



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

FEDWIRE® SECURITIES SERVICE

Effective ~~January 30~~ May 1, 2023 ~~2023~~ 2024

**FEDERAL RESERVE BANKS
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1.0 PURPOSE, SCOPE, AND EFFECT OF THIS OPERATING CIRCULAR

- 1.1. This Operating Circular 7, including its appendixes, sets forth the terms under which each Reserve Bank maintains Securities Accounts, effects Transfers, makes payments of principal and interest on Book-Entry Securities, and performs other related services over or in connection with the Fedwire Securities Service. By maintaining a Securities Account, a Participant agrees to all the provisions of this operating circular, as amended from time to time. Capitalized terms are defined in section 3.
- 1.2. Each Reserve Bank has issued an Operating Circular 7 identical to this one. Applicable Regulations may also apply to a Book-Entry Security depending on the Issuer of the Book-Entry Security. This operating circular is a rule adopted by a clearing corporation under section 8-111 of Article 8 of the Uniform Commercial Code and an agreement governing a securities account within the meaning of the Convention on the Law Applicable to Certain Rights in Respect of Securities Held with an Intermediary except as otherwise specified in the appendixes.

2.0 [RESERVED]

3.0 DEFINITIONS

- 3.1. For purposes of this operating circular, the following definitions apply.
 - (a) **ACAP Claim** means the amount that is to be debited from one Participant's Master Account (or that of its Correspondent) and credited to another Participant's Master Account (or that of the other Participant's Correspondent) in accordance with Appendix D.
 - (b) **Acknowledgment** means a Message sent to a Sender that indicates that the Reserve Bank on whose books the Sender's Securities Account is maintained has accepted and processed a Message from that Sender. If the Sender's Message effects a Transfer Against Payment or an Issuance Against Payment, the Acknowledgment also advises the Sender of a credit of funds to its Master Account.
 - (c) **Administrative Reserve Bank** means, with respect to a Participant, the Reserve Bank in whose Federal Reserve district the Participant is located in accordance with section 4.6.1.
 - (d) **Advice** means a Message sent to a Receiver that advises the Receiver of (1) a credit or debit of Book-Entry Securities to its Securities Account, (2) in the case of a Transfer Against Payment or an Issuance Against Payment, a debit of funds to its Master Account, (3) in the case of a Message relating to the payment of principal and/or interest, a credit or debit of funds to its Master Account (or that of its Correspondent), and (4) in the case of an ACAP Claim or a correction to a payment of principal and/or interest, a credit or debit of funds to its Master Account (or that of its Correspondent).

- (e) **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).
- (f) **Applicable Regulations** means the regulations listed in Appendix A, as such regulations are amended from time to time.
- (g) **Appropriate Reserve Bank** means the Reserve Bank identified by the Participant's Administrative Reserve Bank as the Reserve Bank with which the Participant should communicate on particular matters.
- (h) **Board** means the Board of Governors of the Federal Reserve System.
- (i) **Book-Entry Security** means a marketable security that (1) is issued in electronic form by an Issuer and (2) the Reserve Banks have determined is eligible (a) to be held in a Securities Account and (b) for Transfer.
- (j) **Correspondent** means a "Correspondent" as defined in the Reserve Banks' Operating Circular 1, *Account Relationships*, that has authorized a Reserve Bank to settle the following transaction activity to its Master Account for a Participant:
 - (1) credits and debits relating to the payment, and associated correction to a payment, of principal and/or interest on Book-Entry Securities;
 - (2) credits and debits relating to ACAP Claims; and
 - (3) debits relating to fees under section 13.
- (k) **Cutoff Time** means:
 - (1) for Online Messages, the latest time on a Securities Business Day that a Message must be received by a Reserve Bank for it to be processed on that Securities Business Day; and
 - (2) for Offline Messages, the latest time on a Securities Business Day that a Reserve Bank will accept a Message on that Securities Business Day.
- (l) **Electronic Connection** means an "Electronic Connection" as defined in the Reserve Banks' Operating Circular 5, *Electronic Access*.
- (m) **Fedwire Securities Service** means the electronic facility operated by the Reserve Banks for maintaining Securities Accounts and for effecting Transfers.
- (n) **Free Transfer** means a Transfer that does not involve any credit or debit to a Master Account other than a transaction fee.
- (o) **Interception** means a Message sent to a Sender that indicates that the Reserve Bank on whose books the Sender's Restricted Securities Account is maintained has intercepted a Transfer Message from that Sender and that the Transfer

Message is subject to Reserve Bank review and approval before the Transfer will be acknowledged or rejected.

- (p) **Issuance** means the process by which the Reserve Banks effect an instruction by an Issuer to credit a par amount of Book-Entry Securities issued by that Issuer to a designated Securities Account of a Receiver. An Issuance may be an original issuance or a supplemental issuance of a Book-Entry Security.
- (q) **Issuance Against Payment** means an Issuance that is effected with a credit to a funds account of the Issuer maintained on the books of a Reserve Bank and a debit to the Master Account of the Receiver for the amount of the payment.
- (r) **Issuance Message** means an instruction of an Issuer to a Reserve Bank that the Reserve Bank uses to effect an Issuance on behalf of the Issuer.
- (s) **Issuer** means an agency, instrumentality, or establishment of the United States (including the Treasury); an international organization; or another entity that the Reserve Banks have determined is eligible to issue and maintain Book-Entry Securities over the Fedwire Securities Service.
- (t) **Master Account** means a "Master Account" as defined in the Reserve Banks' Operating Circular 1, *Account Relationships*, maintained on the books of a Reserve Bank.
- (u) **Message** means any message (whether a value or nonvalue message), notice, or other communication sent, received, processed, or otherwise transmitted over the Fedwire Securities Service. A Message includes any Acknowledgment, Advice, Issuance Message, Offline Message, Online Message, Transfer Message, and any other message, notice, or other communication relating to the payment, or correction to a payment, of principal and/or interest or an ACAP Claim.
- (v) **Offline** refers to the transmission of a Message directly to or from a Reserve Bank using means other than an Electronic Connection, including oral transmission by telephone.
- (w) **Online** refers to the transmission of a Message directly to or from a Reserve Bank using an Electronic Connection, excluding oral transmission by telephone.
- (x) **Participant** means an entity that maintains a Securities Account with a Reserve Bank. Subject to the Reserve Banks' and the Board's risk-reduction policies, where applicable, entities authorized by law, regulation, policy, or agreement to be Participants may include:
 - (1) depository institutions as defined in section 19(b)(1)(A) of the Federal Reserve Act (12 U.S.C. § 461(b)(1)(A));
 - (2) U.S. branches or agencies of a foreign bank as defined in section 211.21(b) or (e) of Regulation K (12 C.F.R. § 211.21(b) or (e));

- (3) member banks, as defined in section 1 of the Federal Reserve Act (12 U.S.C. § 221);
 - (4) the Treasury and any other entity specifically authorized by Federal statute to use the Reserve Banks as fiscal agents or depositories;
 - (5) entities designated by the Secretary of the Treasury in accordance with section 15 of the Federal Reserve Act (12 U.S.C. § 391);
 - (6) foreign central banks, foreign monetary authorities, foreign governments, and certain international organizations;
 - (7) Edge Act corporations organized under section 25A of the Federal Reserve Act (12 U.S.C. §§ 611–614) or corporations that have entered into an agreement with the Board to limit their activities to those of Edge Act corporations under section 25(5) of the Federal Reserve Act (12 U.S.C. § 603) and Regulation K (12 C.F.R. § 211.5(g));
 - (8) designated financial market utilities pursuant to Regulation HH (12 C.F.R. part 234); and
 - (9) any other entity authorized by a Reserve Bank to use the Fedwire Securities Service.
- (y) **Receiver** means a Participant that receives a Message.
 - (z) **Rejection** means a Message sent to a Sender that indicates that the Reserve Bank on whose books the Sender's Securities Account is maintained has rejected a Message from that Sender.
 - (aa) **Reserve Bank** means one of the 12 Federal Reserve Banks.
 - (bb) **Restricted Securities Account** means a Securities Account used to hold Book-Entry Securities as collateral for a secured party in accordance with section 4.5 of this operating circular.
 - (cc) **Securities Account** means an account used to hold Book-Entry Securities maintained on the books of a Reserve Bank.
 - (dd) **Securities Business Day** means a day on which the Fedwire Securities Service is open for business, including sending and receiving Transfers, conducting Issuances, and paying principal and/or interest on Book-Entry Securities.
 - (ee) **Securities Schedule** means the schedule published by the Reserve Banks on the FRBservices.org® website stating (1) the Cutoff Times, the opening and closing times for each Securities Business Day, and each processing window for various types of Messages and (2) each holiday observed by the Reserve Banks that is not a Securities Business Day.
 - (ff) **Sender** means a Participant that sends a Message.

- (gg) **Service Provider** means, on behalf of a Participant, a “Service Provider” as defined in the Reserve Banks’ Operating Circular 6, *Funds Transfers through the Fedwire Funds Service*.
- (hh) **Transfer** means the process by which the Reserve Banks effect over the Fedwire Securities Service a Sender’s entitlement order with respect to a par amount of Book-Entry Securities by (1) debit to the designated Securities Account of the Sender and by credit to the designated Securities Account of the Receiver or (2) 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.
- (ii) **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.
- (jj) **Transfer Message** means an entitlement order or other instruction of a Participant to a Reserve Bank that the Reserve Bank uses to effect a Transfer.
- (kk) **Transfer Processing Window** means the part of a Securities Business Day during which the Fedwire Securities Service is open for processing Transfer Messages.
- (ll) **Treasury** means the United States Department of the Treasury.
- (mm) **Unrestricted Securities Account** means a Securities Account used to hold Book-Entry Securities for a Participant other than a Restricted Securities Account.

4.0 SECURITY ENTITLEMENTS; MASTER ACCOUNTS AND SECURITIES ACCOUNTS; LOCATION OF PARTICIPANTS

4.1. SECURITY ENTITLEMENTS

4.1.1 A Reserve Bank credits a Book-Entry Security to a Participant’s Securities Account to create a security entitlement in that Book-Entry Security in the name of the Participant and debits a Book-Entry Security from a Participant’s Securities Account to terminate a security entitlement in that Book-Entry Security in the name of the Participant. For purposes of this operating circular, references to a Participant holding a Book-Entry Security in its Securities Account should be understood as a recognition of the Participant’s security entitlement in that Book-Entry Security as an entitlement holder under Applicable Regulations or Article 8 of the Uniform Commercial Code.

4.2. CLARIFICATION OF MEANING OF MASTER ACCOUNT

4.2.1 A Master Account is a funds account for purposes of the Applicable Regulations. A Securities Account is not a Master Account.

4.2.2 For purposes of this operating circular, references to “Master Account” are deemed to include a funds account of an Issuer where applicable, even if such an account would not otherwise meet the definition of “Master Account” as set forth in this operating circular.

4.2.3 A Master Account does not contain Book-Entry Securities.

4.3. MULTIPLE SECURITIES AND MASTER ACCOUNTS

4.3.1 A Participant may have one or more Securities Accounts at its Administrative Reserve Bank, subject to the approval of and terms required by the Administrative Reserve Bank. Securities Accounts may be Unrestricted Securities Accounts or Restricted Securities Accounts.

4.3.2 Under limited circumstances a Participant (or its Correspondent) may have multiple Master Accounts at its Administrative Reserve Bank, with each Master Account having associated Securities Accounts, or may have one or more Master Accounts at Reserve Banks other than its Administrative Reserve Bank, with each Master Account having associated Securities Accounts. Notwithstanding any other provision of this operating circular, during any period in which a Participant (or its Correspondent) is authorized to maintain multiple Master Accounts and Securities Accounts, any debits or credits made pursuant to this operating circular will be made to the Master Account and Securities Account associated with the identifying number of the Participant (or its Correspondent) used in the Message.

4.4. UNRESTRICTED SECURITIES ACCOUNTS

4.4.1 A Participant may hold Book-Entry Securities in one or more Unrestricted Securities Accounts. Regardless of (1) the number of Unrestricted Securities Accounts maintained by a Participant, (2) any name used by a Participant or a Reserve Bank to identify an Unrestricted Securities Account (including any reference to a person other than the Participant in the title of a Securities Account or in a Message), or (3) any relationship between the Participant and its customers with respect to Book-Entry Securities held in such Unrestricted Securities Accounts, the Participant is exclusively entitled to exercise the rights and powers with respect to the Book-Entry Securities in such Unrestricted Securities Accounts, including sending Transfer Messages with respect to the Book-Entry Securities in such Securities Accounts.

4.4.2 Any name used by a Participant or a Reserve Bank to identify an Unrestricted Securities Account (including any reference to a person other than the Participant in the title of a Securities Account or in a Message) is for convenience only. A Reserve Bank does not recognize or reflect in its records any interest of any third party in Book-Entry Securities in an Unrestricted Securities Account, and a Participant shall not seek to create or represent to any person, including the Participant’s customers, that any such interest exists. A Reserve Bank is not responsible for the content or accuracy of the records a Participant maintains with respect to any interest granted by the Participant to any

person in connection with Book-Entry Securities in an Unrestricted Securities Account.

4.5. RESTRICTED SECURITIES ACCOUNTS

4.5.1 A Participant may hold Book-Entry Securities subject to a security interest described in section 4.5.2 in one or more Restricted Securities Accounts. Maintenance of Book-Entry Securities in a Restricted Securities Account is the Reserve Bank's means of marking its books to record the security interest in favor of a secured party. Except for the secured parties described in section 4.5.2, a Reserve Bank does not recognize or reflect in its records any interest of any other person in Book-Entry Securities held in a Securities Account and a Participant shall not seek to create or represent to any person that any such interest exists. Credits of Book-Entry Securities to, and debits from, Restricted Securities Accounts may require the intervention of the Reserve Bank. The Reserve Bank may comply with an instruction or authorization given by the secured party without further consent of the Participant.

4.5.2 Restricted Securities Accounts include, but are not limited to, those in which a Participant may hold Book-Entry Securities:

- (a) as collateral for obligations owed by the Participant to a Reserve Bank (including discounts and advances made by and intraday credit extended by a Reserve Bank to the Participant);
- (b) as collateral to secure the exercise of trust powers within a state or funds of public entities (including a state, local, or tribal government or a unit or instrumentality of a state or local government) on deposit with the Participant in accordance with Appendix C;
- (c) as collateral to secure bankruptcy funds on deposit with the Participant in favor of a United States trustee pursuant to 11 U.S.C. § 345;
- (d) as collateral to secure certain 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;
- (e) as security in favor of a United States government agency in lieu of a surety on penal or other bonds pursuant to 31 C.F.R. part 225; and
- (f) for such other purposes as the Secretary of the Treasury may approve, subject to Treasury regulations or other relevant instructions; and
- (g) for such other purposes as the Reserve Banks may designate.

