in an increase in the deliverer's CM and a decrease in the receiver's CM, based on the difference between the collateral value of the securities and the settlement value of the transaction. Transactions that do not have a cash component, such as deposits and "free" deliveries, are considered to have a zero cash component.

When processing a transaction, DTC verifies that the deliverer's and receiver's CMs will not become negative when the transaction completes. If the transaction would cause either party to have a negative CM and thereby be undercollateralized, the transaction will recycle until the deficient account has sufficient collateral to complete (see Recycle Processing).

Controlling Collateral

Securities received versus payment are automatically designated as net additions (NA) because the receiver has not yet paid for these securities. Your CM is credited the collateral value (market value minus the applicable haircut) of all positions designated NA. Conversely, your CM is not affected by positions designated as minimum amount (MA). You can manage your collateral in the following ways:

- **Opening (start-of-day) securities positions as collateral:** You can give DTC standing instructions to designate as collateral all securities in your account at the opening of each day. All start-of-day positions are then designated NA, and your CM is credited the collateral value of the start-of-day positions. Contact your Relationship Manager to change your standing instructions.
- **Unvalued additional securities:** You can give DTC standing instructions to designate all unvalued additions of securities to your account (such as deposits and free DOs received) as either NA or MA. Contact your Relationship Manager to change your standing instructions.

Warning! Consider the implications of classifying your securities as collateral. Collateral can be used to support your debt and therefore can be liquidated by DTC if you are unable to pay your settlement obligation.

- **Intraday reclassification of securities:** You can submit instructions to DTC using the DYMA Collateral Moves (MA/NA) function to reclassify an issue as collateral or non-collateral.

Note- A Collateral Moves instruction will not execute if the removal of the collateral from your account would cause your CM or simulated CM to become negative.

- **Settlement Progress Payments (SPPs):** You can increase your CM by wiring Settlement Progress Payments (SPPs) to DTC's account at the Federal Reserve Bank of New York (FRBNY). Your CM and your settlement account will be credited for the amount of the SPP; thus, SPPs also reduce your actual net debit. See Wire Instructions for more information.)

To view your CM balance, use the Risk Management Controls Inquiry function.

Net Debit Caps

Net Debit Caps help ensure that DTC can complete settlement, even if a Participant fails to settle. They are based on your net debit history at DTC and automatically rise or fall relative to the average of your highest intraday net debit peaks in accordance with the calculation described below (in “Calculating Your Net Debit Cap”). A Net Debit Cap, recalculated daily, is applied to your account to limit the settlement net debit you could incur at any point during a processing day.

Your Net Debit Cap is limited by DTC's established maximum Net Debit Cap, which is determined from time to time based on DTC's liquidity resources, related costs, and projected benefits to Participants, and is always set lower than DTC's total available liquidity.¹¹ The Net Debit Cap of an Unaffiliated Participant or a Participant of an Affiliated Family may not exceed DTC's maximum Net Debit Cap, nor may the Aggregate Affiliated Family Net Debit Cap of an Affiliated Family exceed the maximum Net Debit Cap. The Aggregate Affiliated Family Net Debit Cap of an Affiliated Family will be shared among the Participants of the Affiliated Family according to either (i) the proportional liquidity usage of the Participants as calculated by DTC's system or (ii) as DTC is instructed, in writing, by the Affiliated Family.

Before completing a transaction in which you are the receiver, DTC calculates the resulting effect the transaction would have on your account, and determines whether your resulting Net Debit Balance would exceed your Net Debit Cap. Any transaction that would cause your net settlement debit to exceed your Net Debit Cap is placed on a pending (recycling) queue until another transaction creates credits in your account (see Recycle Processing for more information). Most credits are generated when you deliver securities versus payment; pledge securities for value; receive principal, dividend or interest allocations; or wire funds (SPPs) to DTC's account at the FRBNY.

