FEDWIRE FUNDS TRANSFER SYSTEM

Assessment of Compliance with the Core Principles for Systemically Important Payment Systems

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Executive Summary

The international financial community has worked over time on initiatives to strengthen the global financial infrastructure. As one of these initiatives, the Committee on Payment and Settlement Systems (CPSS) of the central banks of the Group of Ten countries developed the Core Principles for Systemically Important Payment Systems (Core Principles).[1] The CPSS intends the Core Principles to be guidelines for the design and operation of safe and efficient systemically important payment systems worldwide. The Board of Governors of the Federal Reserve System has incorporated these principles into the Federal Reserve Policy on Payments System Risk (PSR policy). This assessment has been conducted pursuant to the PSR policy.

Effective financial systems depend on safe and efficient payment systems. Systemically important payment systems can transmit economic shocks across markets and international borders. Poorly designed or operated payment systems can exacerbate economic disturbances, while well-managed systems help minimize these disturbances.

As a real-time gross settlement (RTGS) system for the United States and the U.S. dollar, the Federal Reserve Banks' Fedwire® Funds Service (Fedwire) plays a critical role in the implementation of United States monetary policy through the settlement of domestic money market transactions. Fedwire is also an important vehicle for time-critical payments related to the settlement of commercial payments and financial market transactions.

The Federal Reserve is the central bank of the United States and includes the Board and the twelve regional Reserve Banks. The Federal Reserve seeks to foster the safety, efficiency, and accessibility of Fedwire and other Reserve Bank payment systems. As a systemically important payment system, Fedwire must meet or exceed the current international standards for such systems. This assessment contributes to these goals, and the Federal Reserve will update and review this assessment periodically. This document also contributes to the implementation by the United States of international financial standards and codes set out by the Financial Stability Forum.[2]

Overall, Fedwire observes each of the applicable Core Principles. As an RTGS system with final settlement in central bank money, Fedwire meets the minimum standards for settlement assets and finality. U.S. law provides a well-established legal foundation for

[1] Committee on Payment and Settlement Systems, *Core Principles for Systemically Important Payment Systems*, Bank for International Settlements, January 2001. The Core Principles are available on line at www.bis.org. The definition of "systemically important" is provided in paragraph 3.0.2 of the Core Principles report.

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[2] The *Core Principles for Systemically Important Payment Systems* is one of the designated sets of standards for payment and settlement systems, which is one of the twelve key areas that the Financial Stability Forum (FSF) has designated as key for sound financial systems. Other key areas include monetary and financial policy transparency, fiscal policy transparency, data dissemination, insolvency, corporate governance, accounting, auditing, market integrity, banking supervision, securities regulation, and insurance supervision. The relevant standards and codes are available at www.fsforum.org.

Fedwire and settlement finality. Access to Fedwire is determined by objective, publicly disclosed criteria. Fedwire's rules and procedures are clear and permit participants to understand the financial risks resulting from participation in the system. The rules help minimize financial risks in Fedwire and provide incentives to manage any remaining risk. Fedwire operates effectively and efficiently, providing secure, reliable, and practical services to its customers. Fedwire's governance arrangements are effective, accountable, and transparent.

0 General Background

Fedwire is a RTGS system owned and operated by the Reserve Banks that enables participants to make final payments in central bank money. Fedwire consists of a set of computer applications that route and settle payment orders.[3] In addition, Fedwire and related applications review payment orders for syntax errors, query and update account balances, and notify participants of related credits and debits to their accounts. Fedwire is supported by a national communications network.

An institution that maintains an account with a Reserve Bank generally can become a Fedwire participant. Participants use Fedwire to instruct a Reserve Bank to debit funds from the participant's own Reserve Bank account and credit the Reserve Bank account of another participant.[4] Fedwire processes and settles payment orders individually throughout the operating day. Payment to the receiving participant over Fedwire is final and irrevocable when the amount of the payment order is credited to the receiving participant's account or when the payment order is sent to the receiving participant, whichever is earlier. Fedwire participants send payment orders to a Reserve Bank on line, by initiating an electronic message, or off line, via telephone. Payment orders must be in the proper syntax and meet the relevant security controls. An institution sending payment orders to a Reserve Bank is required to have sufficient funds, either in the form of account balances or overdraft capacity, or a payment order may be rejected.