4.6. LOCATION OF PARTICIPANTS

4.6.1 For purposes of this operating circular, a Participant is located in the Federal Reserve district as determined under the procedure described in section 204.3(g) of Regulation D (12 C.F.R. § 204.3(g)) even if the Participant would not otherwise be subject to Regulation D, unless otherwise provided in the next sentence. A Participant that is an Issuer, foreign central bank, foreign monetary authority, foreign government, or international organization is treated as located in the second Federal Reserve district, unless otherwise specified by the Reserve Banks.

5.0 CONDITIONS OF ACCESS; SECURITY PROCEDURE

5.1. RESPONSIBILITY FOR ACCESS TO SERVICE; REQUIREMENT TO MAINTAIN MASTER ACCOUNT; RESERVE BANK AUTHORITY TO IMPOSE REQUIREMENTS AND RESTRICTIONS

- 5.1.1** Each Participant is responsible for its access to the Fedwire Securities Service and for all debits and credits to its Securities Accounts and its Master Account. A Participant may use a Service Provider as described in and subject to section 18 of Operating Circular 6, *Funds Transfers through the Fedwire Funds Service*.
- 5.1.2** A Participant must maintain a Master Account at a Reserve Bank to be a Sender or a Receiver of a Transfer Against Payment or an Issuance Against Payment. The Administrative Reserve Bank may (1) require the Participant to maintain a balance in its Master Account or to provide security to the Administrative Reserve Bank, sufficient in each case to cover debits to the Participant's Master Account for Transfers Against Payment or Issuances Against Payment for which the Participant is the Receiver, and (2) otherwise prohibit or restrict a Participant's ability to send or receive Transfers Against Payment or Issuances Against Payment.
- 5.1.3** The Reserve Banks will reject Transfer Messages for Transfers Against Payment or Issuance Messages for Issuances Against Payment if either the Sender or Receiver does not have a Master Account or is otherwise not permitted by its Administrative Reserve Bank to send or receive such Messages.
- 5.1.4** A Participant that does not maintain a Master Account must designate (on a form provided by the Reserve Banks) a Correspondent to settle credits and debits relating to the (1) payment, and correction to a payment, of principal and/or interest on Book-Entry Securities, (2) ACAP Claims, and (3) fees under section 13.

5.2. SECURITY PROCEDURES FOR MESSAGES

- 5.2.1** By using the Fedwire Securities Service, a Participant agrees to and shall comply with the terms of Appendix A to the Reserve Banks' Operating Circular 5, *Electronic Access*.
- 5.2.2** This operating circular incorporates by reference sections 2 and 4 of Appendix A to Operating Circular 5, including its description of the security procedures offered by the Reserve Bank on whose books a Participant's Securities Account is maintained.
- 5.2.3** Before selecting a security procedure, a Participant may discuss with the Appropriate Reserve Bank the various options offered by the Reserve Banks to determine which option best satisfies its business needs given the size, type, and frequency of Messages normally sent and received by the Participant using the Fedwire Securities Service.
- 5.2.4** If a Reserve Bank accepts a Message received in the name of the Participant in compliance with the security procedure selected by the Participant, the Message is effective, and the Reserve Bank is entitled to rely on the Message. By complying with the security procedure, the Reserve Bank has established its reasonable belief that the Message is genuine and is deemed to have acted in good faith and in the exercise of ordinary care.

6.0 MESSAGES

6.1. NATURE OF MESSAGES

- 6.1.1** Transfer Messages are entitlement orders with respect to security entitlements under the Applicable Regulations and Article 8 of the Uniform Commercial Code.
- 6.1.2** Transfer Messages to effect Transfers Against Payment and Issuance Messages to effect Issuances Against Payment each include instructions to one or more Reserve Banks to effect payment in connection with the related Transfer or Issuance, as the case may be, but are not payment orders as defined in Article 4A of the Uniform Commercial Code.
- 6.1.3** No Message is a negotiable instrument.

6.2. FORMAT AND CONTENT OF MESSAGES

- 6.2.1** A Message must be in the medium and format the Reserve Banks prescribe for the particular Message type. A Reserve Bank will not act on information in a Message other than information required by the format specifications and necessary for Reserve Bank processing.
- 6.2.2** A Reserve Bank is not responsible for the accuracy of a routing number contained in or verbally supplied from a publication, list, or automated file disseminated or maintained by a Reserve Bank if the routing number

becomes inaccurate after the effective date of the publication, list, or automated file.

6.2.3 A Message must be sent using Primary RTNs (as defined in the Reserve Banks' Operating Circular 1, *Account Relationships*) assigned to the Sender and the Receiver or, for a Sender or Receiver authorized to have Securities Accounts with more than one Reserve Bank, the appropriate identifying number associated with the Securities Account to which the Message relates. If an appropriate identifying number is not used, the Message may be rejected. A Reserve Bank may rely on the identifying number contained in a Message for processing the Message.

6.3. RECEIPT, ACCEPTANCE, REJECTION, CANCELLATION, AND AMENDMENT OF MESSAGES

6.3.1 A Reserve Bank may for any reason reject or impose conditions that must be satisfied before it will accept and process a Message from a Participant, including a Transfer Message or Issuance Message. A Reserve Bank will reject a Transfer Message if the Sender does not have sufficient par amount of a Book-Entry Security in the Securities Account from which the Transfer is to be sent to effect the Transfer.

6.3.2 A Message sent by a Participant is not received by the Reserve Bank unless and until received by the Fedwire Securities Service application. A Message sent by a Participant 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 application. Messages sent by a Participant to the Fedwire Securities Service but not received by the Fedwire Securities Service application may be queued indefinitely. The Reserve Banks reserve the right to delete such queued Messages for any reason, including to manage problems with hardware, software, data transmission, or operations facilities of Participants or the Reserve Banks. A Participant shall be prepared to resend a Message if the Reserve Banks delete a Message not yet received by the Fedwire Securities Service or if that Message is otherwise lost. A Message is received by the Fedwire Securities Service application when the service time stamps the Message.

6.3.3 A Reserve Bank has no obligation to cancel or amend a Transfer Message, even if it receives from a Participant a request for reversal or other Message seeking to cancel or amend the Transfer Message. If such a Message seeking to cancel, amend, or reverse the Transfer Message is accepted by a Reserve Bank, the Reserve Bank's only obligation is to send the Message to the Receiver identified by the Sender in the Message.

6.3.4 Certain activities may occur on a Securities Business Day outside the Transfer Processing Window.

6.3.4.1. The Reserve Banks may allow Participants to begin sending Transfer Messages to the Fedwire Securities Service on a Securities

Business Day before the Transfer Processing Window begins. These Messages are queued for release to the Fedwire Securities Service application and can be released to and received by the Fedwire Securities Service application only upon the start of the Transfer Processing Window.

6.3.4.2. The Reserve Banks may process Messages relating to the payment of principal and/or interest with respect to Book-Entry Securities on a Securities Business Day before the Transfer Processing Window begins.

6.3.4.3. The Reserve Banks may conduct securities account maintenance activities on a Securities Business Day before the Transfer Processing Window begins, including pursuant to Participants' instructions.

6.3.5 The Reserve Banks may accept and process Messages in an order different from the order in which Participants send them to the Fedwire Securities Service. Among other reasons, the Reserve Banks may queue or reorder Messages to increase the speed or efficiency by which the Fedwire Securities Service processes such Messages.

6.4. DELIVERY OF MESSAGES BY RESERVE BANKS

6.4.1 The Reserve Banks deliver Advices and Acknowledgments through Electronic Connections to Participants that receive Online Messages. If a Participant that sends an Online Transfer Message does not receive an Acknowledgment, Rejection, or Interception relating to such Message, the Participant should notify the Appropriate Reserve Bank promptly.

6.4.2 A Participant that receives Online Messages must manage its Electronic Connection so as to permit it to receive on a timely basis a Message, including an Advice or Acknowledgment, sent to it during the Securities Business Day. If a Participant fails to manage its Electronic Connection in such a manner, a Reserve Bank may limit attempts to send a Message to the Participant and is deemed to have delivered the Message when the Reserve Bank makes the Message available for the Participant to retrieve it. A Participant that loses its Electronic Connection shall reestablish connectivity as soon as possible.

6.4.3 For Participants sending and receiving Offline Messages, the Reserve Banks may send advices and acknowledgments by e-mail or first-class mail. The Reserve Banks also attempt to notify Participants sending and receiving Offline Messages by telephone of each debit or credit to their Securities Accounts resulting from Transfers. The Reserve Banks make no attempt to notify Participants sending and receiving Offline Messages by telephone regarding any other type of transaction, including (1) the credit of Book-Entry Securities upon Issuance and (2) the debit of Book-Entry Securities at maturity or when called for redemption.

- 6.4.4** A Participant that receives Offline Messages shall make staff available so as to permit it to receive on a timely basis a Message over the telephone during the Securities Business Day. If a Participant fails to make staff available in such a manner, a Reserve Bank may limit the number of attempts it makes to send a Message to the Participant and is deemed to have delivered the Message when the Reserve Bank makes the first attempt to contact the Participant over the telephone.
- 6.4.5** Except to the extent prohibited by law, a Participant, whether it sends or receives Offline or Online Messages, shall indemnify and hold harmless a Reserve Bank against any claim, loss, cost, or expense (including, but not limited to, attorneys' fees and expenses of litigation) that may arise as a result of the Participant's delay in sending or receiving a Message if the delay results from the Participant's failure to be able to send or receive Messages to or from the Reserve Banks during the Securities Business Day for the reasons described in section 6.4.2 or 6.4.4 above or otherwise.
- 6.4.6** In connection with principal and/or interest payments on Book-Entry Securities held by a Participant in a Securities Account, the Reserve Banks send to that Participant or its Correspondent (1) at the end of each day, a notice detailing principal and/or interest payments expected to be credited, if any, to the Participant's or its Correspondent's Master Account on the immediately following Securities Business Day; and (2) following each credit of a principal and/or interest payment to the Participant's Master Account (or the Correspondent's Master Account) on a Securities Business Day, an Advice detailing such principal and/or interest payment.
- 6.4.7** If, for any reason, the Reserve Banks are unable to send, or the Participant does not receive, the Advice described in section 6.4.6, the Reserve Banks may instruct the Participant and its Correspondent to (1) rely on the notice provided by the Reserve Banks on the previous day, (2) reconcile information available in the Reserve Banks' accounting applications with the amount the Participant otherwise expected to receive (e.g., based on information provided by the Issuer), or (3) rely on any other notice from the Reserve Banks indicating they have made entries to effect the principal and/or interest payments. In each case, the Reserve Banks have met their obligation to deliver an Advice by providing such instructions and any related notice.

6.5. NONVALUE MESSAGES AND CERTAIN OTHER NOTICES

- 6.5.1** The Reserve Banks handle Messages that do not generate entries by the Fedwire Securities Service to Securities Accounts or Master Accounts. Like other Messages, such nonvalue Messages are subject to the Reserve Banks' format and media requirements, security procedures, and time and fee schedules. This operating circular does not impose any obligation on Participants to respond to nonvalue Messages.
- 6.5.2** The Reserve Banks also provide certain notices, summaries, and statements to Participants through the Fedwire Securities Service that do not generate entries to Securities Accounts or Master Accounts but may

reflect past entries to these accounts, including (1) a daily summary of funds debited or credited to Participants' Master Accounts as a result of Messages and (2) a daily summary of net par balances for each Book-Entry Security for which Participants had transactions in their Securities Accounts.

- 6.5.3** A Reserve Bank's liability for damages caused by its failure to exercise ordinary care or act in good faith in processing or delivering a Message, notice, summary, or statement described in this section 6.5 is limited to the amount of any fee paid to a Reserve Bank for such Message, notice, summary, or statement.

6.6. REPORTING OF ERRORS AND OTHER EXCEPTIONS

- 6.6.1** A Participant is precluded from asserting that a Message was ineffective or unauthorized if it does not make such an assertion by written notice to the Appropriate Reserve Bank within 10 calendar days of the date of the Message.
- 6.6.2** In addition, a Participant shall notify the Appropriate Reserve Bank immediately if the Participant learns of or discovers, from any source other than a Rejection from a Reserve Bank, the possibility of error or lack of authority in the transmission or processing of a Transfer Message or Issuance Message.
- 6.6.3** A Participant shall notify the Appropriate Reserve Bank in writing of any error or other exception to any notice, summary, or statement as soon as possible (but in no event later than 10 calendar days from the date of the notice, summary, or statement).

7.0 ROLES OF RESERVE BANKS IN MESSAGES

- 7.1.** For purposes of this operating circular, when a Participant sends a Transfer Message over the Fedwire Securities Service, the Participant is deemed to have sent it to the Reserve Bank on whose books the Participant's Securities Account identified in the Transfer Message is maintained regardless of which Reserve Bank operates the Participant's Electronic Connection or receives the Participant's Offline Transfer Messages.
- 7.2.** For purposes of this operating circular, when a Participant receives an Advice or Acknowledgment over the Fedwire Securities Service, the Participant is deemed to have received the Advice or Acknowledgment from the Reserve Bank on whose books the Participant's Securities Account identified in the Advice or Acknowledgment is maintained regardless of which Reserve Bank operates the Participant's Electronic Connection or sends the Participant an Offline Advice or Acknowledgment.
- 7.3.** A Reserve Bank that handles a Transfer Message, other than the Reserve Bank or Reserve Banks on whose books the Securities Accounts affected by that Transfer Message are maintained as provided under sections 7.1 and 7.2, is not a party to the Transfer in any way, including as a securities intermediary.

- 7.4. A Participant's Administrative Reserve Bank may instruct any other Reserve Bank concerning the other Reserve Bank's handling or settlement of a Transfer Message for purposes of managing the Administrative Reserve Bank's risk.

8.0 TERMINATION AND ACCESS RESTRICTIONS

- 8.1. A Reserve Bank may terminate or restrict Fedwire Securities Service access by a Participant or its Service Provider at any time without notice if the Reserve Bank has reason to believe that (1) the Participant's or Service Provider's use of the Fedwire Securities Service does not comply with any Reserve Bank agreement, including this operating circular and, with respect to the use by Participants of Service Providers, Operating Circular 6, *Funds Transfers through the Fedwire Securities Service*, or (2) the Participant's or Service Provider's use of the Fedwire Securities Service otherwise poses a risk to a Reserve Bank, any other Participant, or the security or proper functioning of the Fedwire Securities Service or any service the Reserve Banks provide under an appendix to this operating circular or under any other Reserve Bank operating circular.
- 8.2. Actions by a Reserve Bank to restrict access by a Participant or Service Provider to the Fedwire Securities Service may include, among others, restricting the ability to send or receive Messages (including limiting a Receiver to Free Transfers), restricting access through one or more Electronic Connections, delaying the release to the Fedwire Securities Service application of Messages sent through an Electronic Connection, restricting access by one or more individuals authorized to use the service on a Participant's behalf, and imposing, modifying, or restricting modifications to one or more of the processing options described in Appendix E to this operating circular.
- 8.3. In addition to the reasons described in section 8.1, a Reserve Bank may otherwise terminate or restrict a Participant's or Service Provider's access to the Fedwire Securities Service at any time. A Reserve Bank taking an action under this section 8.3 is not obliged but will endeavor to give notice at least five days in advance of terminating or restricting the Participant's or Service Provider's access to the service.