Calculation of Participant Net Debit Caps

Net Debit Caps for a Participant are calculated daily as follows:

1. The system records the Participant's collateral group's three highest intraday net debit peaks over a rolling 70-business-day period, using net debit peaks. If the Participant has elected to group its accounts into separate families (see Grouping Accounts into Collateral Families) , the system first calculates the average net debit peak of each family, and adds together the average net debit peaks of all of the Participant's families to obtain the Participant's overall average net debit peak.
2. The system multiplies the Participant's average net debit peak by a factor to determine the Participant's Net Debit Cap, which cannot exceed DTC's established maximum Net Debit Cap. (Factors are based on a sliding scale, between 1 and 2, where smaller average peaks are multiplied by larger factors and larger average peaks are multiplied by smaller factors.)

The established minimum Net Debit Cap is equal to twice the sum of all Participants' minimum deposits to the Fund.

Note- *Your Settling Bank can set your maximum Net Debit Cap. However, the maximum amount set by a Settling Bank cannot exceed the Net Debit Cap calculated by DTC's system. DTC may also limit your Net Debit Cap to any amount regardless of your intraday net debit peaks.*

Although most transactions are subject to Risk Management Controls, the following activities override collateralization and Net Debit Cap controls:

¹¹ Governance of DTC liquidity and liquidity resources are managed in accordance with the Clearing Agency Liquidity Risk Management Framework and related procedures.

- Mutual funds purchases through DTC's Fund/SERV system
- DTC-generated activity (such as monthly billing charges)
- Deposit or settlement adjustments
- Short position charges
- Principal and income charges
- Participants Fund charges.

To view your Net Debit Cap and net settlement balance, use the Risk Management Controls Inquiry function.

DTC will provide Participants with a minimum of 10 Business Days' notice via Important Notice of any decrease in DTC's maximum Net Debit Cap. If such decrease would result in a decrease to the Net Debit Cap of an Unaffiliated Participant or to the Aggregate Affiliated Family Net Debit Cap of an Affiliated Family, then DTC also will notify such affected Participants and Affiliated Families of such decrease.

Grouping Accounts into Collateral Families

If you have multiple DTC accounts, you can group them into families and instruct DTC to allocate a specified portion of your collateral and Net Debit Cap to each family. You must submit instructions in writing to DTC to group your accounts into separate families. Otherwise, all of your accounts will be grouped into one family.

The accounts you designate as a family share a single CM and Net Debit Cap. Securities and cash credited to one of these accounts increase the shared CM and the family's settlement balance, and could therefore serve to benefit transactions of other accounts in the family.

Sharing collateral and Net Debit Caps has advantages and disadvantages. Sharing can be an efficient account structure because it allows accounts to use the available collateral and settlement credits of other accounts in the family. However, you will not be able to designate which account should benefit from specific credits incurred by a member of the family. For example:

Suppose you maintain two accounts, A and B, which are grouped into one collateral family. Assume that both accounts have recycling transactions because of insufficient Net Debit Cap. If account A sends an SPP to DTC, its settlement account is credited. However, because the accounts are set up so that either account can use the available credits, if account B's transactions have a higher priority on the recycle queue, they will complete as a result of the funds that account A sent to DTC.

Conversely, assigning a separate collateral group for every account allows you to segregate your accounts and to allow the accounts to use only a specific portion of your collateral and Net Debit Cap. However, segregating can decrease processing efficiency and increase your intraday financing requirements because excess collateral in one family is not automatically available to an account belonging to another family. You should carefully evaluate your internal procedures and determine which method is most efficient for your operations.

Note- If you group your accounts into families and do not provide DTC with instructions on the specific percentage of collateral and Net Debit Cap to be allocated to each family, DTC allocates collateral and Net Debit Cap to each family based on your intraday net debit peaks relative to your other families.

You can maintain separate families of accounts to allocate your cap among your families at your own discretion. However, DTC will apply a forced-allocation formula to major issuing paying agents, which are defined as IPAs with average daily maturity presentments measured over the most recent month equal to or greater than 5 percent of DTC's total MMI maturity presentments. A major IPA must allocate up to 40 percent of its total Net Debit Cap to its IPA family.

Issuer/Participant Number Collateral Control (IPN)

Collateral in a Participant's account associated with the Participant (such as the Participant's own commercial paper) increases risk to DTC if that Participant failed to pay DTC and its obligation is supported partly or fully by the failing Participant's associated securities. To eliminate this risk, DTC's system monitors collateral received in a Participant's account related to that Participant.