0.1 Brief History

The Reserve Banks developed Fedwire to improve the safety and efficiency of the interbank settlement process.[5] In the early 1900s, settlement of interbank payment obligations often involved the physical delivery of cash or gold to counterparties, which was both risky and costly. To mitigate these risks, in 1918, the Reserve Banks introduced its first dedicated funds transfer network, featuring a Morse code system that connected the twelve Reserve Banks, the Board, and the United States Department of the Treasury. The key feature of this arrangement was the ability to transfer balances held at the Reserve Banks using a secure communications network. The elements of this feature remain the foundation of Fedwire operations.

As communications technology improved throughout the century, the Reserve Banks also improved Fedwire, striving to increase its levels of security and automation. From the

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[3] The precise definition of a payment order is found in subpart B of the Board's Regulation J (12 CFR § 210). The Code of Federal Regulations is available at www.access.gpo.gov/nara/cfr/index.html.

[4] An institution generally only holds one "master account" with a single Reserve Bank. This account contains all balances, including those held to meet reserve requirements or clearing balance requirements. Additional information on reserve requirements and clearing balances can be found in the *Reserve Maintenance Manual* available at www.frbservices.org/Accounting/pdf/rmm.pdf.

[5] Additional information on the history of Fedwire can be found in *Fedwire: The Federal Reserve Wire Transfer Service*, Federal Reserve Bank of New York, March 1995, and "Creating an Integrated Payment System: The Evolution of Fedwire," Adam Gilbert, Dara Hunt, and Kenneth C. Winch, *Federal Reserve Bank of New York Economic Policy Review*, July 1997, available at www.newyorkfed.org/research/epr/97v03n2/9707gilb.html.

1920s to the 1960s, Fedwire migrated from leased-line public telegraph circuits to telex to computer operations and proprietary telecommunications networks. These operations were organized and executed on a decentralized basis among the twelve Reserve Banks. This organization matched the localized structure of the domestic banking system at the time and allowed each Reserve Bank to serve the specific needs of institutions in its Federal Reserve District.

During the 1980s, however, the consistency of services across Districts became increasingly important as interstate banking emerged in the United States. More bank holding companies owned depository institutions in multiple Districts and sought greater standardization of Reserve Bank services. The Reserve Banks addressed this demand by deploying standard software in each Reserve Bank.

In the 1990s the Reserve Banks consolidated most mainframe computer operations, centralized certain payment applications, and consolidated Fedwire management at specific Reserve Banks. Section 10 of this report provides greater detail about these organizations and the roles they play.

Recently, the Reserve Banks have started to take advantage of the flexibility and efficiency that Internet protocol (IP) and distributed processing technologies offer. The Reserve Banks are using these technologies to enhance the functionality and operational reliability of Fedwire and other Reserve Bank services.

Although many aspects of the Reserve Bank's payment services have been centralized, individual Reserve Banks remain responsible for maintaining relationships with institutions and for limited operational processes such as updating account profiles. In addition, each Reserve Bank maintains an account for institutions in their District.