9.0 SETTLEMENT OF TRANSACTIONS; FINALITY; REVERSALS

9.1. SETTLEMENT OF TRANSACTIONS

- 9.1.1 Book-Entry Securities are credited to a Participant's Securities Account in accordance with Reserve Bank policies and, when relevant, Applicable Regulations and Issuer policies, including when:
- (a) The Participant is a Receiver of a Transfer;
 - (b) Book-Entry Securities are transferred from the Legacy Treasury Direct® or TreasuryDirect® systems to the Participant's Securities Account in accordance with Treasury regulations;
 - (c) The Participant is a Receiver of an Issuance;

- (d) Eligible definitive securities are converted to Book-Entry Securities for credit to the Participant's Securities Account; and
- (e) Eligible Book-Entry Securities are converted from one Book-Entry Security to another (e.g., stripping and reconstituting) for credit to the Participant's Securities Account.

9.1.2 Book-Entry Securities are debited from a Participant's Securities Account in accordance with Reserve Bank policies and, when relevant, Applicable Regulations and Issuer instructions, including when:

- (a) The Participant is a Sender of a Transfer;
- (b) Book-Entry Securities are transferred from the Participant's Securities Account to the TreasuryDirect system in accordance with Treasury regulations;
- (c) Book-Entry Securities held in the Participant's Securities Account mature, are called for redemption by the Issuer, or are otherwise paid off;
- (d) Eligible Book-Entry Securities are converted to bearer or registered definitive securities; and
- (e) Eligible Book-Entry Securities are converted from one Book-Entry Security to another (e.g., stripping or reconstituting) for credit to the Participant's Securities Account.

9.1.3 The Sender and the Receiver of a Transfer irrevocably authorize and instruct the Reserve Banks involved in a Transfer to debit the Sender's designated Securities Account and credit the Receiver's Securities Account specified in the Transfer Message for the par amount of the Book-Entry Securities specified in the Transfer Message and, in the case of a Transfer Against Payment, to credit the Sender's Master Account and debit the Receiver's Master Account for the amount of the payment specified in the Transfer Message. The Issuer and the Receiver of an Issuance irrevocably authorize and instruct the Reserve Banks involved in an Issuance to credit the Receiver's Securities Account specified in the Issuance Message for the par amount of the Book-Entry Securities specified in the Issuance Message and, in the case of an Issuance Against Payment, to credit the Issuer's funds account specified in the Issuance Message and debit the Receiver's Master Account for the amount of the payment specified in the Issuance Message.

9.2. FINALITY

9.2.1 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 a Transfer Against Payment, their corresponding Master Accounts. Notice of the Transfer in

accordance with this operating circular is conclusive evidence that the debits and credits were made.

9.2.2 All debits and credits in connection with an Issuance become final at the time the credit is posted to the Receiver's Securities Account and, in the case of an Issuance Against Payment, a credit is posted to an account of the Issuer and a debit is posted to the Receiver's Master Account. Notice of the Issuance in accordance with this operating circular is conclusive evidence that the debits and credits were made.

9.2.3 The Reserve Banks reserve the right to debit or credit Securities Accounts or Master Accounts (without further authorization or instruction) to correct any Transfer or Issuance errors.

9.3. REVERSING TRANSFERS

9.3.1 Transfers may be reversed by a Participant only by a separate Transfer effected by a Transfer Message using the reversal code.

9.3.2 A Participant shall not use the reversal code in a Transfer Message to initially send a Transfer at any time, including during the reversal period set forth in the Securities Schedule.

9.3.3 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. A Reserve Bank will not handle any request for compensation arising from such a use of the reversal code; the Sender and the Receiver must deal directly with one another to resolve any request for compensation.

10.0 PRINCIPAL AND INTEREST PAYMENTS

10.1. PRINCIPAL AND INTEREST PAYMENTS IN GENERAL

10.1.1 Subject to section 10.2, a Reserve Bank credits any payment of principal and/or interest on Book-Entry Securities held in a Participant's Securities Accounts to the Participant's Master Account on the payment date (or the next Securities Business Day, if the payment date falls on a day that is not a Securities Business Day) in accordance with the Issuer's instructions.

10.1.2 A Reserve Bank has the right not to credit such payment of principal and/or interest if the Issuer has not made available to the Reserve Bank sufficient funds to effect such payment.

10.1.3 The Participant may, subject to prior agreement with a Reserve Bank, direct that payments of principal and/or interest be credited to its Correspondent's Master Account, subject to section 10.2. Unless and until the Participant has made a different designation (whether in general or with respect to a particular Securities Account), debits or credits in

connection with ACAP Claims are also to be settled in that Correspondent's Master Account.

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

10.2.1 A Reserve Bank may hold in a non-interest-bearing funds account on its books the principal of Book-Entry Securities in a Restricted Securities Account that have matured or been fully called until the secured party authorizes the release of the principal.

10.2.2 All interest payments and all other principal payments on Book-Entry Securities in a Restricted Securities Account, including Amortizing Book-Entry Securities and partially called Book-Entry Securities, are credited in accordance with section 10.1, except as provided in section 6.0 of Appendix C to this operating circular.

10.3. FINALITY

10.3.1 Credits of principal and/or interest payments to a Master Account as described in this section 10.0 are final, subject only to a Reserve Bank's right to debit or credit the Master Account (without further authorization or instruction by the Participant or its Correspondent) to correct any payment errors by the Reserve Banks, the Issuer, or the Issuer's agents.

11.0 LIMITATIONS ON TRANSFERS

11.1. GENERAL RESTRICTIONS ON TRANSFERS

11.1.1 A Participant may not send a Transfer on or after the date on which a Book-Entry Security matures.

11.1.2 A Participant may not send a Transfer of a callable Book-Entry Security on or after the date on which that Book-Entry Security is redeemed; and

11.1.3 A Participant may not send a Transfer of an Amortizing Book-Entry Security on or after the date on which that Book-Entry Security was paid off.

11.2. AMOUNT LIMITATIONS ON TRANSFERS

11.2.1 Except as provided in section 11.2.2, no Transfer Message may have a par amount that exceeds \$50 million.

11.2.2 Messages relating to the following transactions may have par amounts that exceed \$50 million, but such amounts must be less than \$1 billion:

- (a) Issuances and redemptions of Book-Entry Securities;
- (b) Requests, Transfers, and reissuances relating to stripping and reconstituting eligible Book-Entry Securities; and

(c) Transfers to or from a Restricted Securities Account.

11.2.3 No Transfer Message may have a payment amount that exceeds \$1 billion.

11.2.4 Messages that exceed the limits in this section 11.2 will be rejected.

11.2.5 Messages used in connection with the services described in Appendix D may be subject to the limitations of this section 11.2 as set forth in Appendix D.

12.0 DAYS OF OPERATION; OPERATING HOURS AND EXTENSIONS

12.1. DAYS OF OPERATION

12.1.1 The Fedwire Securities Service operates each Securities Business Day.

12.1.2 The Reserve Banks publish on the FRBservices.org website a Securities Schedule that sets forth those days on which the Fedwire Securities Service does not operate.

12.2. OPERATING HOURS

12.2.1 The Securities Schedule on the FRBservices.org website outlines the start and end times during which the Fedwire Securities Service performs various activities on Securities Business Days, including during the Transfer Processing Window. The Reserve Banks may amend the Securities Schedule from time to time.

12.2.2 The Securities Schedule states the Cutoff Times for the Securities Business Day. The Reserve Banks may set Cutoff Times for different categories of Messages, different types of Participants, or different methods by which Messages are sent to the Reserve Banks. The Reserve Banks also may set times prior to the Cutoff Times by which a Participant must contact the Reserve Banks to send Offline Messages.

12.3. EXTENSIONS

12.3.1 The Reserve Banks publish on the FRBservices.org website guidelines that the Reserve Banks use to consider requests from Participants for extensions of a Cutoff Time or the Securities Business Day. These extension guidelines may identify (i) the timing for submission of an extension request; (ii) the information that must be included in an extension request; (iii) directions for how to submit an extension request; (iv) the considerations that Reserve Banks may take into account when deciding whether to extend a Cutoff Time or a Securities Business Day; and (v) how the Reserve Banks provide notification of an extension of a Cutoff Time or a Securities Business Day. The Reserve Banks may amend the extension guidelines from time to time. The Reserve Banks may decline to grant an extension request for any reason.

12.3.2 The Reserve Banks may extend a Cutoff Time or a Securities Business Day to facilitate special market needs.

13.0 FEES

13.1. FEE SCHEDULE

13.1.1 The fees imposed for Fedwire Securities Service-related services are listed in the fee schedules published by the Reserve Banks on the FRBservices.org website as amended from time to time.

13.1.2 A Reserve Bank may debit the Participant's Master Account (or, subject to prior agreement on a form provided by the Reserve Banks, the Correspondent's Master Account) for fees on a schedule determined by the Reserve Banks. A Participant that does not have a Master Account is not relieved of its liability for fees it incurs by using the Fedwire Securities Service, and the Reserve Banks reserve all rights to collect unpaid fees owed by a Participant.

14.0 RECOVERY, RESILIENCY, AND TESTING

~~14.1. FAILURE OF A PARTICIPANT'S EQUIPMENT~~

~~14.1.~~ ~~14.1.1~~ ~~Participants~~ Each Participant shall develop, implement, and maintain ~~their~~ own business contingency and disaster recovery plans, such as back-up hardware, software, data transmission capabilities, and operations facilities, to ensure ~~their~~ ability to continue ~~their~~ 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.

~~14.2. FAILURE OF RESERVE BANK EQUIPMENT~~

~~14.2.~~ ~~14.2.1~~ In the event of an emergency or failure of ~~a~~ Reserve Bank's hardware, software, data transmission capabilities, or operations facilities, ~~including as a result of acts of war, riots, civil unrest, strikes, labor disputes, acts of terrorism, acts of God, or acts of nature~~, Messages may be delayed until the emergency or failure is resolved. During a disruption, ~~the Reserve Banks'~~ Fedwire Securities Service ~~related applications or~~ operations may be relocated to ~~an~~ alternate production ~~sites~~ and certain services or features may be unavailable. If a disruption is of a type described in Appendix B to this operating circular, the Reserve Banks may decide to send and receive messages under the terms outlined in that appendix. Participants and their Correspondents and Service Providers ~~should~~ must refer to the Reserve Banks' business continuity guides and Operating Circular 5, *Electronic Connections*, regarding actions to take to prepare for, and their requirements and responsibilities during contingency operations.

- 14.3.** ~~14.2.2 Participants~~ Each Participant shall be prepared to reconcile ~~their positions~~ its activities over the Fedwire Securities Service up to the point of the emergency or failure ~~under the Reserve Banks' instructions~~.
- 14.4.** ~~14.2.3~~ The Reserve Banks will endeavor to provide Participants with information about an ~~operating~~ operational problem at a Reserve Bank that may cause a failure or interruption of the Fedwire Securities Service. Such information may be provided through the FRBservices.org website or otherwise. ~~Participants~~ Each Participant must be prepared to receive instructions from the Reserve Banks under such circumstances.
- 14.5.** ~~14.2.4~~ In each case at the Participant's expense, the Reserve Banks may require a Participant to (1) ~~to~~ test its ability to continue to use and access the Fedwire Securities Service following Reserve Bank prescribed contingency scenarios and (2) ~~to~~ establish and periodically test an additional Electronic Connection through which the Participant may send or receive Messages. In determining whether a Participant is subject to these requirements, the Reserve Banks may consider the aggregate value, the aggregate volume, or the purpose of Messages sent and received by that Participant.

- 14.6.** ~~14.2.5~~ Each Participant shall test its ability to continue to use and access the Fedwire Securities Service before it or its Service Provider first uses the Fedwire Securities Service or makes changes to their ~~operations, hardware, or software,~~ data transmission capabilities, or operations that might affect the Participant's ability to continue to ~~use and access~~ and use the service. Each Participant or its Service Provider also shall, as directed by the Reserve Banks, test its ability to continue to access and use the Fedwire Securities Service (i) in advance of changes ~~to operations, hardware, or software~~ the Reserve Banks make to hardware, software, data transmission capabilities, or operations that may affect the Fedwire Securities Service or (ii) if the Reserve Banks believe that such testing is necessary to ensure that the Participant or its Service Provider is properly accessing or using the Fedwire Securities Service.
- 14.7.** ~~14.2.6~~ A Participant or Service Provider that sends messages to the Fedwire Securities Service in connection with testing its ability to use the Fedwire Securities Service shall identify those messages as test messages by including the test indicator on such messages in accordance with ~~Reserve Bank~~ the Fedwire Securities Service format specifications for messages. A Participant or Service Provider that receives messages that include the test indicator shall handle these messages as test messages, ~~not as production Messages~~.
- 14.8.** ~~14.2.7~~ The obligations in this section 14 apply to all Participants regardless of whether a Participant accesses the Fedwire Securities Service directly or by using a Service Provider. The Reserve Banks are not liable for any loss or damage that might arise because a Participant or its Service Provider fails to perform its obligations under this section 14. Except to the extent prohibited by law, each Participant and ~~the~~ Service Provider shall indemnify and hold the Reserve Banks harmless against any claim, loss, cost or expense (including, but not limited to, attorneys' fees and expenses of litigation) that may arise because the Participant or ~~its~~ Service Provider fails to perform its obligations under this section 14.

15.0 RESERVE BANK LIABILITY

- 15.1.** The Reserve Banks are not liable for the insolvency, neglect, misconduct, mistake, or default of any other person, including a Participant. Except as otherwise specifically provided in this operating circular, a Reserve Bank is liable only for the actual direct loss sustained by the Participants that are party to a transaction effected through the Fedwire Securities Service and only to the extent such loss is proximately caused by the Reserve Bank's failure to exercise ordinary care or act in good faith in handling the transaction. The amount of a Reserve Bank's liability to a Participant is further 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 addition, the limitations on Reserve Bank liability set forth in section 5.2 of Operating Circular 5, *Electronic Access*, and section 4.2 of Appendix A to Operating Circular 5 apply with respect to unauthorized Messages. In no event is a Reserve Bank liable for consequential, indirect, incidental, or special damages (including lost profits), however derived (except to the extent specifically provided

in this section 15.1) and regardless of whether any Reserve Bank has been informed of the possibility of such damages.