IPN will link to a Participant's account securities related to it and withhold from the Participant any collateral value associated with the security. In effect, transactions processed to a Participant account will remain essentially the same, except that no increase will be applied to the Participant's collateral monitor for the collateral value of securities received that are associated with the Participant. IPN is based on a Participant's legal entity; therefore, this control will apply to every account of a Participant. For example:

When a Participant has an IPA account that issues MMI securities on its own behalf and has a custody account in the same or a separate collateral group, and the IPA account processes an MMI issuance delivery to its own custody account in its own MMI securities, the custody account will receive no collateral increase for the collateral value of that issuance.

IPN control will not affect a Participant's net debit calculation. Because IPN control affects the collateral value of an associated account, IPAs may wish to monitor their accounts more closely intraday for insufficient collateral, especially if presentments exceed issuances in an Acronym for which they act as IPA on a particular day.

Risk Management Controls Contact Number

More information on Risk Management Controls may be obtained via the DTCC Client Center at <https://www.dtcc.com/client-center>.

Extension Requests

DTC cannot grant a Participant an extension of the foregoing deadlines unless a substantial volume of transactions is involved. Please notify DTC as early in the processing day as possible if there is a need to request an input extension. This will allow DTC to discuss alternative methods of input.

To request an extension call DTC's Settlement Hotline at 212-855-5800.

Associated Functions

The Short Position Inquiry function is used in association with the Settlement Processing Schedule and allows Participants to view the detail of their respective short position penalty charges.

Sub-Accounting Service (Segregation of Securities)

About the Product

The Sub-Accounting Service allows you to protect securities on deposit at DTC by moving them from your general free account to your segregated account. The securities remain segregated and unavailable for any transactions until you authorize DTC to release them and return them to your general free account.

On payment day, DTC will automatically allocate cash merger and mandatory put payments as well as municipal and corporate redemption payments for securities segregated on DTC's books. In addition, DTC will allocate property and rights such as interest payments, dividend distributions and voting rights for segregated securities. Segregation transactions are subject to your collateral monitor control, and do not recycle for position or insufficient collateral.

These allocations were previously based on a position capture done the prior night. Now, DTC will perform a real time position capture immediately prior to the allocation to account for any adjustments Participants made prior to allocation. You should release on or before the payment date certain segregated positions for securities being reorganized. If you fail to release these positions, they will be automatically decremented to avoid driving your general free accounts into short (negative) positions when proceeds are allocated. You can avoid this automatic decrease of your segregated position by releasing the segregated securities on or before the payment date.

Seg-100 Account

You may deposit certain foreign-owned shares of communications, maritime, and specialized ownership issues, as specified in the Corporate Eligible Securities Book, into a special account at DTC identified as segregation account#100 (seg-100). You can move securities back and forth between your general free account and your seg-100 account, as appropriate, to reflect changes in the amount of certain foreign-owned and specialized ownership issues on deposit at DTC.

IMPORTANT: These shares must be deposited and maintained in the seg-100 account until acquired by a U. S. citizen.

Use the Account Segregation Releases functions to segregate and release foreign-owned or specialized ownership issues. When you enter F in the **Serial Number** field for these securities on your Participant Daily Activity Statement, these securities will appear with the serial number "100." You can process these transactions exactly as you would any other transaction for segregated securities.

DTC will report to the transfer agents (TAs) for communications, maritime and specialized ownership issues the holdings in each Participant's seg-100 accounts for each security, and the TAs will note their records accordingly. In the rare instance in which total alien holdings in an issue may exceed statutory limitations, and the increase in foreign-owned shares registered in the name of Cede & Co. caused the statutory limitation to be exceeded, a TA will advise DTC of the amount by which those foreign-owned shares must be reduced.

According to the seg-100 procedures, you are required to immediately withdraw from your general free account any foreign-owned shares that cannot be credited to your seg-100 account because of foreign ownership limitations. DTC will cooperate with the issuer and its TA to facilitate the withdrawal and will disclose to the issuer your name and the number of shares to be withdrawn. You should be aware that issuers may place restrictions on such shares.

At the request of the issuer or its TA, DTC provides periodic reports that list individual Participant names and their positions that are segregated in the seg-100 account.

Warning! Under DTC's Rules and Procedures you are responsible for verifying the accuracy of the Participant Daily Activity Statement.