0.2 Operations

Participating Institutions

An institution that maintains an account at a Reserve Bank generally is allowed to be a Fedwire participant. These institutions include Federal Reserve member banks, nonmember depository institutions, and certain other institutions, such as U.S. branches and agencies of foreign banks.[6] The Board's Regulation J, subpart B, which incorporates article 4A of the Uniform Commercial Code, and Operating Circular 6 (Funds Transfers through Fedwire) (OC 6), issued in accordance with Regulation J, govern Fedwire funds transfers.[7] Under Regulation J and OC 6, the Reserve Banks can also impose conditions

[6] Throughout the remainder of this report, "institution" will refer to Federal Reserve member banks, nonmember depository institutions as defined in Section 19 of the Federal Reserve Act (12 U.S.C. § 461(b)(1)(A)), U.S. branches and agencies of foreign banks, and Edge and agreement corporations, unless the context indicates otherwise. The Reserve Banks also provide services for other organizations, such as the United States Treasury, government-sponsored enterprises (GSEs), and foreign central banks. Services provided to these organizations are beyond the scope of this report. Federal statutes are available at www.access.gpo.gov/uscode.

[7] Reserve Bank operating circulars are available at www.frbservices.org/OperatingCirculars/index.html.

on an institution's use of Fedwire. In particular, OC 6 requires each Fedwire participant to enter into a security procedures agreement with its Reserve Bank.

Vehicles for Access

Fedwire funds transfers can be initiated on line or off line. Online transactions require no manual processing of payment orders by Reserve Bank staff. Participants that send and receive a large number of messages typically choose a computer interface (CI) connection. CI connections involve direct computer-to-computer communication and allow participants to customize internal systems, providing significant automation and greater levels of straight-through processing. Participants that send or receive more moderate message volumes typically use the FedLine Advantage® access solution, a web-based access solution that can be accessed via personal computers over either a private network connection or over the Internet using a virtual private network (VPN) connection.[8] Participants that send or receive very few Fedwire payments sometimes elect to use the offline transaction process. Offline transactions are transmitted via the telephone and require Reserve Bank staff to input the payment order.

Operating Hours

Fedwire operating hours for each business day begin at 9:00 p.m. eastern time (ET) on the preceding calendar day and end at 6:30 p.m. ET, Monday through Friday, excluding designated holidays. For example, processing on a nonholiday Monday begins at 9:00 p.m. ET on Sunday night and ends at 6:30 p.m. ET Monday night. The deadline for third-party transfers, those initiated or received by a participant on behalf of a customer, is 6:00 p.m. ET. Offline transfers generally cannot be initiated before 9:00 a.m. or after 6:00 p.m. ET (5:30 p.m. for third-party transfers). A complete time schedule and list of holidays is available in appendix B of OC 6. Guidelines pertaining to the extension of Fedwire hours are available in OC 6 and are discussed in section 2.

Daylight Credit

Intraday central bank credit in the form of daylight overdrafts is generally available to Fedwire participants. Additional information on the provision of daylight credit to Fedwire participants is provided in section 3 of this report.

Many Fedwire participants use daylight credit to make payments throughout the operating day. Overall, aggregate average daylight overdrafts averaged $41 billion per day in 2005, with aggregate peak daylight overdrafts averaging $120 billion each day.[9] In 2005, ten institutions accounted for about 70 percent of total average overdrafts.

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[8] The Reserve Banks expect to complete migrating low to moderate message volume customers to FedLine Advantage from its legacy FedLine® DOS terminals, which are personal computers that host Reserve Bank proprietary software and have a dial-up or frame connection to the national network, by year-end 2006.

[9] Average and peak overdraft figures do not include overdrafts by GSEs and certain international organizations. Recent PSR policy changes align the treatment of GSEs and certain international organizations with the treatment of other account holders that do not have regular access to the discount window and are not eligible for intraday credit. See www.federalreserve.gov/boarddocs/press/other/2004/20040923/attachment.pdf.

Pricing
The Monetary Control Act of 1980 (MCA) requires the Reserve Banks to recover fully, over the long run, the cost associated with the provision of most financial services they provide, including a private-sector adjustment factor, as discussed in section 8.[10] Currently, Fedwire transaction fees are charged to both the originating institution (debit side) and receiving institution (credit side). Fees are based on the volume of transfers, and in 2007 will range from 9 cents to 29 cents per transfer, per institution.[11] A surcharge of $30 is charged to initiate or receive an offline transfer. Electronic access fees are assessed separately.