- 15.2. To the extent any Reserve Bank has liability to a Participant under this operating circular, only the Reserve Bank maintaining a Securities Account for a Sender is liable to that Sender and only the Reserve Bank maintaining a Securities Account for a Receiver is liable to that Receiver. No other Reserve Banks are liable to Participants except as provided in section 15.3.
- 15.3. A Reserve Bank handling an Offline Transfer is liable to the Sender and Receiver of that Offline Transfer for the actual direct loss sustained by those Participants if such loss is proximately caused by the Reserve Bank's failure to exercise ordinary care or act in good faith in handling the Offline Transfer. If the Reserve Bank handling an Offline Transfer is liable to a Participant, no other Reserve Bank is liable to that Participant. Section 15.1 applies in determining the liability of a Reserve Bank handling an Offline Transfer.
- 15.4. The Reserve Banks are not liable for any loss or damage arising from a Participant's or Service Provider's use of any product or service not supplied, owned, or operated by a Reserve Bank that interacts or interfaces with, or otherwise facilitates a Participant's or Service Provider's use of or access to, the Fedwire Securities Service. The Reserve Banks provide no warranty, express or implied, as to the accuracy, timeliness, completeness, merchantability, fitness for a particular purpose, title, quality, or noninfringement with respect to any such product or service. This provision applies to, but is not limited to, any product or service not supplied, owned, or operated by a Reserve Bank through which the Reserve Banks make available information about the Fedwire Securities Service, such as format-related information.
- 15.5. To the extent a Reserve Bank has an obligation to pay interest under this operating circular, including its appendixes, the amount of any interest owed is to be calculated using the federal funds rate. A Reserve Bank may satisfy an obligation of any of the Reserve Banks to pay interest under this operating circular by paying compensation.

16.0 [RESERVED]

17.0 RIGHT TO AMEND

- 17.1. The Reserve Banks reserve the right to amend this operating circular at any time without prior notice.

18.0 ELECTRONIC DOCUMENTS; AUTHORIZED INDIVIDUALS; RECORDING CALLS

- 18.1. A Reserve Bank may accept agreements or other documents in electronic form, notwithstanding any requirement in this operating circular that such documents be in writing.

18.2. A Participant shall provide the Appropriate Reserve Bank, on a form provided by the Reserve Banks, a list of persons authorized to transact business with the

Reserve Banks on behalf of the Participant through the Fedwire Securities Service. A Participant is responsible for updating the list as necessary and ensuring that the persons and contact information on the list are accurate and up to date. The Reserve Banks assume no responsibility or liability for a Participant's failure to keep the information required under this section current.

18.3. ~~18.2.~~ The Reserve Banks may record any telephone call with a Participant.

19.0 EFFECT OF THIS OPERATING CIRCULAR ON PREVIOUS OPERATING CIRCULAR

19.1. This operating circular supersedes the Reserve Banks' Operating Circular 7, *Fedwire Securities Service*, with an effective date of January ~~30~~, 2023 (including any supplements or appendixes) and is effective on ~~January 30~~ May 1, 20232024.

20.0 GOVERNING LAW AND ACTIONS

20.1. This operating circular shall be governed by federal law, and, to the extent not inconsistent with controlling federal law, by the laws of the state of the Participant's Administrative Reserve Bank. Any action against a Reserve Bank for any act or omission relating to any activity contemplated by this operating circular must be brought within one calendar year from the date of the alleged act or omission in the United States district court in whose district the Administrative Reserve Bank is located.

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APPENDIX A: APPLICABLE REGULATIONS

- Farm Credit System (12 C.F.R. part 615, subpart O)
- Federal Agricultural Mortgage Corporation (12 C.F.R. part 615, subpart S)
- Federal Home Loan Banks (12 C.F.R. part 1270, subpart D)
- Federal Home Loan Mortgage Corporation (12 C.F.R. part 1249)
- Federal National Mortgage Association (12 C.F.R. part 1249)
- Government National Mortgage Association (24 C.F.R. part 350)
- Resolution Funding Corporation (12 C.F.R. part 1511)
- Student Loan Marketing Association (31 C.F.R. part 354)
- Tennessee Valley Authority (18 C.F.R. part 1314)
- Treasury (31 C.F.R. part 357, subpart B)

APPENDIX B: ~~RESERVED~~ ACTIVITIES THROUGH THE FEDWIRE SECURITIES SERVICE DURING A PROTRACTED OUTAGE

Operating Circular 7 and this appendix set forth the terms under which (a) Participants (or their Correspondents) may receive principal and/or interest payments on Book-Entry Securities from Issuers and (b) the Reserve Banks may settle ACAP Claims, in each case through the Fedwire Securities Service during a Protracted Outage.

1.0 DEFINITIONS

- 1.1 Unless otherwise stated in this appendix, a term defined in the body of Operating Circular 7 has the same meanings in this appendix.
- 1.2 For purposes of this appendix:
- (a) **Borrower** and **Collateral** have the same meaning as defined in the Reserve Banks' Operating Circular 10, *Lending*.
 - (b) **Protracted Outage** means an interruption or outage of Reserve Bank hardware or software that prevents the Reserve Banks from processing Online Transfers and providing other services of the Fedwire Securities Services Online and that is not expected to be resolved by the start of the Reserve Banks' next Securities Business Day.
 - (c) **Protracted Outage Business Day** means the Securities Business Day during a Protracted Outage.

2.0 APPLICABILITY; PRECEDENCE

- 2.1 This appendix applies to all Participants, regardless of whether they are sending or receiving principal and/or interest payments, if the Reserve Banks declare a Protracted Outage. During a Protracted Outage, (i) the Reserve Banks will be able to process only principal and/or interest payments relating to Book-Entry Securities already maintained on the Fedwire Securities Service and associated ACAP Claims, (ii) Participants (including Issuers) will be unable to send or receive any other Messages, including Issuance Messages and Transfer Messages (other than as provided in section 5.0 of this appendix), and (iii) the Reserve Banks will not be able to process Offline Messages as they normally would.
- 2.2 Operating Circular 7 (including its other appendixes) applies to Messages, including Messages relating to the payment of principal and/or interest, ACAP Claims, and related Advices, sent and received during a Protracted Outage. During a Protracted Outage, to the extent that this appendix expressly sets forth terms that differ from other provisions of Operating Circular 7 (including its other appendixes), the terms of this appendix apply.

3.0 NOTICE OF A PROTRACTED OUTAGE

- 3.1 If a contingency event occurs and the Reserve Banks determine to declare a Protracted Outage, the Reserve Banks shall provide Participants with notice

declaring a Protracted Outage through FRBservices.org or otherwise depending on the event.

4.0 MAKING PRINCIPAL AND/OR INTEREST PAYMENTS AND ACAP CLAIMS; RECEIVING ADVICE OF CREDIT; COMMUNICATIONS GENERALLY DURING A PROTRACTED OUTAGE

- 4.1 During a Protracted Outage the Reserve Banks will continue to credit payments of principal and interest on Book-Entry Securities, and debit or credit associated ACAP Claims, to the Participant's (or its Correspondent's) Master Account on the payment date (or the next Securities Business Day, if the payment date is not a Securities Business Day), in accordance with Operating Circular 7.
- 4.2 Notice of payment of principal and/or interest by each Issuer and notice of each ACAP Claim debit and credit will be made in accordance with section 6.4.6 of Operating Circular 7, including by posting notice on the FRBservices.org website. The Participants will not receive individual information detailing each principal and/or interest payment credited to its (or its Correspondent's) Master Account or each ACAP Claim debited or credited to its (or its Correspondent's) Master Account during a Protracted Outage. Such notice will only provide that an Issuer has made all of its payments of principal and/or interest due and owing on such Securities Business Day and the Reserve Banks have settled all ACAP Claims associated with such payments of principal and/or interest.
- 4.3 The Reserve Banks' records shall govern the timing of the credit of each principal and interest payment and each debit or credit for each ACAP Claim. Credits of principal and interest payments on Book-Entry Securities and debits and credits of associated ACAP Claims to a Master Account are final, but the Participant (or its Correspondent) may not be able to view such credit or debit to its (or its Correspondent's) Master Account or use the funds credited to settle other Reserve Bank financial services before the start of the next Fedwire Funds Service funds-transfer business day or during the Protracted Outage.
- 4.4 Participants understand that Transfer Messages and other Messages they sent to Reserve Banks through the Fedwire Securities Service and/or the Reserve Banks' online communication channels before the Protracted Outage may continue to process when the Reserve Banks return to normal operations. Participants may not cancel or modify these Messages.

5.0 TRANSFERS OF COLLATERAL

- 5.1 Notwithstanding ordinary course pledging processes established by the Reserve Banks from time to time, during a Protracted Outage, a Participant may only Free Transfer Book-Entry Securities from an Unrestricted Securities Account of the Participant to a Restricted Securities Account of the Participant to be held as Collateral to secure advances by a Reserve Bank to a Borrower in accordance with this section 5.0 and the Reserve Banks' protracted outage procedures. During a Protracted Outage, to the extent this section 5.0 expressly sets forth terms that differ from other provisions of Operating Circular 10, *Lending*, (including its appendixes), the terms of this appendix apply.

- 5.2 A request by a Participant during a Protracted Outage to pledge unencumbered Book-Entry Securities to a Reserve Bank must be made by e-mail and include a list of such unencumbered Book-Entry Securities in the Participant's Unrestricted Securities Accounts, including securities identifiers, current securities account numbers, and par amounts. The Reserve Banks will process the Free Transfer in accordance with Reserve Bank protracted outage procedures and the Book-Entry Securities, subject to the provisions of Operating Circular 10, *Lending*, will be recorded as Collateral pledged to the Reserve Bank. The Book-Entry Securities are then held, or deemed to be held, in the Participant's Restricted Securities Account.
- 5.3 In addition to the representations and warranties in section 9 of Operating Circular 10, *Lending*, each time during a Protracted Outage that the Borrower Free Transfers Book-Entry Securities from an Unrestricted Securities Account to a Restricted Securities Account in accordance with this appendix and grants a security interest in the Collateral to a Reserve Bank, the Borrower is deemed to represent and warrant that on and as of the date of the Free Transfer of the Collateral, the Borrower in fact holds such Book-Entry Securities in its Unrestricted Securities Account on the books of a Reserve Bank.
- 5.4 Other than as contemplated in this section 5, no other Transfers will be processed or recorded during a Protracted Outage, including any request to replace or withdraw a Book-Entry Security from a Securities Account that was pledged to a Reserve Bank during the Protracted Outage.
- 5.5 Upon declaration by the Reserve Banks that a Protracted Outage is no longer in effect, the Borrower agrees not to Transfer any Book-Entry Security transferred under this section 5.0 until receiving confirmation that it may do so from the Reserve Banks and provided that the Book-Entry Security no longer secures an Obligation (as defined in Operating Circular 10, *Lending*) to the Reserve Banks.

6.0 RESERVE BANK LIABILITY

- 6.1 In addition to the limitations on liability set forth in operating circular 7, the Reserve Banks are not liable to any person for their acts or omissions in (i) declaring the start or end of a Protracted Outage or the hours of the Protracted Outage Business Day, or (ii) limiting the functionality or features of the Fedwire Securities Service, including as described in this appendix, for the duration of a Protracted Outage.

APPENDIX C: STATE, LOCAL, AND TRIBAL COLLATERAL PROGRAM (FEDWIRE SECURITIES JOINT CUSTODY SERVICE)

This appendix sets forth the terms under which a Reserve Bank marks its books to recognize a security interest in a Book-Entry Security in favor of a state, local, or tribal government (or a unit or instrumentality of a state or local government) and to enable the secured party to have control over that Book-Entry Security in a designated Restricted Securities Account.

1.0 DEFINITIONS

In addition to terms defined in the body of this operating circular, terms defined in this section have the following meanings when used in this appendix:

- (a) **Collateral Transaction** means (i) a Transfer by a Pledgor to a Restricted Securities Account, (ii) the release of a Pledged Security to a Pledgor from a Restricted Securities Account, or (iii) a Transfer by a Pledgor to a Restricted Securities Account in substitution for a Pledged Security that is to be released to that Pledgor from that Restricted Securities Account.
- (b) **Custodial Reserve Bank** means a Reserve Bank described in section 2.1 of this appendix.
- (c) **Government Pledgee** means a state, local, or tribal government (or a unit or instrumentality of a state or local government) in favor of which a security interest in a Book-Entry Security has been granted by a Pledgor.
- (d) **Pledged Security** means a Book-Entry Security that is held in a Restricted Securities Account for one of the purposes specified in section 4.3.2(a)(2) of this operating circular and in accordance with this appendix.
- (e) **Pledgee Agreement** means a written agreement by which a Government Pledgee agrees to the terms of this appendix in the form available on FRBservices.org.
- (f) **Pledgor** means the Participant that has granted a security interest in a Book-Entry Security to a Government Pledgee.
- (g) **Restricted Securities Account** means a Restricted Securities Account as defined in Operating Circular 7 and maintained by a Custodial Reserve Bank to recognize a security interest in a Pledged Security granted by a Pledgor in favor of a Government Pledgee.

2.0 ROLE OF RESERVE BANKS; NATURE OF AGREEMENT

- 2.1. A Custodial Reserve Bank is a Reserve Bank that maintains a Restricted Securities Account to recognize a security interest in a Pledged Security granted by a Pledgor in favor of a Government Pledgee.
- 2.2. This appendix constitutes an agreement by the Custodial Reserve Bank to recognize a security interest granted by a Pledgor in favor of a Government Pledgee with respect to Pledged Securities in a Restricted Securities Account on

the books of the Custodial Reserve Bank. A Government Pledgee has control of a Pledged Security in a Restricted Securities Account, and the security interest granted to the Government Pledgee has priority over any other interest in the Pledged Security other than a security interest in favor of the United States.

- 2.3. Reserve Banks other than the Custodial Reserve Bank may act as agents of the Custodial Reserve Bank in connection with the services provided by the Custodial Reserve Bank under this appendix. Despite this, this agreement is solely between the Custodial Reserve Bank, the Pledgor, and the Government Pledgee.

3.0 APPLICABLE LAW; WARRANTIES

- 3.1. The Custodial Reserve Bank provides services in accordance with this operating circular, this appendix, and the Applicable Regulations. The Custodial Reserve Bank's rights and obligations in providing these services are governed solely by this operating circular, this appendix, and the Applicable Regulations.
- 3.2. The Pledgor and the Government Pledgee each warrant to the Custodial Reserve Bank that any security interest granted by the Pledgor in Pledged Securities is in accordance with applicable law. The Government Pledgee shall ensure that the location of the Restricted Securities Account and the Pledgor each meet all geographic requirements imposed by applicable law.
- 3.3. Provisions of state, local, or tribal law that are inconsistent with, or in addition to, the provisions of this appendix, and any bond, pledge, security, or other agreement between the Pledgor and the Government Pledgee are not binding on the Custodial Reserve Bank unless the Custodial Reserve Bank otherwise agrees in writing to be so bound. If any such bond, pledge, security, or other agreement or any subsequent waiver, modification, or amendment of any such agreement, imposes duties on the Custodial Reserve Bank that are inconsistent with this appendix, this appendix is to govern.

