



**Federal Reserve Banks
Operating Circular No. 7**

**BOOK-ENTRY SECURITIES ACCOUNT MAINTENANCE AND TRANSFER
SERVICES**

Effective June 30, 2016

**FEDERAL RESERVE BANKS
OPERATING CIRCULAR NO. 7
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SERVICES**

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1.0 PURPOSE, SCOPE AND EFFECT OF THIS CIRCULAR

- 1.1 This Operating Circular (“Circular”) sets forth the terms under which the Federal Reserve Bank of (City) maintains Securities Accounts and effects Transfers of Book-Entry Securities for Participants. By maintaining a Securities Account, a Participant agrees to all the provisions of this Circular, as amended from time to time. Capitalized terms are defined in Paragraph 3.
- 1.2 Each Reserve Bank has issued a Circular No. 7 identical to this one.

2.0 GOVERNING REGULATIONS

- 2.1 This Circular incorporates by reference the current provisions of the regulations listed in Appendix A as such regulations are amended from time to time.

3.0 DEFINITIONS

- 3.1 For purposes of this Circular, the following definitions apply.
- 3.2 **Administrative Reserve Bank** with respect to a Participant means the Reserve Bank in whose District the Participant is located.
- 3.3 **Amortizing Book-Entry Security** means a Book-Entry Security on which principal, as well as interest, is paid periodically over the life of the Book-Entry Security (e.g., a mortgage-backed Book-Entry Security).
- 3.4 **Board** means the Board of Governors of the Federal Reserve System.
- 3.5 **Book-Entry Security** means a marketable security issued in electronic form by the United States Government (the “Treasury”), any agency or instrumentality thereof, certain international organizations, or others, that the Reserve Banks have determined is eligible to be held in a Securities Account and is eligible for Transfer.
- 3.6 **The Fedwire[®] Securities Service** means the electronic facility operated by the Reserve Banks for maintaining Securities Accounts and for effecting Transfers.
- 3.7 **Free Transfer** means a Transfer that does not involve any credit or debit to a Master Account other than a transaction fee.
- 3.8 **Master Account** means a “Master Account” (as defined in the Reserve Banks’ Operating Circular 1, Account Relationships) on the books of a Reserve Bank. A Master Account is a Funds Account for purposes of the regulations listed in Appendix A. A Master Account does not contain Book-Entry Securities.

- 3.9 On-Line Access** means a connection for the transmission of a Transfer Message directly to or from a Reserve Bank by electronic data transmission, excluding facsimile and oral transmission by telephone.
- 3.10 On-Line Participant** means a Participant with On-Line Access.
- 3.11 Off-line Access** means a connection other than On-Line Access for sending and receiving Transfer Messages to or from a Reserve Bank such as by written, facsimile, or telephone voice instruction.
- 3.12 Off-line Participant** means a Participant with Off-line Access.
- 3.13 Participant** means an entity that maintains a Securities Account with a Reserve Bank in the entity's name. Subject to the Reserve Banks' and the Board of Governor's risk reduction policies, where applicable, entities authorized by law, regulation, policy, or agreement to be Participants include:
- (a) depository institutions as defined in Section 19(b)(1)(A) of the Federal Reserve Act, as amended (12 U.S.C. §461(b)(1)(A));
 - (b) agencies and branches of foreign banks as defined in Section 1(b) of the International Banking Act of 1978, as amended (12 U.S.C. §§3101(1) and (3));
 - (c) member banks of the Federal Reserve System pursuant to Regulation H issued by the Board (12 C.F.R. Part 208);
 - (d) the Treasury and any entity specifically authorized by Federal statute to use the Reserve Banks as fiscal agents or depositories;
 - (e) entities designated by the Secretary of the Treasury in accordance with Section 15 of the Federal Reserve Act (12 U.S.C. §391);
 - (f) foreign central banks, foreign monetary authorities, foreign governments, and certain international organizations;
 - (g) entities authorized under Section 25, Paragraph 3, and Section 25A of the Federal Reserve Act (12 U.S.C. §§601 (Third), 611); and
 - (h) any other entity authorized by a Reserve Bank to use the Fedwire® Securities Service.
- 3.14 Receiver** means the Participant receiving a Book-Entry Security as a result of a Transfer.
- 3.15 Reserve Bank** means one of the 12 Federal Reserve Banks and its branches.
- 3.16 Restricted Securities Account** means a Securities Account used for pledging Book-Entry Securities to a pledgee on the books of a Reserve Bank in accordance with this Circular.

- 3.17 Securities Account** means an account at a Reserve Bank containing Book-Entry Securities.
- 3.18 Sender** means the Participant sending a Transfer Message.
- 3.19 Transfer** means the electronic movement over the Fedwire® Securities Service of a par amount of Book-Entry Securities by debit to the designated Securities Account of the Sender and by credit to the designated Securities Account of the Receiver, or by debit to one Securities Account of a Participant and credit to another Securities Account of that same Participant, in which case that Participant is both a Sender and a Receiver. A Transfer is either a Free Transfer or a Transfer Against Payment.
- 3.20 Transfer Message** means an instruction of a Participant to a Reserve Bank to effect a Transfer.
- 3.21 Transfer Against Payment** means a Transfer that is effected with a credit to the Master Account of the Sender and a debit to the Master Account of the Receiver, for the amount of the payment.
- 3.22 Unrestricted Securities Account** means a Securities Account used to maintain Book-Entry Securities for a Participant and does not include a Restricted Securities Account.

4.0 SECURITIES ACCOUNT MAINTENANCE

4.1 SECURITIES ACCOUNT LOCATION AND IDENTIFICATION OF THE ADMINISTRATIVE RESERVE BANK

- 4.1.1** A Participant may have one or more Securities Accounts at its Administrative Reserve Bank, subject to the terms required by the Administrative Reserve Bank. Securities Accounts may be restricted or unrestricted.
- 4.1.2** A Participant's Administrative Reserve Bank is the Reserve Bank in whose district the Participant is located. For purposes of this Circular, a Participant is located in the Federal Reserve District as determined under the procedure described in 12 C.F.R. Part 204 even if the Participant would not otherwise be subject to Part 204. A foreign central bank Sender or Receiver is located in the Second Federal Reserve District.

4.2 UNRESTRICTED SECURITIES ACCOUNTS

- 4.2.1** A Participant may hold Book-Entry Securities it owns, as well as Book-Entry Securities it holds for the account of its customers, in one or more Unrestricted Securities Accounts. Regardless of the combination or number of Unrestricted Securities Accounts maintained by a Participant,

all Book-Entry Securities held in an Unrestricted Securities Account are held by a Reserve Bank for, and subject to, the sole order of the Participant.

4.2.2 A Reserve Bank does not reflect in its records any interest of a Participant's customers in Book-Entry Securities held by the Reserve Bank for the Participant in an Unrestricted Account, and is not responsible for the accuracy or content of the records of a Participant with respect to Book-Entry Securities held by the Participant for the account of its customers. A Participant shall not represent to its customers that the Reserve Bank's records reflect the interests of the Participant's customers.

4.2.3 Any name used by a Participant or a Reserve Bank to identify an Unrestricted Securities Account is for convenience only and does not alter the Reserve Bank's right to treat the Participant as exclusively entitled to exercise the rights and powers with respect to the Book-Entry Securities in such Securities Accounts.

4.3 RESTRICTED SECURITIES ACCOUNTS

4.3.1 A Participant may hold Book-Entry Securities pledged as collateral in one or more Restricted Securities Accounts. Credits of Book-Entry Securities to, and debits from, Restricted Securities Accounts may require the intervention of the Reserve Bank and may require the approval of the pledgee.

4.3.2 Restricted Securities Accounts include, but are not limited to, the following:

- (a) Restricted Securities Accounts in which the Reserve Bank holds Book-Entry Securities in its individual capacity:
 - (i) as collateral for advances (including extension of intra-day credit) by the Reserve Bank to the Participant;
 - (ii) as collateral to secure the exercise of trust powers within a state or deposits of funds of public entities (including states, municipalities, and other political subdivisions — see Appendix C);
 - (iii) as collateral for bankruptcy funds on deposit with the Participant pursuant to 11 U.S.C. §345; and
 - (iv) for such other purposes as the Reserve Bank may designate; and
- (b) Restricted Securities Accounts in which a Reserve Bank holds Book-Entry Securities in its capacity as fiscal agent of the United States:

- (i) as collateral to secure balances held by the Participant in Treasury Tax and Loan accounts under 31 C.F.R. part 203, as amended from time to time;
- (ii) as collateral for revenues and funds of the United States, and any funds the deposit of which is subject to the control or regulation of the United States or any of its officers, agents, or employees pursuant to 31 C.F.R. part 202, as amended from time to time;
- (iii) as security in lieu of a surety on penal or other bonds, pursuant to 31 C.F.R. part 225, as amended from time to time; and
- (iv) for such other purposes as the Secretary of the Treasury may approve, subject to Treasury circulars or other relevant instructions.