Associated Participant Terminal System (PTS)¹² Functions

The following PTS functions are used in association with Sub-Accounting Service.

<i>Use this function</i>	<i>To</i>
RSEG	Release securities.
SEG	Segregate securities.

Note- You can also perform these functions via MQ or CCF.

Segregation of Securities Contact Number

More information about Segregation of Securities may be obtained via the DTCC Client Center at <https://www.dtcc.com/client-center>.

U.S. Government Securities

About the Product

DTC allows Participants to move Fed eligible securities from their accounts on the Federal Reserve's (the "Fed's") book-entry system to accounts at DTC and visa versa. To move Fed eligible securities from the Fed to DTC, Participants must transfer the securities to DTC's Fed account via the Fed's security transfer system (the Fed's system).

Securities eligible for DTC's U.S. Government Securities processing can be identified by transfer agent 400 (TA-400) or accessed through the GWIZ function.

Depositing U.S. Government Securities

You can deposit U.S. government securities in your DTC account by moving the securities through the Federal Reserve book-entry securities transfer system from your custodian account to DTC's account at the FRBNY using the following instructions:

In this field	Enter
Receiving ABA	DTC's American Banking Association (ABA) number: 026002066 .
Receiving Name	DTC's telegraphic name: DTC SDFS .

¹² PTS refers to DTC's legacy TN3270 terminal access method. For the purpose of this Procedure, all references to PTS are intended solely for access by automated non-human personas (e.g., bots or robotic process automation tools). Human user access via PTS is no longer supported. Participants must ensure that any access by human personas is conducted through authorized alternatives such as the DTCC Mainframe Portal or MyDTCC.

Receiving Account	The account type: CUST
Receiving Bank Info	FDO/Your Participant number.
Cash Value	The cash value: 0.00.
Par Amount	The quantity of securities to be transferred.

When DTC receives a security transaction into its Fed account on behalf of a DTC Participant who has elected to receive its Fed eligible securities at DTC, a deliver order will be processed from DTC's Fed inventory account (6072) to the DTC Participant designated as the receiving Participant in the account field on the Fed transaction. Incoming FDOs will appear as deliver orders from the DTC's Fed inventory account (6072) in the ART function.

The cutoff to receive incoming Fed transactions is DTC's free DO input cutoff which is normally 6:15 p.m., ET. However, Participants will only receive incoming FDOs after 3:30 p.m. if the Fed extends its securities input cutoff. Incoming FDOs are not subject to DTC's Receive Authorized Deliver (RAD) procedures.

Note—All U.S. Government securities must be delivered FREE through the Fedwire system to DTC's account at FRBNY.

Delivery and Settlement

Once your eligible U.S. government securities have been credited to your account, you can deliver them to another Participant via the Deliver Order function or pledge them via the Collateral Loan Service. Internal deliveries cannot be processed through the Federal Reserve Deliver Order option because this option is reserved for outgoing Fed deliveries in which the contra is DTC's Fed inventory account (6072).

Internal deliveries of Fed eligible securities are subject to all existing DTC risk management controls, reclaim rules, cutoffs, and RAD procedures.

Withdrawing U.S. Government Securities

In order to process deliveries to a Fed member (withdraw them from your DTC account) Participants must use the Federal Reserve Deliver Order function. This function will require Participants to enter additional information (ABA number, ABA sub-account, 3rd party information) in addition to the standard deliver order fields (quantity, CUSIP, reason code, etc.). Federal Reserve Deliver Orders entered through this option with original or reclaim reason codes will be processed as original securities transfers (Type code 2000) in the Fed's system. Outgoing Federal Reserve Deliver Orders, which pass DTC's edits, will appear as deliver orders to DTC's Fed inventory account (6072) in the Activity Inquiry function.

Reclaims are not permitted through the Federal Reserve Deliver Order option. Participants must use the Activity Inquiry function or the Deliver Order function reclaim option in order to process Federal Reserve Deliver Order reclaims. Reclaims will be processed as reversals (Type code 2002) in the Fed's system.