4.0 AGREEMENT TO TERMS OF APPENDIX

- 4.1. A state, local, or tribal government (or a unit or instrumentality of a state or local government) that seeks to become a Government Pledgee shall enter into a Pledgee Agreement and provide such other information as the Custodial Reserve Bank may require.
- 4.2. By permitting the Pledgor to initially hold, or continue to hold, Pledged Securities with the Custodial Reserve Bank in favor of a Government Pledgee, the Government Pledgee is deemed to have agreed to the terms of this appendix as it may be amended from time to time and to the terms of the Pledgee Agreement required under section 4.1 of this appendix as that agreement may be amended from time to time.
- 4.3. By initiating a Collateral Transaction, a Pledgor agrees to the terms of this appendix as it may be amended from time to time.

5.0 COLLATERAL TRANSACTIONS

- 5.1. A Collateral Transaction is initiated by the Pledgor and, except for a Transfer to a Restricted Securities Account or as noted in section 5.2 of this appendix, requires the prior approval of the Government Pledgee.
 - 5.1.1 Collateral Transaction requests and the approval of such requests by Government Pledgees are subject to verification by the Reserve Banks.
 - 5.1.2 For purposes of this section 5.2 and any standing written instructions provided in a Pledgee Agreement, the Custodial Reserve Bank may use the book value of a Book-Entry Security at the time of substitution
 - 5.1.3 The Custodial Reserve Bank assumes no responsibility for determining whether a Pledged Security is acceptable to the Government Pledgee or for assessing the collateral value of a Pledged Security subject to a Collateral Transaction.
- 5.2. A Government Pledgee may provide the Custodial Reserve Bank with written standing instructions in the Pledgee Agreement to permit a Pledgor to substitute Book-Entry Securities with par amounts equal to or greater than the par amounts of Pledged Securities that are maturing, are paid off, or called for redemption in full, or are to be otherwise withdrawn from the Restricted Securities Account.
 - 5.2.1 If the Government Pledgee has provided such written standing instructions, the Custodial Reserve Bank has no obligation to obtain further approval of the Government Pledgee before permitting the substitution.
 - 5.2.2 The Pledgor must Transfer the substitute Book-Entry Securities to the Restricted Securities Account on the same Securities Business Day as Pledgor makes the request to substitute Pledged Securities to the Custodial Reserve Bank.
 - 5.2.3 The Custodial Reserve Bank shall obtain the authorization of the Government Pledgee to release Pledged Securities, or the proceeds of Pledged Securities retained by the Custodial Reserve Bank in accordance with section 6.0 of this appendix, if the Pledgor is seeking to substitute Book-Entry Securities with par amounts less than the par amounts of the Pledged Securities.
- 5.3. On each Securities Business Day on which there is a Collateral Transaction, the Custodial Reserve Bank sends an end-of-day statement to the Government Pledgee and the Pledgor. The Custodial Reserve Bank also sends an Advice for each Collateral Transaction to the Pledgor.

6.0 INTEREST PAYMENTS AND OTHER PROCEEDS

- 6.1. Unless and until the Custodial Reserve Bank receives the written certification referenced in section 7.1 of this appendix, it credits payments of principal and interest (including upon any call for redemption in part) in accordance with

section 10.2.2 of this operating circular except as otherwise provided in this section 6.0.

6.2. In accordance with section 10.2.1 of this operating circular, the Custodial Reserve Bank may hold the principal amount of Pledged Securities (other than Pledged Securities that are Amortizing Pledged Securities or that are callable for redemption in part) that mature or are called for redemption in full in a non-interest-bearing account until the earliest of the following:

- (a) Book-Entry Securities are substituted, in accordance with section 5.2 of this appendix, for the principal;
- (b) the principal is released in accordance with the authorization of the Government Pledgee; and
- (c) the principal is collected in accordance with section 7.0 of this appendix.

6.3. On the day a Pledged Security that is an Amortizing Book-Entry Security or a Book-Entry Security that is callable for redemption in part is to be paid off or called for redemption in full, the Custodial Reserve Bank shall debit the Pledgor's Master Account or its Correspondent's Master Account for the amount of the proceeds to be paid to the Pledgor before the opening of the Fedwire Securities Service and hold that amount in a non-interest-bearing account until the earliest of the following:

- (a) Book-Entry Securities are substituted, in accordance with section 5.2 of this appendix, for the Pledged Security that was paid off or called for redemption in full;
- (b) the proceeds are released in accordance with the authorization of the Government Pledgee; and
- (c) the proceeds are collected in accordance with section 7.0 of this appendix.

7.0 COLLECTION OF PLEDGED SECURITIES AND PROCEEDS

7.1. Upon receiving a written certification from the Government Pledgee that (i) the Pledgor is in default under any underlying bond, pledge, security, or other agreement between the Pledgor and the Government Pledgee and (ii) the Government Pledgee has satisfied any notice or other requirement to which it is subject, the Custodial Reserve Bank shall comply with instructions from only the Government Pledgee in respect of the Restricted Securities Account without further consent by the Pledgor, including any written instruction to make a Transfer of Pledged Securities or interest payments or other proceeds of Pledged Securities not previously credited to the Pledgor or otherwise released to designated accounts on the books of the Custodial Reserve Bank or another Reserve Bank.

- 7.2. The Custodial Reserve Bank assumes no responsibility to investigate or determine the validity of (i) the written certification described in section 7.1 of this appendix or (ii) the underlying bond, pledge, security, or other agreement between the Pledgor and the Government Pledgee. The Custodial Reserve Bank may conclusively rely upon the certification described in section 7.1 and will have no liability to the Pledgor for complying with an instruction originated by the Government Pledgee following receipt by the Custodial Reserve Bank of such certification.

8.0 RESERVE BANK LIABILITY AND DUTIES

- 8.1. Except as otherwise specifically provided in this appendix, the Custodial Reserve Bank is liable only for the actual direct loss sustained by a Government Pledgee or a Pledgor only to the extent such loss is proximately caused by the Custodial Reserve Bank's failure to exercise ordinary care or act in good faith in performing its duties under this appendix. In no event is the Custodial Reserve Bank to be liable for consequential, indirect, incidental, or special damages (including lost profits), however derived and regardless of whether it has been informed of the possibility of such damages. Except to the extent prohibited by law, the Government Pledgee and the Pledgor each shall defend, indemnify and hold the Custodial Reserve Bank harmless from any claim, loss, liability, cost, or expense (including but not limited to expense of litigation and attorneys' fees) by any person or incurred by the Custodial Reserve Bank arising from or related to the Pledged Securities, the services provided under this appendix, or the acts or omissions of the Government Pledgee or the Pledgor in connection with those services.
- 8.2. Notwithstanding any other provision of this appendix or this operating circular to the contrary, neither Custodial Reserve Bank nor any other Reserve Bank is required to perform any act directed or required by the Government Pledgee if that Reserve Bank is prohibited from performing that act by law or by court order.
- 8.3. In particular but not exclusively, the Custodial Reserve 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 Government Pledgee's security interest in a Pledged Security, including whether any required bond, pledge, security, or other agreement has been executed;
 - (c) monitor the value of a Pledged Security (including any decline in the book value of a Pledged Security that is an Amortizing Book-Entry Security) or ensure that the type, amount, or value of a Pledged Security is that which is required under state, local, or tribal law;
 - (d) verify ownership, validity, or legality of a Pledged Security;
 - (e) pay assessments as provided under state, local, or tribal law;
 - (f) give notice of maturity, call, exchange offer, or the like affecting a Pledged Security;

- (g) carry insurance against loss of a Pledged Security; or
 - (h) inquire into the existence or continuance of the powers or authority of the Government Pledgee, of a person who is acting for the Government Pledgee, or of a person who has been represented to the Custodial Reserve Bank as authorized to act on behalf of the Government Pledgee.
- 8.4.** Notwithstanding clause (h) of section 8.3 of this appendix, the Custodial Reserve Bank may require a certificate from the proper authority showing that the public official or other person in question is and continues to be authorized to act on behalf of the Government Pledgee.
- 8.5.** In accordance with section 2.3 of this appendix, no Reserve Bank other than the Custodial Reserve Bank is liable for any loss or damage arising from or relating to this appendix, even if that Reserve Bank performs certain functions in connection with the services provided by the Custodial Reserve Bank.

9.0 DISPUTES

In the event of notice of a conflicting third-party claim with respect to Pledged Securities, the Custodial Reserve Bank may hold the Pledged Securities and any interest and proceeds arising from the Pledged Securities 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 PLEDGED SECURITIES ACCOUNT; EFFECT OF MERGERS AND OTHER TRANSACTIONS

- 10.1.** The Custodial Reserve Bank or the Government 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. The Pledgor 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 Custodial Reserve Bank and Government Pledgee and subject to approval of the Government Pledgee. If a party exercises its rights to terminate this agreement in accordance with this section 10.1, all Restricted Securities Accounts with established under this appendix with respect to such party are automatically closed.
- 10.2.** If this agreement is terminated and a Restricted Securities Account is to be closed in accordance with section 10.1 of this appendix, the Custodial Reserve Bank will release Pledged Securities held in that Restricted Securities Account to the Pledgor at the end of the relevant notice period. However, if, within that notice period, the Custodial Reserve Bank receives (a) written instructions from the Pledgor to otherwise transfer the Pledged Securities in the Restricted Securities Account that is to be closed and (b) the Government Pledgee's written approval of the instructions described in clause (a), the Custodial Reserve Bank

will transfer the Pledged Securities in accordance with those instructions, which may be prior to the end of the notice period.

- 10.3.** Mergers or other corporate transactions involving a Pledgor may result in the Custodial Reserve Bank no longer being eligible under Federal Reserve policy to maintain a Restricted Securities Account for that Pledgor. In such situations, the Reserve Banks may close the Restricted Securities Account of the Pledgor at that Custodial Reserve Bank and may establish a new Restricted Securities Account for the Pledgor (or its successor in interest) at another Reserve Bank, which thereupon becomes the Custodial Reserve Bank for purposes of this appendix. The Reserve Banks may also transfer any Pledged Securities in the Restricted Securities Account being closed to the Restricted Securities Account at the new Custodial Reserve Bank, which holds such Pledged Securities pursuant to the terms of this appendix. If the Reserve Banks become aware of a merger or other corporate transaction that may result in a change in the identity of the Custodial Reserve Bank, they shall notify affected Government Pledgees with as much advance notice as practicable.
- 10.4.** If the location of the Restricted Securities Account or the Pledgor cease to meet any geographic requirements imposed by applicable law, whether by reason of a merger of the Pledgor into another institution or otherwise, the Government Pledgee shall terminate this agreement in accordance with section 10.1 of this appendix. The Custodial Reserve Bank has no responsibility for determining whether any such geographic requirements have been or continue to be met and has no liability whatsoever if they have not been.

APPENDIX D: AUTOMATED CLAIM ADJUSTMENT PROCESS FOR BOOK-ENTRY SECURITIES

This appendix sets forth the terms under which the Reserve Banks offer an automated process for handling adjustments of principal and/or interest payments on Book-Entry Securities as the result of fail tracking, repo tracking, securities lending tracking, and interim accounting services. The Reserve Banks will publish at www.FRBServices.org, or otherwise provide notice, the Book-Entry Security types and the tracking services currently enabled for the automated claim adjustment process at any time.

1.0 DEFINITIONS

- 1.1. In addition to terms defined in the body of this operating circular, terms defined in this section have the following meanings when used in this appendix:
- (a) **ACAP** means the automated claim adjustment process set forth in this appendix.
 - (b) **Beneficiary Date** means the date on which the interest-accrual period for a Book-Entry Security ends.
 - (c) **Claim** means the amount that is to be debited from one Participant's Settlement Account and credited to another Participant's Settlement Account as the result of Fail Tracking, Repo Tracking, Securities Lending Tracking, or Interim Accounting services.
 - (d) **Contra** means, with respect to a given Participant, the other Participant affected by Repo Tracking or Securities Lending Tracking.
 - (e) **Contract Date** means the date specified by the Sender in a Transfer Message as the date agreed upon for settlement of the Transfer.
 - (f) **Fail Tracking** means the process by which the Reserve Banks determine whether a Transfer is a Fail Transaction and, if so, by which they identify, calculate, and settle any Claims.
 - (g) **Fail Transaction** means a Transfer with a Settlement Date after the Contract Date specified by the Sender in the associated Transfer Message.
 - (h) **Interim Accounting** means the process by which the Reserve Banks determine whether a Transfer is an Interim Accounting Transaction and, if so, by which they identify, calculate, and settle any Claims.
 - (i) **Interim Accounting Transaction** means a Transfer of a Book-Entry Security whose Record Date differs from its Beneficiary Date.

- (j) **Payment Date** means the date established by the Issuer on which payments of principal and/or interest are to be made with respect to a Book-Entry Security.
- (k) **Record Date** means the date established by the Issuer on which Participants are identified as being entitled to be paid principal and/or interest with respect to a Book-Entry Security.
- (l) **Record Date Holder** means the Participant in whose Securities Account a particular Book-Entry Security is held on Record Date.
- (m) **Repo Balance** means the Repo-In Balance or Repo-Out Balance of a Participant.
- (n) **Repo-In Balance** means the record created by the Fedwire Securities Service for a Participant that reflects the par amount of Book-Entry Securities subject to Repo Tracking received by that Participant from a Sender but not yet returned to that Sender.
- (o) **Repo-Out Balance** means the record created by the Fedwire Securities Service for a Participant that reflects the par amount of Book-Entry Securities subject to Repo Tracking sent by that Participant to a Receiver but not yet returned by that Receiver.
- (p) **Repo Tracking** means the process by which the Reserve Banks record and maintain Repo Balances and identify, calculate, and settle Claims based on those Repo Balances.
- (q) **Repo Tracking Indicator** means the field tag contained in a Transfer Message that identifies that Transfer as subject to Repo Tracking and instructs the Reserve Banks to increase or decrease the Repo Balances of the Sender and Receiver.
- (r) **Repo Transaction** means a Transfer that results from a repurchase agreement transaction that causes a Sender to transfer a Book-Entry Security to a Receiver in exchange for payment subject to an agreement under which the Book-Entry Security will be transferred back to the original Sender on a later date at an agreed upon price.
- (s) **Securities Borrowed Balance** means the record created by the Fedwire Securities Service for a Participant that reflects the par amount of Book-Entry Securities subject to Securities Lending Tracking received by that Participant from a Sender but not yet returned to that Sender.
- (t) **Securities Lending Tracking** means the process by which the Reserve Banks record and maintain Securities Lending Balances and identify, calculate, and settle Claims based on those Securities Lending Balances.
- (u) **Securities Lending Tracking Indicator** means the field tag contained in a Transfer Message that identifies that Transfer as subject to Securities

Lending Tracking and instructs the Reserve Banks to increase or decrease the Securities Lending Balances of the Sender and Receiver.