5.0 TERMS OF ACCESS

- 5.1** Each Participant is responsible for all access to, and all debits and credits to, its Securities Accounts and its Master Account. A Participant may use the services of a third-party service provider, as described in and subject to Paragraph 18 and Appendix C of Operating Circular 6 on Funds Transfers through the Fedwire[®] Funds Service.
- 5.2** A Participant must maintain a Master Account at a Reserve Bank to be a Sender or a Receiver of Transfers Against Payment; the Administrative Reserve Bank reserves the right: (1) to require a Participant to maintain a balance in its Master Account or to pledge collateral sufficient at all times to cover Transfers Against Payment for which the Participant is the Receiver, (2) to limit a Receiver to Free Transfers, or (3) to limit Transfers Against Payment or to reject Transfer Messages.
- 5.3** A Participant that does not have or is not permitted to have a Master Account in its own name may only be a Sender or a Receiver of Free Transfers, and must designate a correspondent (on a form provided by the Administrative Reserve Bank) with a Master Account on a Reserve Bank's books which shall be credited for principal and interest payments on Book-Entry Securities, and debited for transaction fees as described in Paragraph 14; a Reserve Bank will reject Transfer Messages for Transfers Against Payment to a Participant that does not have a Master Account or that is only permitted to be a Receiver of Free Transfers.

6.0 THE ROLES OF THE RESERVE BANKS IN A BOOK-ENTRY SECURITIES TRANSFER

- 6.1 A Participant's Administrative Reserve Bank may instruct any other Reserve Bank concerning the other Reserve Bank's handling of a Transfer Message affecting the Participant's Securities Account(s) and Master Account.

7.0 EXECUTION OF TRANSFERS

7.1 DEBITS AND CREDITS

- 7.1.1 Book-Entry Securities are credited to a Participant's Securities Account in accordance with Reserve Bank policies and, when relevant, the regulations and policies of the issuers of the Book-Entry Securities, including whenever a Participant:
- (a) is a Receiver, or receives Book-Entry Securities moved from the Legacy Treasury Direct[®] or the Treasury Direct[®] Systems (described at 31 C.F.R. Part 357.20 *et seq.*) to its Securities Account;
 - (b) purchases Book-Entry Securities on original issue; or
 - (c) converts eligible definitive securities to book-entry form or from one book-entry form to another book-entry form (*e.g.*, stripping and reconstituting).
- 7.1.2 Book-Entry Securities are debited to a Participant's Securities Account in accordance with Reserve Bank policies, and when relevant the instruction of the issuer, including whenever:
- (a) a Reserve Bank effects a Transfer for a Participant that is a Sender, or a Participant requests that Book-Entry Securities be moved into the Legacy Treasury Direct[®] or the Treasury Direct[®] Systems;
 - (b) Book-Entry Securities held in a Securities Account mature, are called for redemption, or are otherwise paid off;
 - (c) a Participant converts eligible Book-Entry Securities to bearer or registered definitive securities or from one book-entry form to another book-entry form (*e.g.*, stripping and reconstituting).
- 7.1.3 The Sender's Master Account is credited and the Receiver's Master Account is debited for the amount specified by the Sender in any Transfer Against Payment sent by the Sender.

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- 7.1.4** The Sender and the Receiver of a Transfer irrevocably authorize and instruct the Reserve Bank(s) involved in the Transfer to debit the Sender's designated Securities Account and credit the Receiver's designated Securities Account for the par amount of the Book-Entry Securities, and to credit the Sender's Master Account and debit the Receiver's Master Account for the payment in the case of a Transfer Against Payment.
- 7.1.5** If a Transfer is returned in accordance with this Circular, the Sender and the Receiver of the Transfer irrevocably authorize and instruct the Reserve Bank(s) involved in the Transfer to debit and credit the Sender's and the Receiver's Securities Accounts and their corresponding Master Accounts in order to offset any debits or credits previously made in connection with the Transfer.

7.2 CONDITIONS OF ACCESS

- 7.2.1** The Reserve Banks provide Participants with On-line Access or Off-line Access but reserve the right to terminate a Participant's access without prior notice.
- 7.2.2** The Reserve Banks may record by audio recording device any telephone call relating to a Transfer.
- 7.2.3** A Participant, whether on-line or off-line, shall indemnify the Reserve Banks for any loss incurred by a Reserve Bank as a result of the Participant's delay in sending or receiving a Transfer, if the delay results from the Participant's failure to be able to send or receive a Transfer to or from the Reserve Banks.
- 7.2.4** On-Line Access. By using the Fedwire Securities Service, an On-line Participant agrees to the terms of Appendix A to Operating Circular 5. An On-line Participant must manage its access in order to receive timely acknowledgment of credits and debits to its Securities Accounts and its Master Account during the Fedwire[®] Securities Service operating hours. If a Participant fails to manage its communications connection in such a manner, a Reserve Bank may limit any attempts to send acknowledgments of credits and debits to the Participant's computer. In such cases, the Participant should dial into the Reserve Bank's computer when its connection is reestablished.
- 7.2.5** Off-Line Access. A Sender must provide Transfer Messages in writing, by facsimile transmission, or by telephone under an authorized name on file with the appropriate Reserve Bank handling the off-line Transfers. The Reserve Bank shall call the Participant's place of business to verify a Transfer Message or other instruction and may require verification of all Transfer Messages or other instructions.

7.3 FORMAT AND CONTENT OF TRANSFER MESSAGES

- 7.3.1** A Transfer Message must be in the media and format the Reserve Banks prescribe. A Reserve Bank will not act on instructions in a Transfer Message other than information required by the format specifications. The Reserve Banks are not responsible for the accuracy of a routing number contained in or verbally supplied from a publication, list or automated file issued or maintained by a Reserve Bank if the routing number becomes inaccurate after the effective date of the publication, list, or automated file.
- 7.3.2** A Transfer Message must use the identifying number of the Sender and the Receiver associated with its head office in the Administrative Reserve Bank's District or, for a Sender or Receiver authorized to have Securities Account(s) with multiple Reserve Banks, the appropriate identifying number associated with the Securities Account on the books of a Reserve Bank other than the Administrative Reserve Bank. If the appropriate identifying number is not used, the Transfer will be rejected.
- 7.3.3** If a Transfer Message does not designate which Securities Account of the Receiver is to be credited, the Transfer will be rejected.
- 7.3.4** A Reserve Bank is entitled to rely on any Transfer Message or instruction (whether or not authorized) that it reasonably believes to be genuine.

8.0 [RESERVED]

9.0 SETTLEMENT OF BOOK-ENTRY SECURITIES TRANSFERS; PRINCIPAL AND INTEREST PAYMENTS

9.1 FINALITY

- 9.1.1** Unless a Transfer is rejected in accordance with this Circular, all debits and credits in connection with a Transfer become final at the time the debits and credits are posted to both the Sender's and the Receiver's Securities Accounts and, in the case of Transfer Against Payment, their corresponding Master Accounts. Notice of the Transfer is conclusive evidence that the debit(s) and credit(s) were made. Transfers may be reversed only by a separate Transfer effected by a Transfer Message using the reversal code, or Transfers may be returned by the Administrative Reserve Bank in accordance with this Circular. A Reserve Bank reserves the right to debit or credit Securities Accounts (without further authorization or instruction) to correct any Transfer errors.

9.2 PRINCIPAL AND INTEREST PAYMENTS IN GENERAL

- 9.2.1** Subject to Paragraph 9.3.1, and unless otherwise instructed by the issuer, the Reserve Bank credits payments of principal and interest on Book-Entry Securities to the Participant's (or, subject to prior written agreement on a form provided by a Reserve Bank, its correspondent's) Master Account on the due date (or the next business day, if the payment date falls on a weekend or holiday) to the extent there are available funds of the issuer.
- 9.2.2** Credits of principal and interest payments on Book-Entry Securities to a Master Account are final, subject only to a Reserve Bank's right to debit or credit the Master Account (without further authorization or instruction) to correct any payment errors.

9.3 PRINCIPAL AND INTEREST PAYMENTS ON BOOK-ENTRY SECURITIES IN RESTRICTED SECURITIES ACCOUNTS

- 9.3.1** A Reserve Bank may hold in a non-interest-bearing account on its books the principal of maturing or fully called Book-Entry Securities maintained in a Restricted Securities Account until the secured party authorizes the release of the principal. All interest payments and all other principal payments on Book-Entry Securities maintained in a Restricted Securities Account, including Amortizing Book-Entry Securities and partially called Book-Entry Securities, are credited in accordance with Paragraph 9.2.1, except as provided in Paragraph 5 of Appendix C.