0.3 Fedwire Use

In 2005, Fedwire processed an average daily volume of approximately 528,000 payments, with an average daily value of approximately $2.1 trillion.[12] The distribution of these payments is highly skewed, with a median value of approximately $32,000 and an average value of approximately $3.9 million. Roughly 10 percent of Fedwire payments are for more than $1 million. Approximately 7,500 depository institutions are eligible to initiate or receive funds transfers over Fedwire. Use of Fedwire, however, is also highly skewed. Ninety-four participants account for 80 percent of the volume of payments, and twenty-four participants account for 80 percent of the value of payments.

[10] The MCA amended the Federal Reserve Act, adding Section 11A (12 U.S.C. § 248a).
[11] The Board annually reviews and approves the fees Reserve Banks charge for their priced services. The current fee schedules for Fedwire and electronic access are available at www.frbservices.org.
[12] Historical Fedwire volume and value statistics are available at www.federalreserve.gov/paymentsystems/fedwire/default.htm

1 Core Principle I: *The system should have a well-founded legal basis under all relevant jurisdictions.*

1.0 Assessment of Compliance

U.S. law provides a comprehensive, well-established, and publicly disclosed legal framework for funds transfers over Fedwire. The statutes, regulations, and contractual provisions that constitute the legal framework of Fedwire clearly define the rights and obligations of each party to Fedwire funds transfers. The legal framework provides participants a high degree of legal assurance for the settlement and finality of funds transfers over Fedwire. Fedwire observes Core Principle I.

1.1 General Statutes and Regulations

Federal statutes and regulations promulgated pursuant to those statutes provide the legal framework for Fedwire. These authorities provide a comprehensive set of rules and define the rights and obligations of participants and the Reserve Banks with a high degree of certainty.

1.1.1 Federal Reserve Act

Several sections of the Federal Reserve Act (FRA) provide the legal basis for operating Fedwire. The FRA permits a Reserve Bank to receive deposits from any of its member banks or other depository institutions and to receive deposits from other Reserve Banks for purposes of exchange or collection.[13] In addition, balances maintained at the Reserve Banks can be checked against and withdrawn from for the purpose of meeting existing liabilities.[14] The FRA empowers the Board to promulgate regulations governing the transfer of funds among Reserve Banks and their Branches and also permits the Board to require each Reserve Bank to exercise the functions of a clearinghouse for depository institutions.[15] The FRA also charges the Board with exercising general supervision over the Reserve Banks and authorizes the Board to make all rules and regulations necessary to enable the Board to perform effectively its duties, functions, or services as directed by the FRA.[16]

1.1.2 Federal Reserve Regulation J

Pursuant to the statutory authority described above, the Board has promulgated subpart B (Funds Transfers through Fedwire) of the Board's Regulation J.[17] Subpart B delineates the rights and responsibilities of parties to funds transfers over Fedwire. The regulation was promulgated through the procedures outlined in the Administrative Procedure Act (APA), which, among other things, provides for public notice and comment before the

[13] See 12 U.S.C. § 342.
[14] See 12 U.S.C. § 464.
[15] See 12 U.S.C. § 248-1.
[16] See 12 U.S.C. § 248 (j), (i).
[17] See 12 CFR § 210.25 *et seq*.

regulation becomes effective.[18] Regulations adopted by federal agencies have the force of federal law. As federal law, Regulation J preempts any inconsistent provisions of state law.

Regulation J, subpart B adopts article 4A of the Uniform Commercial Code, set out as appendix B to subpart B.[19] In addition, an official commentary to subpart B is set out as appendix A to subpart B. The commentary constitutes an official Board interpretation of subpart B and provides background material to explain the intent of the Board in adopting particular provisions of subpart B.