- (v) **Securities Lending Transaction** means a Transfer that results from a securities loan agreement transaction that causes a Sender to transfer a Book-Entry Security to a Receiver in exchange for payment subject to an agreement under which the Book-Entry Security will be transferred back to the original Sender on a later date at an agreed upon price.
- (w) **Securities Lent Balance** means the record created by the Fedwire Securities Service for a Participant that reflects the par amount of Book-Entry Securities subject to Securities Lending Tracking sent by that Participant to a Receiver but not yet returned by that Receiver.
- (x) **Securities Lending Balance** means the Securities Borrowed Balance or Securities Lent Balance of a Participant.
- (y) **Settlement Account** means the account on the books of a Reserve Bank that is designated by a Participant for debits and credits made in connection with Claims in accordance with section 6.1 of this appendix.
- (z) **Settlement Date** means the date on which the Reserve Banks settle a Transfer.

2.0 FAIL TRACKING

2.1. AVAILABILITY, INITIATION, AND AUTHORIZATION OF SERVICE

- 2.1.1 Fail Tracking is available to Participants when a Sender has failed to transfer a Book-Entry Security to another Participant on the Contract Date.
- 2.1.2 A Sender of a Transfer may initiate Fail Tracking to cause the Reserve Banks to transfer principal and/or interest to the Receiver of the Transfer. The Sender initiates Fail Tracking with respect to a Book-Entry Security by sending a Transfer Message that includes a Contract Date in accordance with the format prescribed by the Reserve Banks in a clearing memo setting forth ACAP technical and operational details as published at www.FRBServices.org.
- 2.1.3 If a Transfer Message includes a Repo Tracking Indicator or a Securities Lending Tracking Indicator, Fail Tracking will not occur.
- 2.1.4 By including a Contract Date in the prescribed format in a Transfer Message, the Sender authorizes and instructs the Reserve Banks to perform Fail Tracking with respect to that Transfer. By receiving a Transfer Message containing a Contract Date, the Receiver authorizes and instructs the Reserve Banks to perform Fail Tracking with respect to that Transfer. The Fail Tracking services so authorized by the Sender and Receiver include (i) determining whether the Transfer is a Fail Transaction in accordance with section 2.2.1 of this appendix, (ii)

identifying and calculating Claims, if any, in accordance with sections 2.2.2 and 2.2.3 of this appendix, and (iii) settling Claims in accordance with sections 2.2.4 and 6.0 of this appendix. A Sender's initiation of Fail Tracking is not determinative of whether the Transfer is a Fail Transaction or if it is a Fail Transaction, whether a Claim will result.

2.2. CLAIM IDENTIFICATION, CALCULATION, AND SETTLEMENT

- 2.2.1** For each Transfer Message that initiates Fail Tracking, the Reserve Banks shall determine whether the Transfer is a Fail Transaction.
- 2.2.2** For each Fail Transaction, the Reserve Banks shall identify and calculate a Claim for each Beneficiary Date, if any, that falls after the Contract Date but on or before the Settlement Date, subject to the following limitations.
- 2.2.2.1.** For a Fail Transaction that does not involve an Amortizing Book-Entry Security, the Reserve Banks will identify and calculate Claims for no more than (i) six Beneficiary Dates if interest on the Book-Entry Security is paid monthly, (ii) three Beneficiary Dates if interest on the Book-Entry Security is paid quarterly, (iii) two Beneficiary Dates if interest on the Book-Entry Security is paid semiannually, and (iv) one Beneficiary Date if interest on the Book-Entry Security is paid annually.
- 2.2.2.2.** For a Fail Transaction that involves an Amortizing Book-Entry Security, the Reserve Banks will identify and calculate Claims for no more than seven Beneficiary Dates, where the Payment Date associated with one such Beneficiary Date may fall after the Settlement Date.
- 2.2.3** Each Claim equals the amount of principal and/or interest on the Book-Entry Security paid or payable in accordance with section 2.2.2 of this appendix. The amount of the Claim will not include any penalty or fees associated with the failed transaction agreed to in any underlying agreement between the Participants or their customers.
- 2.2.4** In accordance with sections 2.1.3 and 6.0 of this appendix, the Reserve Banks shall settle each Claim with respect to a Fail Transaction by debit to the Sender's Settlement Account and credit to the Receiver's Settlement Account. For each Beneficiary Date with an associated Payment Date that falls on or before the Settlement Date (i.e., principal and/or interest on the Book-Entry Security was already paid to the Sender), the Reserve Banks shall settle a Claim on the next Securities Business Day after the Settlement Date. For each Beneficiary Date with an associated Payment Date that falls after the Settlement Date (i.e., principal and/or interest has not yet been paid on the Book-Entry Security), the Reserve Banks shall settle the Claim on that Payment Date once all principal and/or interest on the Book-Entry Security is paid to all Record Date Holders in accordance with section 10.1 of the operating circular.

- 2.2.5** A Receiver cannot reverse a Fail Transaction or a resulting Claim. The Receiver of a Transfer can only reverse the effect of a Claim with respect to a Fail Transaction by sending a separate Transfer of the same Book-Entry Security to the original Sender with (i) the same Contract Date in the Transfer Message as the original Transfer Message and (ii) a Settlement Date that is on or after the Settlement Date of the original Transfer Message and before the next Beneficiary Date for the Book-Entry Security. Such Transfer Message will initiate fail tracking and result in a Claim that once settled will offset the debits and credits of the original Claim.

3.0 REPO TRACKING

3.1. AVAILABILITY, INITIATION, AND AUTHORIZATION OF SERVICE

- 3.1.1** Repo Tracking is available to Participants that desire the Reserve Banks to record and maintain Repo Balances.
- 3.1.2** A Sender of a Transfer may initiate Repo Tracking to cause the Reserve Banks to transfer to it principal and/or interest credited to another Participant. A Sender initiates Repo Tracking by sending a Transfer Message that includes a Repo Tracking Indicator in accordance with the format prescribed by the Reserve Banks in a clearing memo setting forth ACAP technical and operational details as published at www.FRBServices.org.
- 3.1.3** By including a Repo Tracking Indicator in the prescribed format in a Transfer Message, the Sender authorizes and instructs the Reserve Banks to perform Repo Tracking with respect to the Transfer. By receiving a Transfer Message containing a Repo Tracking Indicator, the Receiver authorizes and instructs the Reserve Banks to perform Repo Tracking with respect to that Transfer. The Repo Tracking services so authorized by the Sender and Receiver include (i) identifying the Transfer as a Repo Transaction, (ii) recording and maintaining Repo Balances for the Sender and Receiver in accordance with section 3.2 of this appendix, (iii) identifying and calculating Claims in accordance with sections 3.3.1 and 3.3.2 of this appendix, and (iv) settling Claims in accordance with sections 3.3.3 and 6.0 of this appendix.
- 3.1.4** A Receiver that receives a Transfer Message containing a Repo Tracking Indicator but does not wish to participate in Repo Tracking with respect to that Transfer or the Book-Entry Security subject to that Transfer Message, may send either a Transfer Message reversing that Transfer or a nonvalue Message unwinding the associated Repo Balances, in each case in accordance with section 3.2.

3.2. REPO BALANCE RECORDKEEPING

3.2.1 Participants may use the following Repo Tracking Indicators in Transfer Messages, in accordance with the format prescribed by the Reserve Banks in a clearing memo setting forth ACAP technical and operational details as published at www.FRBservices.org, to authorize and instruct the Reserve Banks to increase or decrease Repo Balances:

3.2.1.1. A Participant uses the **Repo Start** field tag in a Transfer Message to indicate that a Transfer is 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, in each case by the par amount of the Transfer.

3.2.1.2. A Participant uses the **Repo Start Reversal** field tag in a Transfer Message to reverse a Transfer whose associated Transfer Message contained a Repo Start field tag. Use of the Repo Start Reversal field tag causes the Repo-In Balance of the Sender of the Transfer Message containing the Repo Start Reversal field tag to decrease and the Repo-Out Balance of the Receiver of that Transfer Message to decrease, in each case by the par amount of the reversing Transfer.

3.2.1.3. A Participant uses the **Repo Close** field tag in a Transfer Message to transfer a Book-Entry Security back to the original Sender of a Repo Transaction. Use of the Repo Close field tag causes the Repo-In Balance of the Sender of the Transfer Message containing the Repo Close field tag to decrease and the Repo-Out Balance of the Receiver of that Transfer Message to decrease, in each case by the par amount of the Transfer.

3.2.1.4. A Participant uses the **Repo Close Reversal** field tag in a Transfer Message to reverse a Transfer whose associated Transfer Message contained a Repo Close field tag. Use of the Repo Close Reversal field tag causes the Repo-Out Balance of the Sender of the Transfer Message containing the Repo Close Reversal field tag to increase and the Repo-In Balance of the Receiver of that Transfer Message to increase, in each case by the par amount of the reversing Transfer.

3.2.2 A Participant, whether the original Sender or Receiver in a Repo Transaction, may also use a nonvalue Message to adjust Repo Balances without transferring a Book-Entry Security. A nonvalue Message containing a Repo Tracking Indicator is subject to the limit on Transfers set forth in section 11.2.1 of this operating circular even though it is not a Transfer Message. Participants may use the following Repo Tracking Indicators, in accordance with the format prescribed by the Reserve Banks in a clearing memo setting forth ACAP technical and operational details as published at www.FRBservices.org, in nonvalue Messages to authorize and instruct the Reserve Banks to increase or decrease Repo Balances:

3.2.2.1. A Participant uses the **Repo Balance Only Adjustment** field tag in a nonvalue Message to cause the Sender's Repo-Out Balance to increase and the Receiver's Repo-In Balance to increase, in each case by the par amount indicated in the nonvalue Message, but no Book-Entry Securities are transferred. The Repo Balance Only Adjustment field tag might be used to indicate that an already completed Transfer was a Repo Transaction and that the associated Transfer Message should have contained a Repo Start field tag.

3.2.2.2. A Participant uses the **Repo Balance Only Adjustment Reversal** field tag in a nonvalue Message to cause the Sender's Repo-In Balance to decrease and the Receiver's Repo-Out Balance to decrease, in each case by the par amount indicated in the nonvalue Message, but no Book-Entry Securities are transferred. The Repo Balance Only Adjustment Reversal field tag might be used to reverse the effect of a previous nonvalue Message containing a Repo Balance Only Adjustment field tag or to indicate that a previous Transfer Message should have contained a Repo Close field tag.

3.2.3 Any Message with a Repo Tracking Indicator that has the effect of creating a negative Repo Balance for any Participant will be rejected by the Fedwire Securities Service.

3.2.4 On the evening of the Securities Business Day of the maturity or full redemption of a Book-Entry Security or a final paydown of an Amortizing Book-Entry Security, all Repo Balances with respect to that Book-Entry Security will be adjusted to reflect a zero balance.

3.3. CLAIM IDENTIFICATION, CALCULATION, AND SETTLEMENT

3.3.1 On each Record Date, the Reserve Banks shall identify a Claim on behalf of each Participant with a positive Repo-Out Balance for a particular Book-Entry Security with respect to each Contra of the Participant.

3.3.2 On the evening of every Securities Business Day before a Securities Business Day on which a Claim is to be settled, the Reserve Banks shall calculate each Claim identified pursuant to section 3.3.1. Each Claim equals the amount of principal and/or interest on a Book-Entry Security owed by the Participant with a positive Repo-In Balance for that Book-Entry Security to its Contra with a positive Repo-Out Balance for that Book-Entry Security based on the Participants' Repo Balances on the Record Date.

3.3.3 In accordance with sections 3.1.3 and section 6.0 of this appendix, the Reserve Banks shall settle each Claim with respect to Repo Tracking on the Payment Date for the Book-Entry Security by debit to the Settlement Account of the Participant with a positive Repo-In Balance with respect to a Book-Entry Security and credit to the Settlement Account of the Participant's Contra that has a positive Repo-Out Balance for that Book-Entry Security.

3.4. REPO-BALANCE STATEMENTS

- 3.4.1** Every evening of a Securities Business Day, the Reserve Banks provide each Participant that has a Repo Balance with a report stating that Participant's Repo Balances for each Book-Entry Security with respect to each Contra, broken down by Securities Accounts.
- 3.4.2** The Reserve Banks provide the report described in section 3.4.1 of this appendix using the same medium by which it provides Book-Entry Securities holdings statements to that Participant. If a Participant elects to receive its Book-Entry Securities holdings statements on a weekly or monthly basis rather than daily, such election will apply to delivery of the report described in section 3.4.1 of this appendix.

4.0 SECURITIES LENDING TRACKING

4.1. AVAILABILITY, INITIATION, AND AUTHORIZATION OF SERVICE

- 4.1.1** Securities Lending Tracking is available to Participants that desire the Reserve Banks to record and maintain Securities Lending Balances.
- 4.1.2** A Sender of a Transfer may initiate Securities Lending Tracking to cause the Reserve Banks to transfer to it principal and/or interest credited to another Participant. A Sender initiates Securities Lending Tracking by sending a Transfer Message that includes a Securities Lending Tracking Indicator in accordance with the format prescribed by the Reserve Banks in a clearing memo setting forth ACAP technical and operational details as published at www.FRBservices.org.
- 4.1.3** By including a Securities Lending Tracking Indicator in the prescribed format in a Transfer Message, the Sender authorizes and instructs the Reserve Banks to perform Securities Lending Tracking with respect to the Transfer. By receiving a Transfer Message containing a Securities Lending Tracking Indicator, the Receiver authorizes and instructs the Reserve Banks to perform Securities Lending Tracking with respect to that Transfer. The Securities Lending Tracking services so authorized by the Sender and Receiver include (i) identifying the Transfer as a Securities Lending Transaction, (ii) recording and maintaining Securities Lending Balances for the Sender and Receiver in accordance with section 4.2 of this appendix, (iii) identifying and calculating Claims in accordance with sections 4.3.1 and 4.3.2 of this appendix, and (iv) settling Claims in accordance with sections 4.3.3 and 6.0 of this appendix.
- 4.1.4** A Receiver that receives a Transfer Message containing a Securities Lending Tracking Indicator but does not wish to participate in Securities Lending Tracking with respect to that Transfer or the Book-Entry Security subject to that Transfer Message, may send either a Transfer Message reversing that Transfer or a nonvalue Message unwinding the associated Securities Lending Balances, in each case in accordance with section 4.2.

4.2. SECURITIES LENDING BALANCE RECORDKEEPING

4.2.1 Participants may use the following Securities Lending Tracking Indicators in Transfer Messages, in accordance with the format prescribed by the Reserve Banks in a clearing memo setting forth ACAP technical and operational details as published at www.FRBservices.org, to authorize and instruct the Reserve Banks to increase or decrease Securities Lending Balances:

4.2.1.1. A Participant uses the **Securities Lending Start** field tag in a Transfer Message to indicate that a Transfer is a Securities Lending Transaction. Use of the Securities Lending Start field tag causes the Sender's Securities Lent Balance to increase and the Receiver's Securities Borrowed Balance to increase, in each case by the par amount of the Transfer.