Since all outgoing Federal Reserve Deliver Orders will be free transactions, they will recycle until DTC's free recycle cutoff (normally 6:35 p.m., ET). To coincide with the Fed's cutoffs, DTC will open the Federal Reserve Deliver Order function at 8:30 a.m., ET and will allow input of Federal Reserve Deliver Order reversals (reclaims) until 3:30 p.m., ET.

Validation of Activity

Your activities involving U.S. government securities are recorded on your Participant Daily Activity Statement. You can also verify activities via the Activity Inquiry function.

Check your statement or the applicable screen in the Activity Inquiry function to ensure that your transactions were properly processed and recorded. Report discrepancies between your records and DTC's to the Reconciliation division via the PINS function as soon as possible.

Warning! Under DTC's Rules and Procedures, you are responsible for verifying the accuracy of your Participant Daily Activity Statement.

For more information about the U.S. Government Securities book-entry system, call DTC's Settlement Hotline at 212-855-5800.

Memo Segregation Supplement

DO Reason Code Description Reference

The following is a listing of descriptions of the reason codes referred to in the “Memo Segregation” section above.

- 10 (Stock Loan)
- 11 (Stock Loan Reclaim-DK)
- 12 (Stock Loan Reclaim-Wrong Quantity)
- 13 (Stock Loan Reclaim-Wrong Security)
- 14 (Stock Loan Reclaim-Wrong Money)
- 15 (Stock Loan Reclaim-Partial)
- 16 (Stock Loan Reclaim-Needs Account Information)
- 17 (Stock Loan Reclaim-Needs Due Bill)
- 18 (Stock Loan Partial Reclaim/Partial Return)
- 19 (Stock Loan Recall)
- 20 (Stock Loan Return)
- 21 (Stock Loan Reclaim-DK)
- 22 (Stock Loan Return Reclaim-DK)
- 23 (Stock Loan Return Reclaim-Wrong Security)
- 24 (Stock Loan Return Reclaim-Wrong Money)
- 25 (Stock Loan Return Reclaim-Partial)
- 26 (Stock Loan Return Reclaim-Needs Account Information)
- 27 (Stock Loan Return Reclaim-Needs Due Bill)
- 28 (Stock Loan Return Partial Reclaim-Partial Return),
- 29 (Stock Loan Recall Reclaim)
- 30 (Delivery Versus Payment)
- 40 (Transfer of Customer Document)
- 41 (Transfer Customer Account Reclaim-DK)
- 42 (Transfer Customer Account Reclaim-Wrong Quantity)
- 43 (Transfer Customer Account Reclaim-Wrong Security)
- 44 (Transfer Customer Account Reclaim-Wrong Money)
- 45 (Transfer Customer Account Reclaim-Partial)
- 46 (Transfer Customer Account Reclaim-Needs Account Information)
- 47 (Transfer Customer Account Reclaim-Due Bill)
- 48 (Transfer Customer Account-Partial Reclaim/Partial Return)
- 90 (ADR Stock Loan Return-Untracked)
- 95 (ACATS Value With Memo Seg)
- 97 (Delivery Versus Payment With Memo Seg)