Regulation J, subpart B governs the rights and obligations of parties to a Fedwire funds transfer, including (i) Reserve Banks sending or receiving payment orders, (ii) "senders" that send payment orders directly to a Reserve Bank, (iii) "receiving banks" that receive payment orders directly from a Reserve Bank, and (iv) "beneficiaries" that receive payment pursuant to payment orders sent to a Reserve Bank by means of a credit to an account maintained or used at a Reserve Bank. Regulation J also applies to other parties to a funds transfer that might be carried out, in whole or in part, through Fedwire, if such parties are aware that Fedwire might be used to complete the transfer.

Under Regulation J, subpart B, by maintaining or using an account with a Reserve Bank, a sending bank authorizes its Reserve Bank to obtain payment for the sender's payment order by debiting the amount of the payment order from its Reserve Bank account. In addition, a bank that receives a payment order from a Reserve Bank authorizes its Reserve Bank to pay for the payment order by crediting the amount of the payment order to its Reserve Bank account.

Article 4A, as set out in Regulation J, provides a comprehensive set of rules for funds transfers over Fedwire, including the following areas:

- The timing and enforceability of payment orders
- The effect of security procedures for verifying payment orders
- Liability for erroneous payment orders (including misdescription of the intended beneficiary's name or account number)
- Timing of acceptance of payment orders

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[18] See 5 U.S.C. § 553.

[19] Article 4A of the Uniform Commercial Code was developed and endorsed by the National Conference of Commissioners on Uniform State Laws (the NCCUSL), in conjunction with the American Law Institute, in 1990. The NCCUSL, formed in 1892, is a nonprofit association of legal experts from each state, the District of Columbia, the Commonwealth of Puerto Rico, and the U.S. Virgin Islands. The NCCUSL studies the laws of the states to determine which areas of law should be uniform nationwide, and promotes the principle of uniformity by drafting and proposing specific statutes in areas of law where uniformity between the states is desirable. The NCCUSL can only propose uniform or model statutes; no uniform or model law is effective until a body with rulemaking authority, such as a state legislature or federal agency, adopts it. The Board adopted the version of Article 4A endorsed by NCCUSL as part of Regulation J. Article 4A also has been adopted by the fifty states, the District of Columbia, Puerto Rico, and the U.S. Virgin Islands. If Article 4A as adopted in Regulation J differs from Article 4A as adopted by another jurisdiction, Regulation J controls with respect to Fedwire.

- Rejection of payment orders
- Cancellation and amendment of payment orders
- Obligations of a bank in executing an accepted payment order
- Liability of a receiving bank for erroneous or delayed execution of a payment order
- The sender's duty to notify the receiving bank with respect to an erroneously executed payment order
- The obligation of a sender to pay a receiving bank for an accepted payment order
- The obligation of a beneficiary's bank to pay the beneficiary
- Other miscellaneous issues.

1.2 Governing Agreements

Subpart B of Regulation J directs each Reserve Bank to issue an operating circular consistent with subpart B that governs the details of its funds transfer operations. Operating circulars are contracts between a Reserve Bank and an institution.

OC 6 has been issued in identical form by all Reserve Banks. Like Regulation J, OC 6 supersedes inconsistent provisions of state law. In addition, under Operating Circular 1 (Account Agreements) (OC 1), all accounts are subject to Federal Reserve policies, including the PSR policy.[20]

1.3 Other Applicable Laws

Insolvency Law
U.S. depository institutions and U.S. branches and agencies of foreign banks are subject to the liquidation provisions of applicable federal and state banking laws. The liquidation provisions of U.S. banking laws do not contain a zero-hour rule that would have the general effect of voiding a settled funds transfer over Fedwire involving an insolvent participant. The payment from the originator to the beneficiary should not be affected by the insolvency of an institution unless the institution is the originator and a court finds the payment void as a fraudulent conveyance, unlawful preference, or some similar inequitable conduct.