10.0 LIMITATIONS ON TRANSFERS OF BOOK-ENTRY SECURITIES

10.1 GENERAL RESTRICTIONS ON TRANSFERS

- 10.1.1** Transfers are not authorized on or after the date of maturity of a particular issue, or on or after the redemption date of a bond or note that has been called for redemption. Certain issues may contain restrictions which do not allow Transfers for a specified time period prior to maturity.
- 10.1.2** A Reserve Bank will not accept instructions from a Sender (or a Receiver) to credit (or debit) a correspondent's Master Account for a payment in connection with a Transfer Against Payment.

10.2 AMOUNT LIMITATIONS ON TRANSFERS

- 10.2.1** There is a par amount maximum of \$50 million for Transfers (the “Limit”). The Limit applies to all Transfers, as well as to transfers with the Federal Reserve’s Open Market Desk, except as provided in Paragraph 10.2.2. A Reserve Bank will reject a Transfer Message with a par amount greater than the Limit.
- 10.2.2** The Limit on Transfers does not apply to:
- (a) transactions, including the original issuance of Book-Entry Securities and requests to strip and reconstitute Book-Entry Securities, to or from a Reserve Bank in its capacity as fiscal agent of the United States, Federal and Federally sponsored agencies, or international organizations; and
 - (b) Debits or credits to Restricted Securities Accounts on a Reserve Bank’s books.
- 10.2.3** Participants should establish procedures to ensure that large Transfers are not delayed until late in the day. Specifically, each Participant should encourage its customers to provide delivery instructions to it as soon as practical after a trade is executed and to deliver Book-Entry Securities as soon as (par amount) lots of Book-Entry Securities at the Limit are in position.

10.3 IMPROPER USE OF THE REVERSAL CODE

- 10.3.1** A Participant must not send a Transfer Message for the first time during the reversal period by using the reversal code.
- 10.3.2** No misuse of the reversal code has occurred if a Transfer effected by a Transfer Message sent initially and properly during the origination period using the origination code is reversed one or more times by a Transfer Message using the reversal code. However, a Reserve Bank will not handle any request for compensation arising from such a use of the reversal code; this must be handled directly by the Sender and the Receiver.

11.0 TRANSFER HOURS AND EXTENSIONS

- 11.1** A Reserve Bank effects Transfers in accordance with the schedule of operating hours in Appendix B. However, the Reserve Banks may decide in their sole discretion to open or close the Fedwire® Securities Service at an earlier, or later time, to facilitate special market needs.
- 11.2** A Participant requiring an extension of the Fedwire® Securities Service operating hours should contact the Federal Reserve Bank of New York or its designee as

soon as possible. A request for an extension received less than twenty minutes before the scheduled Fedwire[®] Securities Service closing time will not be granted. An extension may be granted only if:

- (a) there is a failure of Reserve Bank and/or the Fedwire[®] Securities Service network equipment; or
- (b) there is a significant operating problem at a bank or major dealer; and, as a result,
- (c) the extension is deemed necessary, in the Federal Reserve Bank of New York's (or its designee's) view, to prevent market disruption (i.e., the dollar value of delayed transfers exceeds \$1 billion).

11.3 When requesting an extension, the Participant will be required to state the dollar amount and volume of unprocessed Transfer Messages and to assess the severity of any operating problems.

11.4 Every extension of the Fedwire[®] Securities Service is broadcast electronically to all Reserve Banks and all high-volume Participants.

12.0 NOTICES

12.1 The Reserve Bank sends to a location specified by a Participant a notice following each credit or debit to the Participant's Securities Account(s). The notice is not a negotiable or a transferable receipt but is merely confirmation of a completed Transfer. The Reserve Bank sends an On-line Participant an electronic notice, and an Off-Line Participant a printed notice, of each debit or credit to its Securities Account(s). The Reserve Bank also attempts to notify an Off-Line Participant by telephone of each debit or credit to its securities account resulting from a secondary market Transfer. The Reserve Bank will make no attempt to notify an Off-Line Participant by telephone regarding either of the two following types of transactions: (1) the credit of securities received upon original issue since the issuer has already notified the participant of the securities to be deposited; (2) the debit of securities at maturity or when called for redemption.

12.2 After 3:30 p.m. eastern time (absent an extension of the Fedwire[®] Securities Service), each On-line Participant is provided with:

- (a) a summary of funds debited or credited to the Participant's Master Account as a result of Transfers Against Payment; and
- (b) a summary of net balances for each Book-Entry Security issue for which there was activity.

12.3 Each Participant also receives information detailing principal and/or interest payments credited to its (or its correspondent's) Master Account.

- 12.4** A Participant must notify the Reserve Bank in writing of an exception to any notice, summary, or statement as soon as possible (in no event later than 10 calendar days from the date of the notice, summary, or statement).

13.0 [RESERVED]

14.0 TRANSFER AND SECURITIES ACCOUNT MAINTENANCE FEES

14.1 FEES

- 14.1.1** The fees imposed for Book-Entry Securities services are listed in the Reserve Banks' fee schedule as amended from time to time. Neither monthly account maintenance fees nor Transfer fees are assessed for Restricted Securities Accounts maintained by the Reserve Banks under the following programs: Treasury Tax and Loan (TT&L), Loans and Discounts, and 31 C.F.R. part 202. Restricted Securities Accounts maintained by the Reserve Banks under the 31 C.F.R. part 225 program are subject to monthly account maintenance fees but not Transfer fees.

14.2 BILLING OF FEES

- 14.2.1** The Participant's (or, subject to prior written agreement on a form provided by a Reserve Bank, its correspondent's) Master Account is debited for fees for Treasury Book-Entry Securities daily. These fees are assessed by Treasury.
- 14.2.2** Fees for Book-Entry Securities other than Treasury Book-Entry Securities are billed monthly and debited to the Participant's (or, subject to prior written agreement on a form provided by a Reserve Bank, its correspondent's) Master Account.
- 14.2.3** A Participant that does not have a Master Account is not relieved of its liability for any fees it incurs by using the Fedwire[®] Securities Service.

15.0 EMERGENCY CONDITIONS

15.1 FAILURE OF A PARTICIPANT'S EQUIPMENT

- 15.1.1** On-line Participants are responsible for developing their own contingency and recovery plans, such as back-up computer and

operations facilities, to ensure their ability to continue the Fedwire® Securities Service operations in the event of equipment failure or other operational interruption. The Reserve Banks assume no responsibility for providing any back-up access facilities for Participants.

15.2 FAILURE OF RESERVE BANK EQUIPMENT

- 15.2.1** In the event of an emergency or failure of a Reserve Bank's computer or operations facilities, Transfers may be delayed until the emergency or failure is resolved. During extended disruptions, the Reserve Bank's Fedwire® Securities Service operations may be relocated to a back-up site. Participants should refer to the Reserve Bank's contingency guidelines regarding Participant requirements and responsibilities during contingency operations.
- 15.2.2** On-line Participants should be prepared to reconcile their positions up to the point of the failure under the Reserve Bank's instructions.
- 15.2.3** A Reserve Bank will notify On-line Participants of an operating problem at another Reserve Bank and, should the problem be deemed critical, will give instructions to On-line Participants.

16.0 LIMITATIONS ON LIABILITY

- 16.1** The Reserve Banks are not liable for the insolvency, neglect, misconduct, mistake, or default of any other entity or person, including a Participant. Except as otherwise specifically provided herein, the account-holding Reserve Bank is liable only for the actual direct loss sustained by the immediate Participants to a transaction proximately caused by the Reserve Banks' failure to exercise ordinary care or act in good faith: with respect to Reserve Bank liability to such Participants, only the Reserve Bank holding the Sender's account is liable to the Sender and only the Reserve Bank holding the Receiver's account is liable to the Receiver. The amount of a Reserve Bank's liability to a Participant is limited to no more than the dollar amount of the transaction plus reasonable interest and incidental expenses, unless the Participant's claim is based on delay of a transaction in which case the Reserve Bank's liability is limited to reasonable interest and incidental expenses. In no event shall a Reserve Bank be liable for consequential, indirect, incidental or special damages (including lost profits), however derived, and regardless of whether the Reserve Bank has been informed of the possibility thereof.
- 16.2** In addition to the liability of an account-holding Reserve Bank, a Reserve Bank handling an off-line Transfer is liable to its immediate Participant for the actual direct losses resulting from the Reserve Bank's handling of the Transfer, that are proximately caused by the Reserve Bank's failure to exercise ordinary

care or act in good faith, subject to the first, third, and fourth sentences of Paragraph 16.1.

- 16.3** The Administrative Reserve Bank may in its discretion satisfy an obligation of any of the Reserve Banks to pay interest hereunder by paying compensation.

17.0 MULTIPLE MASTER ACCOUNTS

- 17.1** Under certain circumstances a Participant may have multiple Master Accounts at its Administrative Reserve Bank with each Master Account having associated Securities Accounts and/or one or more Master Accounts at Reserve Banks other than its Administrative Reserve Bank with each Master Account having associated Securities Accounts.
- 17.2** Notwithstanding any provision of this Circular, during any period when a Participant is authorized to maintain Securities Accounts at multiple Reserve Banks, any debit or credit made pursuant to this Circular will be made to the Securities Account and Master Account associated with the identifying number of the Participant used in the Transfer.