4.2.1.2. A Participant uses the **Securities Lending Start Reversal** field tag in a Transfer Message to reverse a Transfer whose associated Transfer Message contained a Securities Lending Start field tag. Use of the Securities Lending Start Reversal field tag causes the Securities Borrowed Balance of the Sender of the Transfer Message containing the Securities Lending Start Reversal field tag to decrease and the Securities Lent Balance of the Receiver of that Transfer Message to decrease, in each case by the par amount of the reversing Transfer.

4.2.1.3. A Participant uses the **Securities Lending Close** field tag in a Transfer Message to transfer a Book-Entry Security back to the original Sender of a Securities Lending Transaction. Use of the Securities Lending Close field tag causes the Securities Borrowed Balance of the Sender of the Transfer Message containing the Securities Lending Close field tag to decrease and the Securities Lent Balance of the Receiver of that Transfer Message to decrease, in each case by the par amount of the Transfer.

4.2.1.4. A Participant uses the **Securities Lending Close Reversal** field tag in a Transfer Message to reverse a Transfer whose associated Transfer Message contained a Securities Lending Close field tag. Use of the Securities Lending Close Reversal field tag causes the Securities Lent Balance of the Sender of the Transfer Message containing the Securities Lending Close Reversal field tag to increase and the Securities Borrowed Balance of the Receiver of that Transfer Message to increase, in each case by the par amount of the reversing Transfer.

4.2.2 A Participant, whether the original Sender or Receiver in a Securities Lending Transaction, may also use a nonvalue Message to adjust Securities Lending Balances without transferring a Book-Entry Security. A nonvalue Message containing a Securities Lending Tracking Indicator is subject to the limit on Transfers set forth in section 11.2.1 of this operating circular even though it is not a Transfer Message. Participants

may use the following Securities Lending Tracking Indicators, in accordance with the format prescribed by the Reserve Banks in a clearing memo setting forth ACAP technical and operational details as published at www.FRBservices.org, in nonvalue Messages to authorize and instruct the Reserve Banks to increase or decrease Securities Lending Balances:

4.2.2.1. A Participant uses the **Securities Lent Balance Only Adjustment** field tag in a nonvalue Message to cause the Sender's Securities Lent Balance to increase and the Receiver's Securities Borrowed Balance to increase, in each case by the par amount indicated in the nonvalue Message, but no Book-Entry Securities are transferred. The Securities Lent Balance Only Adjustment field tag might be used to indicate that an already completed Transfer was a Securities Lending Transaction and that the associated Transfer Message should have contained a Securities Lending Start field tag.

4.2.2.2. A Participant uses the **Securities Lent Balance Only Adjustment Reversal** field tag in a nonvalue Message to cause the Sender's Securities Borrowed Balance to decrease and the Receiver's Securities Lent Balance to decrease, in each case by the par amount indicated in the nonvalue Message, but no Book-Entry Securities are transferred. The Securities Lent Balance Only Adjustment Reversal field tag might be used to reverse the effect of a previous nonvalue Message containing a Securities Lent Balance Only Adjustment field tag or to indicate that a previous Transfer Message should have contained a Securities Lending Close field tag.

4.2.3 Any Message with a Securities Lending Tracking Indicator that has the effect of creating a negative Securities Lending Balance for any Participant will be rejected by the Fedwire Securities Service.

4.2.4 On the evening of the Securities Business Day of the maturity or full redemption of a Book-Entry Security or a final paydown of an Amortizing Book-Entry Security, all Securities Lending Balances with respect to that Book-Entry Security will be adjusted to reflect a zero balance.

4.3. CLAIM IDENTIFICATION, CALCULATION, AND SETTLEMENT

4.3.1 On each Record Date, the Reserve Banks shall identify a Claim on behalf of each Participant with a positive Securities Lent Balance for a particular Book-Entry Security with respect to each Contra of the Participant.

4.3.2 On the evening of every Securities Business Day before a Securities Business Day on which a Claim is to be settled, the Reserve Banks shall calculate each Claim identified pursuant to section 4.3.1. Each Claim equals the amount of principal and/or interest on a Book-Entry Security owed by the Participant with a positive Securities Borrowed Balance for that Book-Entry Security to its Contra with a positive Securities Lent Balance for that Book-Entry Security based on the Participants' Securities Lending Balances on the Record Date.

4.3.3 In accordance with sections 4.1.3 and section 6.0 of this appendix, the Reserve Banks shall settle each Claim with respect to Securities Lending Tracking on the Payment Date for the Book-Entry Security by debit to the Settlement Account of the Participant with a positive Securities Borrowed Balance with respect to a Book-Entry Security and credit to the Settlement Account of the Participant's Contra that has a positive Securities Lent Balance for that Book-Entry Security.

4.4. SECURITIES LENDING BALANCE STATEMENTS

4.4.1 Every evening of a Securities Business Day, the Reserve Banks provide each Participant that has a Securities Lending Balance with a report stating that Participant's Securities Lending Balances for each Book-Entry Security with respect to each Contra, broken down by Securities Accounts.

4.4.2 The Reserve Banks provide the report described in section 4.4.1 of this appendix using the same medium by which it provides Book-Entry Securities holdings statements to that Participant. If a Participant elects to receive its Book-Entry Securities holdings statements on a weekly or monthly basis rather than daily, such election will apply to delivery of the report described in section 4.4.1 of this appendix.

5.0 INTERIM ACCOUNTING

5.1. INITIATION AND AUTHORIZATION OF SERVICE

5.1.1 The Reserve Banks initiate Interim Accounting automatically when a Sender sends a Transfer Message to transfer a Book-Entry Security that has a Beneficiary Date that differs from the Record Date for that Book-Entry Security. The Sender need not include any particular field tag in a Transfer Message to initiate Interim Accounting in connection with that Transfer.

5.1.2 If a Transfer Message includes a Repo Tracking Indicator or a Securities Lending Tracking Indicator, Interim Accounting will not occur.

5.1.3 The Participants authorize the Reserve Banks to perform Interim Accounting with respect to every Transfer of a Book-Entry Security with a Beneficiary Date that differs from the Record Date. The Interim Accounting services so authorized by the Participants include (i) determining whether the Transfer is an Interim Accounting Transaction in accordance with section 5.2.1 of this appendix, (ii) identifying and calculating Claims in accordance with sections 5.2.2 and 5.2.3 of this appendix, and (iii) settling Claims in accordance with sections 5.2.4 and 6.0 of this appendix.

5.2. CLAIM IDENTIFICATION, CALCULATION, AND SETTLEMENT

5.2.1 For each Transfer, the Reserve Banks shall determine whether the Transfer is an Interim Accounting Transaction.

- 5.2.2 For each Interim Accounting Transaction (subject to section 5.1.2 of this appendix), the Reserve Banks shall identify and calculate a Claim if the Settlement Date falls on or after the Record Date and before the Beneficiary Date.
- 5.2.3 Each Claim equals the amount of principal and/or interest on the Book-Entry Security payable as of the Beneficiary Date with respect to the Interim Accounting Transaction.
- 5.2.4 In accordance with sections 5.1.3 and 6.0 of this appendix, the Reserve Banks shall settle each Claim with respect to an Interim Accounting Transaction by debit to the Sender's Settlement Account and credit to the Receiver's Settlement Account.

6.0 SETTLEMENT OF CLAIMS; CLAIMS THAT WILL NOT BE SETTLED

6.1. SETTLEMENT; SETTLEMENT ACCOUNT; FINALITY

- 6.1.1 Each Participant authorizes the Reserve Bank, at the time a Reserve Bank processes a Claim, to debit or credit the Claim to the account the Participant designates in this section for settlement of such Claims. This Settlement Account is to be (i) the Participant's Master Account or (ii) if the Participant has designated a correspondent for the payment of principal and/or interest on Book-Entry Securities (whether in general or with respect to a particular Securities Account) in accordance with the operating circular, the correspondent's Master Account. A debit or credit made to a Settlement Account under this appendix is final and irrevocable at the time it is made.
- 6.1.2 The Reserve Banks may process a Claim regardless of whether the Settlement Account that is to be debited for the Claim has sufficient funds. Each Participant is responsible for settling all Claims in its Settlement Account in accordance with this appendix and operating circular 1.
- 6.1.3 The Reserve Banks may process a Claim by debiting a Participant's Settlement Account in accordance with this appendix even if that Participant did not receive the principal and/or interest on the relevant Book-Entry Security because it was not the Record Date Holder of the Book-Entry Security.

6.2. DELAY OF SETTLEMENT; CLAIMS THE RESERVE BANKS WILL NOT SETTLE

- 6.2.1 The Reserve Banks will not settle Claims under the following circumstances:
 - 6.2.1.1. If principal and/or interest is not paid in full by the Issuer to all Record Date Holders, in accordance with section 10.1 of the operating circular.

6.2.1.2. With respect to Repo Tracking or Securities Lending Tracking, the principal and/or interest payment is a maturity or full redemption payment of the Book-Entry Security or a final paydown of an Amortizing Book-Entry Security.

6.2.1.3. With respect to a Participant that owes a Claim, if a Reserve Bank credits the related principal and/or interest payment to a non—interest-bearing funds account on its books in accordance with section 10.2.1 of the operating circular instead of the Master Account of the Participant (or its correspondent) or for any other reason.

6.2.1.4. In each case described in section 6.2.1.2 and 6.2.1.3, (i) the Participants are responsible for making any adjustments of principal and/or interest payments in connection with the Claim without using ACAP; (ii) the Reserve Banks will have no further obligation to try to process or settle the Claim; and (iii) the Reserve Banks will notify the Participants effected by the unsettled Claim in accordance with section 7.2 of this appendix.

6.2.2 If the Reserve Banks have settled the debit portion of the Claim by debiting a Participant’s Settlement Account but the Reserve Banks are unable to settle the credit portion of the Claim on the same Securities Business Day by crediting the Settlement Account of the Participant owed the Claim, the Reserve Banks will cancel the Claim by crediting the amount of the Claim back to the Settlement Account of the Participant that had been debited. In such a case, the Participants are responsible for making any adjustments of principal and/or interest payments in connection with the Claim without using ACAP; the Reserve Banks will have no further obligation to try to process or settle the Claim.

6.2.3 The Reserve Banks may delay settlement of Claims with respect to a particular Book-Entry Security to Participants if the Fedwire Securities Service cannot credit the principal and/or interest on that Book-Entry Security to the Settlement Account of one or more Participants.

6.2.4 With respect to any Claim that the Reserve Banks are not able to settle to a Participant’s Settlement Account on the same Securities Business Day as (i) the Payment Date for the Book-Entry Security or, (ii) in the case of Claims resulting from Fail Transactions and relating to adjustment of principal and/or interest paid to the Sender on or before the Settlement Date of the relevant Fail Transaction, the next Securities Business Day after the Settlement Date for the relevant Fail Transaction, the Reserve Banks may determine they are unable to settle the Claim and may inform the effected Participants that they are responsible for making adjustments of principal and/or interest payments in connection with the Claim without using ACAP.

6.2.5 As a result of an emergency or failure described in section 14.2.1 of the operating circular, the Reserve Banks may determine they are unable to settle Claims for the impacted Securities Business Day and may inform

Participants that they are responsible for making adjustments of principal and/or interest payments in connection with any unsettled Claims without using ACAP; the Reserve Banks will have no further obligation to try to process or settle such Claims.

- 6.2.6** In the event the Reserve Banks debit or credit a Participant's Settlement Account to correct an error in the principal and/or interest paid on a Book-Entry Security in accordance with section 10.3.1 of the operating circular, the Reserve Banks will not make a corresponding adjustment to associated Claims. In such a case, the Participants are responsible for making any adjustments to the settled Claim without using ACAP; the Reserve Banks will have no further obligation to try to adjust the Claim.

7.0 NOTIFICATIONS

- 7.1.** Every Securities Business Day before a Securities Business Day on which a debit or credit is to be settled in a Participant's Settlement Account in connection with a Claim relating to a Fail Transaction, Repo Transaction, Securities Lending Transaction, or Interim Accounting Transaction, the Reserve Banks shall provide notice of
- 7.1.1** each Claim to each Participant affected by that Claim in an adjustment notification report. The notice will include for each Claim the date the Claim will be settled; the amount of each debit or credit; information about the Book-Entry Security to which the Claim relates; the identity of the other Participant involved in the Claim; and for informational purposes only, the aggregate debit and credit Claim amounts and a net adjustment amount. For Fail Transactions and Interim Accounting Transactions, the notice will also identify the Contract Date and Settlement Date, as well as the Transfer Message to which each Claim pertains; and
- 7.1.2** all Claims that will not be settled by the Reserve Banks because (i) the amount of the Claim is equal to zero, (ii) a Reserve Bank credited the related principal and/or interest payment to a non—interest-bearing funds account on its books in accordance with section 10.2.1 of the operating circular instead of the Master Account of the Participant (or its correspondent) or (c) in the case of Repo Tracking and Securities Lending Tracking, the corresponding principal and/or interest payment on the Book-Entry Security is at maturity or upon full redemption of the Book-Entry Security or upon final payoff of an Amortizing Book-Entry Security.
- 7.2.** The Reserve Banks provide all notices related to Claims using the same medium by which they notify that Participant of immediate principal and/or interest payments on Book-Entry Securities that are to be made the next Securities Business Day.

8.0 DESIGNATION OF CORRESPONDENT; WARRANTY

- 8.1.** In the case the Settlement Account designated by a Participant under section 6.1.1(ii) of this appendix is a Master Account of the Participant's correspondent,

the Participant warrants that (i) it has authorized and instructed the correspondent to accept any debits or credits related to Claims made to the correspondent's Master Account in accordance with this appendix and (ii) the correspondent has agreed in writing to settle Claims in its Master Account in accordance with this appendix.

9.0 LIMITATIONS ON RESERVE BANK LIABILITY AND DUTIES; INDEMNIFICATION

9.1. LIMITATIONS ON LIABILITY AND DUTIES OF RESERVE BANKS

9.1.1 The Reserve Banks make no representations or warranties about the validity of any instructions the Reserve Banks receive from Participants in connection with the services they offer under this appendix or with respect to any underlying agreement between the Participants or their customers that may or may not result in a Claim. Information relating to the identification or calculation of the amount of a Claim does not affect or reflect any interest of a Participant or its customers in Book-Entry Securities maintained in any Securities Account.