- 98 (Transfer of Account Without Memo Seg)
- 99 (Bulk Transfer of Account)
- 100 (Account Transfer Without Memo Seg Reclaim)
- 197 (Account Transfer With Memo Seg Reclaim)
- 200 (SFT Stock Loan)
- 201 (SFT Stock Loan Return)
- 220 (Repo Tracking)
- 260 (OCC Stock Loan)
- 261 (OCC Stock Loan Reclaim-DK)
- 262 (OCC Stock Loan Reclaim-Wrong Quantity)
- 263 (OCC Stock Loan Reclaim-Wrong Security)
- 264 (OCC Stock Loan Reclaim-Wrong Money)
- 265 (OCC Stock Loan Reclaim -Partial)
- 266 (OCC Stock Loan Reclaim-Needs Account Information)
- 267 (OCC Stock Loan Return-Untracked)
- 268 (OCC Stock Loan- Partial Reclaim/Partial Return)
- 270 (OCC Stock Loan Return)
- 271 (OCC Stock Loan Return Reclaim-DK)
- 272 (OCC Stock Loan Return Reclaim-Wrong Quantity)
- 273 (OCC Stock Loan Return Reclaim-Wrong Security)
- 274 (OCC Stock Loan Return Reclaim-Wrong Money)
- 275 (OCC Stock Loan Return Reclaim-Partial)
- 276 (OCC Stock Loan Return Reclaim-Missing Account Information)
- 277 (OCC Stock Loan Return-Untracked)
- 278 (OCC Stock Loan Return-Partial Reclaim/Partial Return)
- 280 (ADR Stock Loan-Untracked)
- 281 (ADR Stock Loan Reclaim-DK)
- 282 (ADR Stock Loan Reclaim-Wrong Quantity)
- 283 (ADR Stock Loan Reclaim-Wrong Security)
- 284 (ADR Stock Loan Reclaim-Wrong Money)
- 285 (ADR Stock Loan Reclaim-Partial)
- 286 (ADR Stock Loan Reclaim-Needs Account Information)
- 287 (ADR Stock Loan Reclaim (Needs Due Bill))
- 288 (ADR Stock Loan Partial Reclaim/Partial Return)
- 290 (ADR Stock Loan Return-Untracked)
- 291 (ADR Stock Loan Return Reclaim-DK)
- 330 (Direct Rollover to IRA)
- 331 (Direct Rollover to IRA Reclaim-DK)
- 332 (Direct Rollover to IRA Reclaim-Wrong Quantity)
- 333 (Direct Rollover to IRA Reclaim-Wrong Security)

- 334 (Direct Rollover to IRA Reclaim-Wrong Money)
- 335 (Direct Rollover to IRA Reclaim-Partial)
- 336 (Direct Rollover to IRA Reclaim-Needs Account Information)
- 337 (Direct Rollover to IRA Reclaim-Needs Due Bill)
- 338 (Direct Rollover to IRA Partial Reclaim/Partial Return)
- 340 (Direct Rollover to Qualified Plan)
- 341 (Direct Rollover to Qualified Plan Reclaim-DK)
- 342 (Direct Rollover to Qualified Plan Reclaim-Wrong Quantity)
- 343 (Direct Rollover to Qualified Plan Reclaim-Wrong Security)
- 344 (Direct Rollover to Qualified Plan Reclaim-Wrong Money)
- 345 (Direct Rollover to Qualified Plan Reclaim-Partial)
- 346 (Direct Rollover to Qualified Plan Reclaim-Needs Account Information)
- 347 (Direct Rollover to Qualified Plan Reclaim-Needs Due Bill)
- 348 (Direct Roller to Qualified Plan Partial Reclaim/Partial Return)
- 390 (Direct Registration Transfer)
- 391 (Direct Registration Reversal)
- 396 (Direct Registration Reclaim DK-Without Memo Seg)
- 600 (Collateral DO Return)
- 601 (Collateral DO Reclaim-DK)
- 602 (Collateral DO Reclaim-Wrong Quantity)
- 603 (Collateral DO Reclaim-Wrong Security)
- 605 (Collateral DO Reclaim-Partial)
- 606 (Collateral DO Reclaim-Needs Account Information)
- 607 (Collateral DO Reclaim-Needs Due Bill)
- 608 (Collateral DO-Partial Reclaim/Partial Return)
- 609 (Collateral DO Recall)
- 610 (Collateral DO Return)
- 611 (Collateral DO Return Reclaim-DK)
- 612 (Collateral DO Return Reclaim-Wrong Quantity)
- 613 (Collateral DO Return Reclaim-Wrong Security)
- 615 (Collateral DO Return Reclaim-Partial)
- 616 (Collateral DO Return Reclaim-Needs Account Information)
- 617 (Collateral DO Return Reclaim-Needs Due Bill)
- 618 (Collateral DO Return-Partial/Reclaim-Partial Return)
- 619 (Collateral DO Recall Reclaim)
- 630 (Repo With Memo Decrease)
- 631 (Repo Reclaim With Memo Decrease)
- 640 (Repo Return With Memo Decrease)
- 641 (Repo Return Reclaim With Memo Decrease)
- 704 (OCC Stock Loan-Untracked)

- 705 (OCC Stock Loan Reclaim-Untracked)
- 706 (OCC Stock Loan Return-Untracked)
- 707 (OCC Stock Loan Return RCL-Untracked)
- 708 (EuroCCP Net Obligation)