18.0 RIGHT TO AMEND

- 18.1** The Reserve Banks reserve the right to amend this Circular at any time without prior notice.

19.0 EFFECT OF THIS CIRCULAR ON PREVIOUS CIRCULAR

- 19.1** This Circular supersedes the Reserve Banks' Operating Circular 7, Book-Entry Securities Account Maintenance and Transfer Services, with an effective date of April 1, 2013 (including any supplements or appendices thereto), and is effective on June 30, 2016.

APPENDIX A: APPLICABLE REGULATORY CITATIONS GOVERNING BOOK-ENTRY SECURITIES OF AGENCIES, INSTRUMENTALITIES, AND ESTABLISHMENTS OF THE UNITED STATES

- 12 C.F.R. Part 615, Subpart O (Farm Credit System).
- 12 C.F.R. Part 615, Subpart R (Farm Credit System Financial Assistance Corporation).
- 12 C.F.R. Part 615, Subpart S (Federal Agricultural Mortgage Corporation).
- 12 C.F.R. Part 912 (Federal Home Loan Banks).
- 24 C.F.R. Part 81 Subpart H (Federal Home Loan Mortgage Corporation).
- 24 C.F.R. Part 81, Subpart H (Federal National Mortgage Association).
- 12 C.F.R. Parts 912, 950.4 (Financing Corporation).
- 24 C.F.R. Part 350 (Government National Mortgage Association).
- 12 C.F.R. Part 1511 (Resolution Funding Corporation).
- 31 C.F.R. Part 354 (Student Loan Marketing Association).
- 18 C.F.R. Part 1314 (Tennessee Valley Authority).
- 31 C.F.R. Part 357, Subpart B (United States Department of the Treasury).

APPENDIX B: FEDWIRE® SECURITIES SERVICE OPERATING HOURS FOR BOOK-ENTRY SECURITIES TRANSFERS¹

ON-LINE TRANSFERS

Opening of the Fedwire® Securities Service ²	8:30 a.m. (ET)
Closing Time for Transfer Originations ²	3:15 p.m. (ET)
Closing Time for Transfer Reversals ²	3:30 p.m. (ET)
Closing Time for Repositions Against Payment ³	4:30 p.m. (ET)
Closing Time for Repositions Free of Payment	7:00 p.m. (ET)

OFF-LINE INSTRUCTIONS

Begin accepting instructions	9:00 a.m. (ET)
Cut-off for accepting instructions for current days processing ⁴	1:30 p.m. (ET) ⁵
Cut-off for accepting instructions for future days processing	4:00 p.m. (ET) ⁵

¹ The Reserve Banks observe standard legal holidays which include: All Saturdays, All Sundays, New Year's Day (January 1), Martin Luther King's Birthday (third Monday in January), President's Day (third Monday in February), Memorial Day (last Monday in May), Independence Day (July 4), Labor Day (first Monday in September), Columbus Day (second Monday in October), Veterans' Day (November 11), Thanksgiving Day (fourth Thursday in November), and Christmas Day (December 25). If January 1, July 4, November 11, or December 25 fall on a Sunday, the next following Monday is a standard Reserve Bank holiday.

² The Reserve Banks may decide, in their sole discretion, to open or close the Fedwire® Securities Service at an earlier, or later time to facilitate special market needs.

³ "Reposition against payment" means the transfer of Book-Entry Securities against payment between two accounts of the same Participant.

⁴ An attempt will be made to process Off-line instructions received after the cut-off time, but cannot be guaranteed. The requesting Participant will be notified if the Transfer is not effected.

⁵ A Reserve Bank, in its sole discretion, may extend this cutoff hour.

APPENDIX C: CUSTODY AGREEMENT FOR BOOK-ENTRY SECURITIES

This Appendix sets forth the terms under which this Bank holds Book-Entry Securities in custody for the benefit of a state or local government or unit thereof to which the securities have been pledged. Unless otherwise agreed in writing between this Bank and a Pledgee, this Appendix applies only to Book-Entry Securities pledged for the purposes specified in Paragraphs 4.3.2(a)(ii) of this Operating Circular (“Circular”). This Appendix constitutes an agreement, as described in the Applicable Regulations, regarding the security interest of a non-Participant in Book-Entry Securities held by a Participant on the books of this Bank. Each Reserve Bank has issued an Appendix C to Circular No. 7 identical to this one.

1.0 DEFINITIONS

In addition to the terms defined in the Circular, the terms defined in this Paragraph have the following meanings when used in this Appendix.

- (a) **Applicable Regulations** means the regulations of issuers of Book-Entry Securities listed in Appendix A to this Circular.
- (b) **Collateral Transaction** means the pledge of Book-Entry Securities by a Pledgor to a Pledgee; the release of Pledged Securities to a Pledgor; or the substitution of the same par value amount of new Pledged Securities for existing Pledged Securities that are released to the Pledgor.
- (c) **Pledged Security** means a Book-Entry Security that is held in a Restricted Securities Account.
- (d) **Pledgee** means the state or local government or unit thereof, to which Book-Entry Securities have been pledged.
- (e) **Pledgor** means the Participant that has pledged the Book-Entry Securities.

2.0 GOVERNING LAW

- 2.1 The Bank provides custodial services in accordance with Paragraph 4.3.2(a)(ii) of the Circular and this Appendix. The Bank’s rights and obligations in providing custodial services pursuant to this Appendix are governed solely by the Circular, this Appendix, and the Applicable Regulations.
- 2.2 Pledgor and Pledgee warrant that a pledge of Book-Entry Securities marked on the books of the Bank under the provisions of this Appendix is in accordance with applicable law. If any provision of any bond, security or pledge agreement between Pledgor and Pledgee, or any subsequent waiver, modification or amendment of such agreement, imposes any duties on this Bank that are inconsistent with the provisions of this Appendix, the provisions of this Appendix govern. Provisions of state law that are inconsistent with, or in addition to, the provisions of this Appendix are not binding on this Bank unless otherwise agreed in writing.

- 2.3** Under the Applicable Regulations, the security interest of a Pledgee is perfected by this Bank's marking the security interest on its books, and the security interest has priority over any other interest in the Pledged Securities, other than a security interest of the United States.

3.0 ESTABLISHMENT OF RESTRICTED SECURITIES ACCOUNT

- 3.1** This Bank will establish a Restricted Securities Account for the benefit of a Pledgee once the Pledgee has agreed to the terms of this Appendix and has provided such other information as may be required by the Bank. Existing Pledgees may be required to execute a new agreement with the Bank but, in the absence of such new agreement, are deemed to have agreed to the provisions of this Appendix by continuing to hold Pledged Securities with the Bank. Forms for this purpose are available from the Bank.
- 3.2** By initiating a Collateral Transaction, a Pledgor agrees to all the provisions of this Appendix, as amended from time to time.

4.0 COLLATERAL TRANSACTIONS

- 4.1** A Collateral Transaction is initiated by the Pledgor and, except for the pledge of new Pledged Securities, requires the prior approval of the Pledgee or its authorized representative. Collateral Transaction requests and Pledgee authorizations are subject to verification procedures the Bank specifies from time to time.
- 4.2** If a Pledged Security is unacceptable as collateral to a Pledgee, the Pledged Security will not be released to the Pledgor without the authorization of the Pledgee. The Bank assumes no responsibility to determine if a Pledged Security is acceptable to the Pledgee.
- 4.3** A Pledgee may provide the Bank with written standing instructions to permit substitutions of like par value amounts of Pledged Securities without the consent of the Pledgee. A substitution transaction involving a lesser par value amount of Pledged Securities requires Pledgee authorization for the release of Pledged Securities. In the case of a substitution involving an Amortizing Book-Entry Security, par value refers to the outstanding book value of the Book-Entry Security at the time of a substitution transaction.
- 4.4** The Bank issues a confirmation to the Pledgee and the Pledgor for each Collateral Transaction. The confirmation is conclusive evidence of the Collateral Transaction reflected therein.

5.0 INTEREST PAYMENTS AND OTHER PROCEEDS

- 5.1** Pursuant to Paragraph 9.2.1 of the Circular, the Bank credits payments of interest on the Pledged Securities to the Pledgor until the Bank receives (i) a written certification from the Pledgee or its authorized representative that the Pledgor is in default under any underlying pledge or security agreement between the Pledgor and the Pledgee, and (ii) written instructions directing the Bank to hold the interest payments. The Bank holds the interest payments in a non-

interest-bearing account until collected in accordance with Paragraph 6 of this Appendix.