9.1.2 The Reserve Banks are not liable for the insolvency, neglect, misconduct, mistake, or default of any other person, including a Participant or a Participant's correspondent. Except as otherwise specifically provided in this appendix, only the Reserve Banks maintaining the Securities Accounts of Participants that sustained actual direct losses are liable for such losses and even then only to the extent such losses were proximately caused by the Reserve Banks' failure to exercise ordinary care or to act in good faith. The amount of a Reserve Bank's liability to a Participant is limited to no more than the dollar amount of a Claim plus interest and incidental expenses, unless the Participant's claim is based on delay in the settlement of a Claim, in which case the amount of a Reserve Bank's liability is limited to interest and incidental expenses. In no event shall a Reserve Bank be liable for consequential, indirect, incidental (other than those specifically identified in this section), or special damages (including lost profits), however derived, and regardless of whether any Reserve Bank has been informed of the possibility of such damages.

9.2. INDEMNIFICATION

9.2.1 A Participant using Fail Tracking, Repo Tracking, Securities Lending Tracking, or Interim Accounting 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 the Participant's correspondent or agent, or incurred by the Reserve Banks, including but not limited to attorneys' fees and expenses of litigation, arising from or related to the services provided under this appendix, or the acts or omissions of a Participant or the Participant's correspondent or agent in connection with those services, in all cases excluding only any claim, loss, liability, cost, or expense arising solely from a Reserve Bank's failure to act in good faith or to exercise ordinary care.

APPENDIX E: FedPayments® Manager for the Fedwire Securities Service

This appendix sets forth the terms under which a Reserve Bank provides the FedPayments® Manager service. A Participant that uses the FedPayments Manager service is bound by this appendix.

1.0 DEFINITIONS

- 1.1. In addition to terms defined in this operating circular, terms defined in this section have the following meanings when used in this appendix:
- (a) **FedLine Direct Customer** means an FPM Customer that has established an Electronic Connection with a Reserve Bank using the FedLine Direct® access solution.
 - (b) **“FPM Customer”** means a Participant that uses FedPayments Manager, regardless of whether it uses FedPayments Manager to create, send, or receive Messages or to enable certain processing or e-mail notification options, or both.
 - (c) **“Message”** means a Message as defined in section 3.1(t) of Operating Circular 7 and any message created in FedPayments Manager by an FPM Customer but not yet released to the Fedwire Securities Service.
 - (d) **Service Unit** means a feature in FedPayments Manager that an FPM Customer may use to segregate Messages and to segregate subscribers who can perform certain functions in FedPayments Manager.

2.0 PURPOSE AND SCOPE

- 2.1. FedPayments Manager is an application owned and operated by the Reserve Banks and running on Reserve Bank servers that a Participant may use as described in this appendix. An FPM Customer has only those rights to use FedPayments Manager expressly provided in this appendix.
- 2.2. An FPM Customer that accesses the Fedwire Securities Service through the Reserve Bank’s FedLine Advantage® access solution may use FedPayments Manager to create, send, or receive Messages and to enable certain processing and e-mail notification options.
- 2.2.1 A Sender may use FedPayments Manager to format Messages to be submitted to the Fedwire Securities Service, to receive Messages, and to enable certain processing and e-mail notification options. A Sender that uses FedPayments Manager for any of these purposes is bound by this appendix.
 - 2.2.2 A Receiver may use FedPayments Manager to receive Messages sent to it over the Fedwire Securities Service. A Receiver that uses FedPayments Manager to receive Messages is bound by this appendix.

- 2.3. Each FPM Customer shall assign a sufficient number of staff with the appropriate access roles to perform FedPayments Manager's various functions. Each FPM Customer shall have such staff available during FedPayments Manager's operating hours. The Reserve Banks are not liable if an FPM Customer cannot release a Message to the Fedwire Securities Service because it does not have such staff available.
- 2.4. In no event shall an FPM Customer or its officers, employees, agents, or contractors:
 - 2.4.1 modify, add to, translate, reverse assemble, reverse compile, decompile, or otherwise attempt to derive the code for FedPayments Manager;
 - 2.4.2 introduce code or other information, including malicious code or other information (e.g., virus, Trojan horse, worm) that could adversely impact the performance of FedPayments Manager; or
 - 2.4.3 attempt to interfere with the normal operation of Reserve Bank systems or the network over which FedPayments Manager is provided.
- 2.5. FedPayments Manager is not part of the Fedwire Securities Service, and this appendix is neither a clearing corporation rule under section 8-111 of Article 8 of the Uniform Commercial Code nor an agreement governing a securities account within the meaning of the Convention on the Law Applicable to Certain Rights in Respect of Securities Held with an Intermediary.

3.0 MESSAGE STATUS

- 3.1. A Message entered into FedPayments Manager may be canceled by the FPM Customer at any time before the release of the Message to the Fedwire Securities Service.
- 3.2. Messages entered into FedPayments Manager before the opening of the Fedwire Securities Service are released by FedPayments Manager to the Fedwire Securities Service for processing beginning at the times shown in the Securities Schedule. Notwithstanding the times shown in the Securities Schedule, an extension of the Fedwire Securities Service operating hours may affect the times that Messages are released by FedPayments Manager to the Fedwire Securities Service.
- 3.3. 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.
- 3.4. 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, this operating circular governs the acceptance and processing of the Message by the Reserve Banks. The Fedwire Securities Service time stamp determines whether a particular Cutoff Time for the Fedwire Securities Service has been met.

- 3.5. A Message that has been released by FedPayments Manager to the Fedwire Securities Service will not necessarily be accepted and processed by the Fedwire Securities Service.

4.0 DELIVERY OF MESSAGES AND NOTICES

- 4.1. By using FedPayments Manager, an FPM Customer that is not a FedLine Direct Customer designates FedPayments Manager as the proper place for the Fedwire Securities Service to deliver Messages. An FPM Customer that is a FedLine Direct Customer may designate FedPayments Manager as the proper place for the Fedwire Securities Service to deliver Messages by instructing the FedLine Direct Customer's Appropriate Reserve Bank in writing. Any such designation by a FedLine Direct Customer is effective only after the Appropriate Reserve Bank has processed the request.
- 4.2. If an FPM Customer designates FedPayments Manager as the proper place for the Fedwire Securities Service to deliver Messages, the FPM Customer receives a Message sent by a Reserve Bank as follows: (i) if FedPayments Manager is available, at the time that the Message is made available to the FPM Customer in FedPayments Manager; or (ii) if FedPayments Manager is not available, at the time that FedPayments Manager reopens with the posted Message.
- 4.3. An FPM Customer shall monitor FedPayments Manager for incoming Messages and notices and shall manage its communications connection (including its browser) to permit it to access FedPayments Manager throughout a Securities Business Day.

5.0 SERVICE UNITS

- 5.1. An FPM Customer may establish one or more Service Units in FedPayments Manager to accommodate the FPM Customer's specific informational needs. The use of multiple Service Units is for the convenience of the FPM Customer only. Except as described in sections 6.0 and 7.0 of this appendix with respect to the available processing and e-mail notifications options, use of multiple Service Units does not create any special obligations on the part of a Reserve Bank with respect to Messages released by the FPM Customer using the various Service Units.
- 5.2. An FPM Customer may assign one or more subscribers to a Service Unit to perform the functions permissible within the Service Unit.
- 5.3. Any name used by an FPM Customer or a Reserve Bank to identify a Service Unit is for convenience only and does not in any way alter or affect the Reserve Banks' right to treat the FPM Customer as exclusively entitled to instruct the Reserve Banks and to identify agents that may instruct the Reserve Banks, on the FPM Customer's behalf, with respect to the FPM Customer's Securities Accounts or Master Accounts.

6.0 PROCESSING OPTIONS

- 6.1. FedPayments Manager offers each FPM Customer a variety of processing options to help it manage how it creates, updates, and verifies Messages in FedPayments Manager. An FPM Customer may enable and modify these processing options within one or more Service Units, and if enabled, each will apply to Messages created, modified, or verified through the Service Unit within which the processing option is enabled.
- 6.2. Each FPM Customer is solely responsible for choosing the options that are best suited, in its judgment, to its securities-related business and risk tolerance. For certain processing options, the Reserve Banks may establish default settings. Each FPM Customer shall review and determine whether the default settings are appropriate and shall modify them if they are not. The Reserve Banks may require an FPM Customer to perform testing before making certain options available.
- 6.3. Use of certain processing options may preclude an FPM Customer's ability to release Messages from FedPayments Manager to the Fedwire Securities Service. The Reserve Banks have no liability if an FPM Customer is unable to release a Message to the Fedwire Securities Service for processing because of the processing option settings in FedPayments Manager, whether selected by the FPM Customer or left unchanged from the default settings established by the Reserve Banks.
- 6.4. Subject to certain restrictions (such as when the Reserve Banks impose testing requirements before certain options become available or such as the restrictions described in section 10.0 of this appendix), FPM Customers may change their processing options at any time when FedPayments Manager is available. Changes to processing options take effect immediately.
- 6.5. Consistent with section 1.5 of this appendix, each FPM Customer must have staff with the appropriate access roles available to enable or modify the FPM Customer's processing options. The Reserve Banks are not liable if an FPM Customer cannot enable or modify its processing options because the FPM Customer does not have such staff available.
- 6.6. The Reserve Banks anticipate that each FPM Customer will need to change its processing options from time to time based on its securities-related business and risk tolerance. The Reserve Banks assume no responsibility for monitoring how an FPM Customer uses (or fails to use) the processing options that are available to it in FedPayments Manager or for monitoring how an FPM Customer modifies its processing options.
- 6.7. The Reserve Banks may provide warnings in FedPayments Manager if an FPM Customer has not enabled certain processing options. These warnings are provided solely as a convenience for FPM Customers. The Reserve Banks are not liable for the absence of warnings for other processing options.

7.0 E-MAIL NOTIFICATION OPTIONS

- 7.1. FedPayments Manager offers each FPM Customer e-mail notification options designed to generate e-mail notices about certain Messages released to the Fedwire Securities Service using FedPayments Manager and about changes to certain processing and e-mail notification options. An FPM Customer may enable and modify these e-mail notification options within one or more Service Units, and if enabled, each e-mail notification will apply to (i) Messages released through the Service Unit in which the e-mail notification option is enabled and (ii) the options enabled or modified in the Service Unit in which the e-mail notification options is enabled.
- 7.2. The e-mail notices described in this section 7.0 may relate to Messages successfully processed by the Fedwire Securities Service or those rejected by the Fedwire Securities Service because the Messages violated a processing option enabled by the FPM Customer. Such e-mail notices are not Messages, and an FPM Customer may not rely on e-mail notices generated by FedPayments Manager to determine whether a Reserve Bank accepted a Messages released to the Fedwire Securities Service.
- 7.3. FedPayments Manager allows FPM Customers to provide up to five e-mail addresses for each e-mail notification option. If an FPM Customer enables an e-mail notification option, the Reserve Banks will make best efforts, but are under no obligation, to send to those addresses an e-mail notification.

8.0 TREATMENT OF INFORMATION

- 8.1. Information created or received in FedPayments Manager is treated as confidential information of the FPM Customer and will be used by the Reserve Banks only as provided in section 8.2 of this appendix.
- 8.2. The Reserve Banks may access and use information in FedPayments Manager:
 - 8.2.1 To respond to a request of the FPM Customer that entered the information into FedPayments Manager;
 - 8.2.2 To perform routine backup and maintenance of FedPayments Manager;
 - 8.2.3 For reconciliation or troubleshooting purposes relating to the Fedwire Securities Service or FedPayments Manager;
 - 8.2.4 To resolve the status of a Message that has been released to the Fedwire Securities Service but, after a reasonable period, has not been accepted or rejected by the Fedwire Securities Service;
 - 8.2.5 To analyze how FPM Customers are using various features of FedPayments Manager (such information not including the content of Messages in FedPayments Manager);
 - 8.2.6 As required by law; and

- 8.2.7** As permitted by law if such use is also consistent with the Reserve Banks' information access policy.
- 8.3.** An FPM Customer may view in FedPayments Manager and print a Message created or received by the FPM Customer 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. Except as provided in section 8.6 of this appendix, all information in FedPayments Manager is deleted if it is more than 15 months old.
- 8.4.** FedPayments Manager offers FPM Customers the ability to export certain Messages. Not all Messages can be exported.
- 8.5.** Any information in FedPayments Manager that is backed up by the Reserve Banks is also subject to the limitations in section 8.2 of this appendix.
- 8.6.** Messages that have been created in FedPayments Manager but have not yet been released to the Fedwire Securities Service are stored indefinitely in FedPayments Manager. The Reserve Banks reserve the right to delete such Messages from time to time. In general, they will exercise that right when they are implementing changes to the FedPayments Manager application.

9.0 HOURS OF OPERATION

- 9.1.** The Reserve Banks publish on the FRBservices.org® website the hours during which FedPayments Manager is available. The Reserve Banks may make FedPayments Manager available outside the hours of the Securities Business Day during which time FedPayments Manager may have limited functionality. The Reserve Banks may amend the hours of availability for FedPayments Manager from time to time.
- 9.2.** The Reserve Banks may open or close FedPayments Manager earlier or later than the times stated in the hours of availability for FedPayments Manager published on the FRBservices.org website to facilitate special market needs.
- 9.3.** If there is an extension of the Fedwire Securities Service operating hours, the hours of availability for FedPayments Manager may also be extended. The reopening of FedPayments Manager may also be affected if there is an extension of the Fedwire Securities Service's operating hours.

10.0 TERMINATION AND ACCESS RESTRICTIONS

- 10.1.** A Reserve Bank may terminate or restrict access to FedPayments Manager by an FPM Customer or its Service Provider at any time without notice if the Reserve Bank has reason to believe that such access does not comply with any agreement with a Reserve Bank, including this appendix, or that such access otherwise poses a risk to a Reserve Bank, any other FPM Customer, or the security or proper functioning of FedPayments Manager or the Fedwire Securities Service.

- 10.2.** Actions by a Reserve Bank to restrict access to FedPayments Manager may include, among others, restricting access to send or receive Messages using the service, restricting access by one or more individuals authorized to use the service on an FPM Customer's behalf, and imposing, modifying, or restricting modifications to one or more of the processing options described in this appendix.
- 10.3.** A Reserve Bank may otherwise terminate or restrict access to FedPayments Manager at any time upon notice to an FPM Customer or its Service Provider. A Reserve Bank taking an action under this section 10.3 is not obliged to but will endeavor to give such a notice five days in advance of terminating or restricting the FPM Customer's or a Service Provider's access to the service.

11.0 LIABILITY

- 11.1.** 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 information between the FPM Customer and FedPayments Manager and loss or damage resulting from the acts or omissions of internet service providers. The Reserve Banks are also 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.
- 11.2.** Nothing in this appendix relieves a Reserve Bank from responsibility for its own failure to exercise ordinary care or to act in good faith in operating FedPayments Manager. A Reserve Bank's liability under this appendix is strictly limited to damages proximately suffered by an FPM Customer and does not extend to lost profits, claims by third parties, or consequential or incidental damages, regardless of whether any Reserve Bank had been informed of the possibility of such damages.
- 11.3.** In addition to the exclusions of their liability elsewhere in this appendix, the Reserve Banks are not liable for any loss or damage resulting from FedPayments Manager being unavailable.