- 5.2** The Bank may hold principal of Pledged Securities that mature or are called for redemption in full in a non–interest-bearing account, as permitted by Paragraph 9.3.1 of the Circular, until the earliest of the following:
- (a) Pledged Securities are deposited in substitution for the principal in accordance with Paragraph 4.3 of this Appendix;
 - (b) the principal is released in accordance with the authorization of the Pledgee; and
 - (c) the principal is collected by the Pledgee in accordance with Paragraph 6 of this Appendix.
- 5.3** On the day a Pledged Security that is an Amortizing Book-Entry Security is to be paid off, the Bank shall debit the Pledgor’s Master Account before the opening of the Fedwire Securities Service for the amount of principal to be paid to the Pledgor and hold that amount in a non–interest-bearing account until the earliest of the following:
- (a) Book-Entry Securities are deposited in substitution in accordance with Paragraph 4.3 of this Appendix for the Pledged Security that paid off;
 - (b) that amount is released in accordance with the authorization of the Pledgee; and
 - (c) that amount is collected by the Pledgee in accordance with Paragraph 6 of this Appendix. The Bank credits the principal of a Pledged Security that is to be paid off to the Pledgor’s Master Account in accordance with Paragraph 9.3.1 of the Circular. If that credit is not made by 4:30 p.m. ET on the day the Pledged Security is to be paid off, the Bank shall debit from the non–interest-bearing account the amount previously debited from the Pledgor’s Master Account under this paragraph and recredit that amount to the Pledgor’s Master Account that same day.

6.0 COLLECTION OF PLEDGED SECURITIES AND PROCEEDS

- 6.1** If the Pledgee or its authorized representative certifies in writing to the Bank that the Pledgor is in default under any underlying pledge or security agreement between the Pledgor and the Pledgee, and certifies that the Pledgee has satisfied any notice or other requirement to which the Pledgee is subject, the Pledgee may instruct the Bank in writing to transfer specific amounts and issues of Pledged Securities and, if applicable, specific amounts of interest payments or other proceeds of Pledged Securities not previously credited to the Pledgor or

otherwise released, to designated accounts on the books of this Bank or another Reserve Bank.

- 6.2 Promptly after receiving such certifications and instructions, the Bank will make the transfer instructed by the Pledgee.
- 6.3 The Bank is not required to obtain the consent of the Pledgor for any such transfer and assumes no responsibility for determining the validity of a Pledgee's declaration of the Pledgor's default or of the underlying pledge or security agreement between the Pledgor and the Pledgee.

7.0 PROHIBITED ACTS

- 7.1 Notwithstanding any other provision of this Appendix or the Circular to the contrary, the Bank is not required to perform any act directed or required by the Pledgee if the Bank is prohibited from performing the act by law or by court order.

8.0 LIMITATIONS ON BANK'S LIABILITY AND DUTIES

- 8.1 The Bank is liable only for the actual direct loss sustained by a Pledgee or Pledgor proximately caused by the Reserve Bank's failure to exercise ordinary care or act in good faith in performing its duties under this Appendix. In no event shall the Reserve Bank be liable for consequential, indirect, incidental or special damages (including lost profits), however derived, and regardless of whether the Reserve Bank has been informed of the possibility thereof. Both the Pledgee and the Pledgor release and forever discharge the Bank from all other claims, demands, and liability of the Pledgee or the Pledgor, or both, in connection with the Bank's performance of its duties under this Appendix and indemnify the Bank for any claims of other parties, including costs of litigation and reasonable attorneys' fees, with respect to Pledged Securities held by the Bank.
- 8.2 In particular, but not exclusively, the Bank has no duty to:
 - (a) act as escrow agent or in any other capacity not expressly provided for in this Appendix;
 - (b) determine the validity of the pledge of securities by the Pledgor to the Pledgee, including whether any required bond, pledge, or security agreement has been executed;
 - (c) monitor the value of a Pledged Security, or the declining book value of a pay-down Pledged Security subsequent to its pledge, or ensure that the type, amount, or value of a Pledged Security is that which is required under state or local law;
 - (d) verify ownership, validity, or legality of the Pledged Securities;
 - (e) pay assessments as provided under state or local law;

- (f) give notice of maturity, call, exchange offer, or the like, affecting the Pledged Securities;
- (g) carry insurance against loss of the Pledged Securities; or
- (h) inquire into the existence or continuance of the powers or authority of a public official who is the Pledgee or is acting for the Pledgee or the successors in office to or any person represented to the Bank as authorized to act on behalf of the Pledgee. However, the Bank may require a certificate from the proper authority showing that the public official, or any person represented to the Bank as authorized to act on behalf of the Pledgee, is and continues to be so authorized.

9.0 DISPUTES

In the event of notice of a conflicting claim with respect to Pledged Securities, the Bank may hold the Pledged Securities, including interest and proceeds, pending settlement of the dispute either by agreement of the parties or by order of a court of competent jurisdiction.

10.0 TERMINATION OF AGREEMENT OR PLEDGE SECURITIES ACCOUNT

- 10.1** The Bank or the Pledgee may terminate this Agreement and close any Restricted Securities Account established under this Appendix by giving not less than 30 calendar days advance written notice of termination to the other party and to the Pledgor.
- 10.2** The Bank may release Pledged Securities held by the Bank to the Pledgor at the end of the 30-day period. However, if, within the 30 day period, the Bank (a) receives written instructions from the Pledgor to otherwise dispose of the Pledged Securities and (b) the Pledgee's separate written approval thereof, the Bank will dispose of the Pledged Securities in accordance with these instructions.
- 10.3** If, by reason of a merger or otherwise, a Pledgor's Book-Entry Securities account is transferred to another Reserve Bank, the Pledged Securities held by this Bank will be transferred to the other Reserve Bank, with 30 calendar days prior notice to affected Pledgees. If Pledged Securities are transferred to this Bank pursuant to this provision, this Bank will hold the Pledged Securities pursuant to the terms of this Appendix and the existing Pledgee Agreement with the transferor Reserve Bank but may require a new Pledgee agreement.

11.0 FEES

The Pledgor shall pay any fees for services provided under this Appendix, as announced by the Bank from time to time.

12.0 AMENDMENT

The Reserve Banks reserve the right to amend this Appendix at any time without prior notice.

APPENDIX D: AUTOMATED CLAIM ADJUSTMENT FOR MORTGAGE-BACKED SECURITIES: FAIL TRACKING, REPO TRACKING AND INTERIM ACCOUNTING

This Appendix sets forth the terms under which a Reserve Bank offers Automated Claim Adjustment for mortgage-backed securities.

1.0 DEFINITIONS

1.1 As used in this Appendix:

- (a) **ACAP** means the automated Claim Adjustment process as set forth in this Appendix D.
- (b) **ACAP Account** means the account that the Reserve Banks use to effect transfers in connection with Claim Adjustments.
- (c) **Aggregate Amount or Aggregate Amount of Claims** means the net debit or credit amount of all Claims payable on a particular banking day with respect to a Participant's Securities Account as a Sender or Receiver for Transfers as reported by the Reserve Bank in a notification to the Participant pursuant to Paragraphs 2.3, 3.4, and 4.3 hereof.
- (d) **Beneficiary Date** means the date on which the interest accrual for a Book-Entry Security ends.
- (e) **Book-Entry Security** or **Security** means, for the purposes of this Appendix, a book-entry security as defined in OC7 for which the Reserve Banks offer Fail Tracking, Repo Tracking, or Interim Accounting services.
- (f) **Claim** means the amount that is to be debited to one Participant and credited to another Participant as the result of Fail Tracking, Repo Tracking, or Interim Accounting services.
- (g) **Claim Adjustment** means the process in which the Reserve Bank credits or debits a Participant's Master Account or the Master Account of its correspondent to settle Claims arising from Transfer Messages that invoke Fail Tracking, Repo Tracking, or Interim Accounting services.
- (h) **Contra** means the counter party on a Transfer Message that includes a Repo Tracking indicator, i.e. the Sender is the Contra of the Receiver and vice versa.
- (i) **Contract Date** means the date specified by the Sender in a Transfer Message as the date agreed upon for settlement of the Transfer.
- (j) **Fail Tracking** means the process in which the Reserve Bank identifies a Transfer with a Settlement Date after the specified Contract Date as specified in the associated Transfer Message.

- (k) **Interim Accounting** means the process in which the Reserve Bank identifies a Transfer Message with a Settlement Date after the Record Date and on or before the Beneficiary Date and processes Claim Adjustments on that basis.
- (l) **Payment Date** means the date on which payments of principal and/or interest are made with respect to a Book-Entry Security.
- (m) **Record Date** means the date established by the issuer of a Book-Entry Security on which the holder of record is identified for the payment of principal and/or interest.
- (n) **Repo In Balance** means the record created for a Participant that reflects the securities subject to Repo Tracking received by a Participant and not yet transferred back.
- (o) **Repo Out Balance** means the record created for a Participant that reflects the securities subject to Repo Tracking sent by a Participant and not yet received back.
- (p) **Repo Tracking** means the process in which the Reserve Bank records and maintains balances that reflect the securities transferred using a Repo Tracking Indicator that are held in a Participant's Securities Account, as well as the calculation and processing of Claim Adjustments based on those balances.
- (q) **Repo Tracking Indicator** means the field-tag contained in a Transfer Message that identifies that message as eligible for Repo Tracking services and instructs the Reserve Bank to augment or reduce the Repo In and Repo Out Balances of the Sender and Receiver.
- (r) **Settlement Date** means the date on which the Reserve Bank processes a Transfer Message (also known as the clearance date).

1.2 Defined terms used in this Appendix that are not defined in section 1.1 hereof have the meanings set forth in Operating Circular 7.

2.0 FAIL TRACKING

2.1 INITIATION AND AUTHORIZATION OF SERVICE

2.1.1 A Sender invokes Fail Tracking services by sending a Transfer Message that includes a Contract Date in accordance with the format prescribed by the Reserve Banks. The Fail Tracking service is not available for a Transfer Message indicating that the Transfer is to be identified as a repurchase agreement.

2.1.2 By including a Contract Date in the prescribed format in a Transfer Message, the Sender authorizes and instructs the Reserve Bank to perform Fail Tracking services with respect to the Transfer Message. The Fail Tracking services so authorized include identifying a Claim in

accordance with Paragraph 2.2 hereof and settling the Aggregate Amount of Claims in accordance with Paragraph 5.0 of this Appendix.

- 2.1.3 If the Sender uses a correspondent pursuant to Paragraph 5.3 of Operating Circular 7, the Sender warrants that it has instructed and authorized its correspondent to accept any debit or credit Aggregate Amounts in accordance with Paragraph 5.0 hereof.

2.2 FAIL TRACKING CLAIM IDENTIFICATION AND DETERMINATION OF AGGREGATE AMOUNT OF CLAIMS

- 2.2.1 For each Transfer Message that invokes Fail Tracking, the Reserve Bank shall determine whether the Settlement Date is later than the Contract Date specified in the Transfer Message. When the Settlement Date is later than the specified Contract Date, the Reserve Bank shall deem the Transfer to be a fail transaction.
- 2.2.2 The Reserve Bank shall identify for adjustment a Claim in a fail transaction for each Beneficiary Date falling on or after the Contract Date but before the Settlement Date. A Claim shall not be identified, however, for a Beneficiary Date with an associated Payment Date that is more than six months before the Settlement Date.
- 2.2.3 For a Beneficiary Date with an associated Payment Date prior to the Settlement Date, the Reserve Bank shall process a Claim Adjustment on the next banking day. For a Beneficiary Date with an associated Payment Date subsequent to the Settlement Date, the Reserve Bank shall process a Claim Adjustment on that Payment Date.
- 2.2.4 The amount of a Claim shall be the amount of principal and/or interest payable on the Beneficiary Date with respect to the transferred Book-Entry Securities.
- 2.2.5 The Reserve Bank shall aggregate the amount of the Claims to be debited with respect to a Participant's Securities Account as Sender with the amount of the Claims to be credited with respect to the same Participant's Securities Account as Receiver to determine the Aggregate Amount of Claims with respect to that Participant's Securities Account for that banking day.

2.3 NOTIFICATION OF CLAIMS

- 2.3.1 The Reserve Bank shall provide notice of a Claim pursuant to this Paragraph 2.3 to each Participant affected by that Claim.
- 2.3.2 The notice shall include: the date of the Claim Adjustment; the amount of each Claim, identifying the Transfer Message to which it pertains; and the Aggregate Amount of Claims, whether debit or credit, for that Participant's Securities Account.

- 2.3.3 The Reserve Bank shall provide notice hereunder to a Participant using the same medium by which it notifies the Participant of immediate principal and interest.

3.0 REPO TRACKING

3.1 INITIATION AND AUTHORIZATION OF SERVICE

- 3.1.1 A Sender invokes Repo Tracking services by sending a Transfer Message that includes a Repo Tracking Indicator, in accordance with the format prescribed by the Reserve Banks.
- 3.1.2 The Repo Tracking Indicator authorizes and instructs the Reserve Bank to record and maintain Repo In and Repo Out Balances for the Sender and Receiver, and to initiate the corresponding Claim Adjustment process.
- 3.1.3 If the Sender uses a correspondent pursuant to Paragraph 5.3 of Operating Circular 7, the Sender warrants that it has instructed and authorized its correspondent to accept any debit or credit Aggregate Amounts in accordance with Paragraph 5.0 hereof.

3.2 REPO BALANCE RECORD-KEEPING

- 3.2.1 The Repo Tracking Indicator used in a Transfer Message instructs the Reserve Bank to augment or reduce the Repo balances for a Sender and Receiver as follows:
- 3.2.1.1 The **Repo Start** field-tag [22F:RPST] indicates that a particular Transfer Message is part of a Repo transaction. Use of the Repo Start field-tag causes the Sender's Repo Out Balance to increase and the Receiver's Repo In Balance to increase.
- 3.2.1.2 The **Repo Start Reversal** field-tag [22F:RPRV] reverses a previous Transfer Message containing a Repo Start fieldtag. Use of the Repo Start Reversal field-tag causes the Sender's Repo In Balance to decrease and the Receiver's Repo Out Balance to decrease.
- 3.2.1.3 The **Repo Close** field-tag [22F:CLRP] indicates that the Transfer Message is part of a Repo transaction. Use of the Repo Close field-tag causes the Sender's Repo In Balance to decrease and the Receiver's Repo Out Balance to decrease.
- 3.2.1.4 The **Repo Close Reversal** field-tag [22F:CLRV] reverses a previous Transfer Message containing a Repo Close fieldtag. Use of the Repo Close Reversal field-tag causes the Sender's Repo Out Balance to increase and the Receiver's Repo In Balance to increase.

3.2.1.5 The **Repo Balance Only Adjustment** field-tag [22F:ADRP] indicates that a previous Transfer Message should have contained a Repo Start field-tag. Use of the Repo Balance Only Adjustment field-tag causes the Sender's Repo Out Balance to increase and the Receiver's Repo In Balance to increase. The Repo Balance Only Adjustment field-tag is subject to the current par transfer limit (\$50,000,000).

3.2.1.6 The **Repo Balance Only Adjustment Reversal** field-tag [22F:ADRV] reverses a previous Transfer Message containing a Repo Balance Only Adjustment field-tag. Use of the Repo Balance Only Adjustment Reversal field-tag causes the Sender's Repo In Balance to decrease and the Receiver's Repo Out Balance to decrease. The Repo Balance Only Adjustment Reversal field-tag is subject to the current par transfer limit (\$50,000,000).

3.2.2 The Fedwire[®] Securities Service Securities System will not process any Repo Tracking instruction that has the effect of creating a negative Repo balance for any Participant.

3.3 DETERMINATION OF AGGREGATE AMOUNT OF CLAIMS

3.3.1 On each Record Date, the Reserve Bank processes a Claim Adjustment for each Participant with a positive Repo Balance.

3.3.2 A Claim Adjustment results in a debit to the Securities Account of a Participant with a net amount due as a result of a positive Repo In Balance and a credit to the Securities Account of the Participant with a net amount due as a result of a positive Repo Out Balance.

3.3.3 The amount of each Claim shall be the amount of principal and/or interest due or owed according to the Participant's Repo balances on Record Date.

3.3.4 The Reserve Bank aggregates the amount of the Claims to be debited with respect to a Participant's Repo In Balance with the amount of the Claims to be credited with respect to the same Participant's Repo Out Balance to determine the Aggregate Amount of Claims with respect to that Participant's Securities Account for that banking day.

3.4 NOTIFICATION OF CLAIMS

3.4.1 Every evening, the Reserve Bank provides each Participant with a repo balance report detailing that Participant's Repo In Balances and Repo Out Balances.

3.4.2 The Reserve Bank provides the repo balance report to each Participant using the same medium by which it notifies the Participant of holdings statements.

- 3.4.3 In addition, on the evening prior to the date of adjustment, the Reserve Bank provides each Participant with an adjustment notification report indicating the net adjustment amounts to be processed for that Participant and the supporting details of the adjustments to be made to that Participant's Securities Account.
- 3.4.4 The Reserve Bank provides the adjustment notification report to each Participant using the same medium by which it notifies the Participant of immediate principal and interest.

4.0 INTERIM ACCOUNTING

4.1 INITIATION AND AUTHORIZATION OF SERVICE

- 4.1.1 A Sender invokes Interim Accounting services by sending a Transfer Message for a Security that has a Beneficiary Date that is different from the Record Date. The Interim Accounting service is not available for a Transfer Message identified as a repurchase agreement.
- 4.1.2 By sending a Transfer Message for a Security that has a Beneficiary Date that is different from the Record Date, the Sender authorizes and instructs the Reserve Bank to perform Interim Accounting services with respect to the Transfer Message. The Interim Accounting services so authorized include identifying a Claim in accordance with Paragraph 4.2 hereof and settling the Aggregate Amount of Claims in accordance with Paragraph 5.0 hereof.
- 4.1.3 If the Sender uses a correspondent pursuant to Paragraph 5.3 of Operating Circular 7, the Sender warrants that it has instructed and authorized its correspondent to accept any debit or credit Aggregate Amounts in accordance with Paragraph 5.0 hereof.

4.2 INTERIM ACCOUNTING CLAIM IDENTIFICATION AND DETERMINATION OF AGGREGATE AMOUNT OF CLAIMS

- 4.2.1 For each Transfer Message that invokes Interim Accounting services, the Reserve Bank shall determine whether the Settlement Date falls after the Record Date and on or before the Beneficiary Date. When the Settlement Date falls after the Record Date and on or before the Beneficiary Date, the Reserve Bank will deem the Transfer to be an Interim Accounting transaction.
- 4.2.2 The Reserve Bank shall identify for adjustment a Claim in an Interim Accounting transaction.
- 4.2.3 The amount of the Claim shall be the amount of principal and/or interest payable on the Beneficiary Date with respect to the transferred Book-Entry Securities.
- 4.2.4 The Reserve Bank shall aggregate the amount of the Claims to be debited with respect to a Participant's Securities Account as Sender with

the amount of the Claims to be credited with respect to the same Participant's Securities Account as Receiver to determine the Aggregate Amount of Claims with respect to that Participant's Securities Account.

4.3 NOTIFICATION OF CLAIMS

- 4.3.1** The Reserve Bank shall provide a notice of Claim pursuant to this Paragraph 4.3 to each Participant affected by that Claim.
- 4.3.2** The notice shall include: the date of the Claim Adjustment; the amount of each Claim, identifying the Transfer Message to which it pertains; and the Aggregate Amount of Claims, whether debit or credit, for that Participant's Securities Account.
- 4.3.3** The Reserve Bank shall provide notice hereunder to a Participant using the same medium by which it notifies the Participant of immediate principal and interest.

5.0 EFFECTING AGGREGATE AMOUNTS OF CLAIMS

5.1 REJECTING A CLAIM OR AGGREGATE AMOUNT

- 5.1.1** The Reserve Bank processing Claims may elect not to make Claim Adjustments for a Participant and the Reserve Bank holding the Participant's Master Account may reject a Participant's debit Aggregate Amount if: the Participant has failed, been suspended, been closed, or the like; or, in the opinion of the Reserve Bank holding the Participant's Master Account, the Participant does not or will not at the end of the day have in its Master Account a balance of actually and finally collected funds sufficient to cover its debit Aggregate Amount.
- 5.1.2** The Reserve Bank processing Claims may elect not to make Claim Adjustments for a Participant through a correspondent and the Reserve Bank holding the correspondent's Master Account may reject a Participant's debit Aggregate Amount if: the correspondent has failed, been suspended, been closed, or the like; or, in the opinion of the Reserve Bank holding the correspondent's Master Account, the correspondent does not or will not at the end of the day have in its Master Account a balance of actually and finally collected funds sufficient to cover its debit Aggregate Amount.

5.2 POSTING DEBITS

- 5.2.1** By 4:30 p.m. E.T. each banking day, the Reserve Bank shall attempt to process each debit Aggregate Amount to the Participant's or correspondent's Master Account prior to processing any credit Aggregate Amounts. If a debit passes all edits and is not rejected, the Participant's or correspondent's Master Account shall be debited the full amount of the debit Aggregate Amount and the Reserve Bank shall immediately credit the ACAP Account the same amount. A debit made to a Master Account and a credit made to the ACAP Account under this paragraph shall each

be final and irrevocable at the time it is made. If a debit Aggregate Amount is rejected, it shall be handled in accordance with Paragraph 5.3, but the Reserve Bank shall continue to process other debit Aggregate Amounts.

5.3 REJECTED DEBIT AGGREGATE AMOUNT

- 5.3.1** If a debit Aggregate Amount is rejected, the Reserve Bank processing Claims shall promptly notify the Participant or the correspondent that the debit has been rejected. The Participant or correspondent may arrange to deposit additional funds to its Master Account. By 5:00 p.m. E.T. the Reserve Bank will again attempt to process the debit Aggregate Amount. If at that time the debit Aggregate Amount passes all edits and is not rejected, the Master Account of the Participant or correspondent Participant shall be debited the amount of the debit Aggregate Amount and the Reserve Bank shall immediately credit the ACAP Account the same amount. A debit made to a Master Account and a credit made to the ACAP Account under this paragraph shall each be final and irrevocable at the time it is made.
- 5.3.2** If a debit Aggregate Amount for one or more Participants or correspondents is again rejected, however, the Reserve Bank shall cancel processing of the original group of Aggregate Amounts. The Reserve Bank shall debit the ACAP Account the amount of each debit Aggregate Amount that had resulted in a credit to the ACAP Account, and credit the same amount to the Master Account of the Participant or correspondent with the original debit Aggregate Amount. A debit made to the ACAP Account and a credit made to a Master Account under this paragraph shall each be final and irrevocable at the time it is made.
- 5.3.3** If the Reserve Bank cancels processing, the Reserve Bank shall remove all of the Claims (both debits and credits) included in the Aggregate Amounts rejected on the second attempt and redetermine the Aggregate Amounts for the remaining Participants and correspondents. The Reserve Bank shall notify the remaining Participants that the Aggregate Amounts have been recalculated and provide updated information in accordance with Paragraphs 2.3, 3.4, and 4.3.
- 5.3.4** The Reserve Bank shall then restart the process of effecting the Aggregate Amounts of Claims. If this process again does not result in full funding of the ACAP Account in accordance with Paragraph 5.4, the Reserve Bank may, in its sole discretion, elect to again delete the Claims Aggregate Amounts that were rejected, recalculate Aggregate Amounts, and start the process again, or cancel the process of effecting Aggregate Amounts for the day.
- 5.3.5** If the Reserve Bank cancels the process of effecting Aggregate Amounts for a banking day, the Reserve Bank shall notify all Participants of the cancellation. A Participant whose Claims were not adjusted on the scheduled banking day, either because its Claims were removed under Paragraph 5.3.3 or because processing was cancelled for the day, shall

make or seek payment of the Claims directly to or from the other Participant.

5.4 POSTING CREDIT AGGREGATE AMOUNTS

5.4.1 The ACAP Account is fully funded once the balance in the ACAP Account is equal to the sum of all debit Aggregate Amounts. Once the ACAP Account has been fully funded, the Reserve Bank shall debit the ACAP Account the amount of each credit Aggregate Amount, and the Participant's or correspondent's Master Account shall be immediately credited in the same amount. Each such debit to the ACAP Account and credit to a Master Account shall be final and irrevocable at the time it is made.

6.0 LIMITATIONS ON RESERVE BANK'S LIABILITY AND DUTIES; INDEMNIFICATION

6.1 LIMITATIONS ON DUTIES AND LIABILITY OF RESERVE BANKS

6.1.1 The Federal Reserve Banks make no representations or guarantees about the validity of any payment instructions they receive. Notations and entries made in connection with Fail Tracking, Repo Tracking, and Interim Accounting services are for informational purposes only, and do not reflect any interest of a Participant or its customers in Book-Entry Securities held in a Participant's Account.

6.1.2 The Reserve Banks are not liable for the insolvency, neglect, misconduct, mistake or default of any other entity or person, including a Participant or a correspondent. Except as otherwise specifically provided herein, the account-holding Reserve Bank is liable only for the actual direct loss sustained by the immediate Participants or correspondents using Claim Adjustment services proximately caused by the Reserve Banks' failure to exercise ordinary care or act in good faith: with respect to this liability, only the Reserve Bank holding the Sender's account is liable to the Sender and only the Reserve Bank holding the Receiver's account is liable to the Receiver. The amount of a Reserve Bank's liability to a Participant or correspondent is limited to no more than the dollar amount of a Claim Adjustment plus reasonable interest and incidental expenses, unless the Participant's or correspondent's claim is based on delay of a Claim Adjustment, in which case the Reserve Bank's liability is limited to reasonable interest and incidental expenses. In no event shall a Reserve Bank be liable for consequential, indirect, incidental or special damages (including lost profits), however derived, and regardless of whether the Reserve Bank has been informed of the possibility thereof.

6.1.3 In the event of an emergency or failure of a Reserve Bank's computer or operations facilities, Claim Adjustments may be delayed until the emergency or failure is resolved. During extended disruptions, the Reserve Bank's Fedwire[®] Securities Service operations may be relocated to a back-up site. Participants and correspondents should refer to the

Reserve Bank's contingency guidelines regarding Participant requirements and responsibilities during contingency operations.

6.2 INDEMNIFICATION

6.2.1 A Participant using Fail Tracking, Repo Tracking, or Interim Accounting services shall defend, indemnify and hold the Reserve Banks harmless from any claim, loss, liability, cost or expense, made against them by any person, including but not limited to Participant's correspondent, or incurred by them, including but not limited to attorneys' fees and expenses of litigation, resulting from the Participant's use of these or the other services provided under this Appendix, or the acts or omissions of the Participant or its agents, including but not limited to the Participant's correspondent, excluding only: (i) any claim, loss, liability, cost, or expense arising solely out of a Reserve Bank's failure to act in good faith or exercise ordinary care, and (ii) a direct loss to the Reserve Bank holding the Participant's or correspondent's Master Account resulting from an overdraft in that account caused by a final and irrevocable debit under this Appendix.

7.0 FEES

7.1 The fees for the services provided under this Appendix are listed in the Reserve Bank's fee schedule as amended from time to time and shall be debited as provided in Paragraph 14 of Operating Circular 7.

8.0 AMENDMENT

8.1 The Reserve Banks reserve the right to amend this Appendix at any time without prior notice.

APPENDIX E: FEDPAYMENTS[®] MANAGER FOR THE FEDWIRE[®] SECURITIES SERVICE

1.0 GENERAL

- 1.1** FedPayments[®] Manager is an application running on Reserve Bank servers that depository institutions may use to create, send and receive Fedwire[®] Messages. The Reserve Banks own and operate FedPayments Manager. A user of FedPayments Manager has only those rights of use expressly provided herein.
- 1.2** In no event shall a depository institution or its officers, employees, agents, or contractors:
 - 1.2.1** modify, add to, translate, reverse assemble, reverse compile, decompile or otherwise attempt to derive the source code for FedPayments Manager;
 - 1.2.2** introduce malicious code or other information (e.g., virus, trojan horse, worm) which could adversely impact the performance of the FedPayments Manager; or
 - 1.2.3** attempt to interfere with the normal operation of a Reserve Bank server or of the network over which FedPayments Manager is provided.
- 1.3** A depository institution accessing the Fedwire Securities Service through the FedLine Advantage[®] access channel uses FedPayments Manager when sending and receiving Fedwire Messages.
- 1.4** A Participant may use FedPayments Manager to format Transfer Messages to be submitted to the Fedwire Securities Service and to receive notices of receipt of a Transfer Message it issues or receives over the Fedwire Securities Service. A Participant that uses FedPayments Manager to initiate a Transfer Message or to receive notices agrees to the terms and conditions in this Appendix E.
- 1.5** FedPayments Manager is not a securities transfer system and this Appendix E is not a Clearing Corporation rule under section 8-111 of Article 8 of the Uniform Commercial Code.
- 1.6** Unless otherwise stated in this Appendix E, a term defined in Operating Circular 7 has the same meaning in this Appendix E. In addition, for purposes of this Appendix E, the term "Message" means a Transfer Message, a P&I message or a non-value message.

2.0 MESSAGE STATUS

- 2.1** A Message entered into FedPayments Manager may be cancelled by the user at any time prior to the release of the Message to the Fedwire Securities Service.

- 2.2 A Message entered into FedPayments Manager does not give rise to any obligation on the part of a Reserve Bank to act with respect to the Message unless and until the Message is received by the Fedwire Securities Service.
- 2.3 A Message is received by the Fedwire Securities Service when the Fedwire Securities Service time-stamps the Message. Once received by the Fedwire Securities Service, Operating Circular 7 governs the processing of the Message by the Reserve Banks. The Fedwire Securities Service time-stamp determines whether a particular Fedwire cut-off hour has been met.
- 2.4 A Message entered into FedPayments Manager that shows a status of “awaiting service availability” is released by the FedPayments Manager to the Fedwire Securities Service when the Fedwire Securities Service opens.
- 2.5 A Message that has been released by FedPayments Manager to the Fedwire Securities Service will not necessarily be accepted by the Fedwire Securities Service.

3.0 NOTICES

- 3.1 A Participant designates FedPayments Manager as the proper location for sending a Message or a notice. A notice of a debit to a Securities Account is reflected in FedPayments Manager as an outgoing Message the status of which is “completed”. A Transfer Message listed in an incoming message folder serves as notice of a credit to a Securities Account.
- 3.2 A Participant is deemed to have received a Message or notice sent by a Reserve Bank at the time that the Message or notice is made available to the Participant in FedPayments Manager if FedPayments Manager is open, or, if FedPayments Manager is not open, at the time that FedPayments Manager reopens with the posted Message or notice. It is the responsibility of a Participant to monitor FedPayments Manager for incoming Messages or notices and to manage its communications connection (including its browser) to permit the Participant to access FedPayments Manager throughout a Fedwire Securities transfer business day.
- 3.3 If a Participant provides the Reserve Bank with an e-mail address, the Reserve Bank will make best efforts, but is under no obligation, to send to that address an e-mail noting that a Message (including a Transfer Message or a notice of rejection) has been delivered to the Participant in FedPayments Manager. A Participant may provide the Reserve Bank with up to five e-mail addresses for these purposes.

4.0 SERVICE UNITS

- 4.1 A Participant may establish one or more service units in FedPayments Manager to accommodate the Participant’s specific informational needs. The use of multiple service units is for the convenience of the Participant only and does not create any special obligations on the part of a Reserve Bank with respect to Messages released by the various service units.

- 4.2 Any name used by a Participant or a Reserve Bank to identify a service unit is for convenience only and does not in any way alter or affect the Reserve Bank's right to treat the Participant as exclusively entitled to exercise the rights and powers with respect to the Book-Entry Securities in its Securities Accounts

5.0 TREATMENT OF INFORMATION

- 5.1 Information created or received in FedPayments Manager is treated as confidential information of the Participant and will be used by the Reserve Banks only as provided in 5.2 below.
- 5.2 The Reserve Banks may access and use information in FedPayments Manager:
- 5.2.1 To respond to a request of the Participant that entered the information into FedPayments Manager;
 - 5.2.2 To perform routine backup and maintenance;
 - 5.2.3 For reconciliation purposes during a Fedwire Securities Service or FedPayments Manager contingency;
 - 5.2.4 To resolve the status of a Message that has been released to the Fedwire Securities Service but, after a reasonable period of time, has not been accepted or rejected by the Fedwire Securities Service;
 - 5.2.5 As required by law; or
 - 5.2.6 As permitted by law if such use is also consistent with the Reserve Banks' information access policy.
- 5.3 Except as provided below, a Participant may view in FedPayments Manager and print a Message or notice created or received by the Participant in FedPayments Manager only during the current cycle date and the preceding 15 months. Certain audit trail information is also available for viewing and printing in FedPayments Manager for this period. With the exception of Messages that have been created in FedPayments Manager but have not yet been released to the Fedwire Securities Service, all information in FedPayments Manager is deleted if it is more than 15 months old.
- 5.4 A Participant may export a Message created in FedPayments Manager that has a status of "completed" as well as any Message it received in FedPayments Manager only on the current cycle date.
- 5.5 Any information backed-up from FedPayments Manager is also subject to the limitations in section 5.2.

6.0 HOURS OF OPERATION

- 6.1 FedPayments Manager is available from 8 p.m. ET each day that precedes a Fedwire Securities transfer business day until 7 p.m. ET the next day. The

Reserve Banks may decide, in their sole discretion, to open or close FedPayments Manager at an earlier time to facilitate special market needs.

- 6.2 If there is an extension of the Fedwire Securities Service operating hours, FedPayments Manager may also be extended. The reopening of FedPayments Manager may also be affected if there is a Fedwire Securities Service extension.
- 6.3 The Reserve Banks reserve the right to restrict access to FedPayments Manager at any time the Reserve Banks have reason to believe access poses a risk to the security or proper functioning of FedPayments Manager or the Fedwire Securities Service.

7.0 LIABILITY

- 7.1 The Reserve Banks are not liable for loss or damage resulting from a problem beyond their reasonable control. This includes, but is not limited to, loss or damage resulting from any delay, error or omission in the transmission of any message to or from FedPayments Manager and the Participant or resulting from the services provided by an internet service provider. Reserve Banks are not liable for any loss or damage resulting from FedPayments Manager being unavailable. Additionally, Reserve Banks are not liable for loss or damage resulting from acts of war, riots, civil unrest, strikes, labor disputes, acts of terrorism, acts of God or acts of nature.
- 7.2 Nothing in this Circular shall be deemed to relieve a Reserve Bank from responsibility for its own failure to exercise ordinary care or to act in good faith. However, a Reserve Bank's liability is strictly limited to damages proximately suffered by the Institution, and does not extend to lost profits, claims by third parties, or consequential or incidental damages, even if the Reserve Bank has been informed of the possibility of such damages.

"FedPayments," "Fedwire," and "FedLine Advantage" are registered service marks of the Federal Reserve Banks. A complete list of marks owned by the Federal Reserve Banks is available at FRBservices.org.