Laws of Non-U.S. Jurisdictions
Generally, the laws of non-U.S. jurisdictions are not directly applicable in disputes involving direct Fedwire participants. Moreover, the issue of whether the home country laws of a foreign-incorporated participant recognize netting arrangements in an insolvency context is not applicable because Fedwire is not a netting system. In addition, the Reserve Banks require all direct Fedwire participants to be chartered or licensed in the United States, with foreign banking organizations only permitted to access Fedwire through branches, agencies, or affiliates established in the United States. In case of insolvency, U.S. jurisdictions employ a territorial or "separate entity" liquidation scheme,

[20] The PSR policy is available at www.federalreserve.gov/PaymentSystems/PSR/.

in which a foreign bank’s U.S. offices are liquidated in a proceeding under U.S. law separate from the liquidation of the foreign bank in its home country.

Miscellaneous

Other U.S. statutes and regulations could affect Fedwire funds transfers, such as Office of Foreign Asset Control regulations (blocked transactions involving prohibited foreign countries or nationals), the Expedited Funds Availability Act (availability of electronic funds transfer proceeds deposited in transaction accounts), the Bank Secrecy Act (anti-money laundering and record keeping requirements), and the USA PATRIOT Act (counter-terrorism expansion of investigatory tools).

2 Core Principle II: *The system's rules and procedures should enable participants to have a clear understanding of the system's impact on each of the financial risks they incur through participation in it.*

2.0 Assessment of Compliance

The rules and procedures of Fedwire are clear and permit participants to understand the financial risks resulting from participation in the system. These rules and procedures fully define the rights and obligations of all involved parties and are available to the public. Fedwire observes Core Principle II.

2.1 Disclosure of Rules and Procedures

The FRA, Regulation J, OC 6, and the PSR policy comprise Fedwire's funds transfer rules and procedures. While the FRA and Regulation J provide a general legal framework, OC 6 sets forth the roles and responsibilities of participants and the Reserve Banks in Fedwire funds transfers. The PSR policy governs the Reserve Banks' extensions of daylight credit to participants. These documents and policies are widely available and appear on Federal Reserve web sites.

The process for changing the rules and procedures of Fedwire and the parties responsible for initiating changes are discussed in section 10.

2.2 Financial Risks in Fedwire

As with other RTGS systems, Fedwire processes transfers individually, as soon as they are received. Continuous real-time processing and the immediate settlement finality provided by Regulation J insulate receiving Fedwire participants from credit risk.[21]

To effect the smooth and efficient operation of Fedwire, the Reserve Banks provide daylight credit, in the form of daylight overdrafts, to most Fedwire participants. The provision of daylight credit converts the liquidity risk otherwise borne by participating institutions to credit risk borne by the Reserve Banks. Although Reserve Bank daylight credit eliminates almost all liquidity risk on Fedwire, the daylight credit limits prescribed by the Board's PSR policy can constrain some Fedwire participants' payment operations. Each participant is aware of these constraints and is responsible for managing its account throughout the day.

[21] Refer to the *Core Principles for Systemically Important Payment Systems*, as referenced in footnote 1, for additional background on credit risk in settlement systems.

Operational difficulties, whether in Fedwire itself or at participating institutions, can also contribute to financial risk. Although the likelihood of an operational problem is mitigated by the security and contingency policies outlined in section 7, an operational problem could lead to payment delays or necessitate operating-hour extensions. OC 6 clearly defines the roles and responsibilities of participants and the Reserve Banks in exceptional situations.

2.3 Federal Reserve Policy on Payments System Risk

The key objective of the PSR policy, first adopted and published in 1985, is to foster the safety and efficiency of payments and securities settlement systems. These policy objectives are consistent with (1) the Board's long-standing objectives to promote the integrity, efficiency, and accessibility of the payments mechanism, (2) industry and supervisory methods for risk management, and (3) internationally accepted risk-management standards and practices for systemically important payments and securities settlement systems. An integral component of part II of this policy is a program to control institutions' use of Reserve Bank intraday credit through the use of net debit caps, that is, maximum uncollateralized overdraft positions and daylight overdraft fees.

The PSR policy is further described to the financial community and the public in the *Guide to the Federal Reserve's Payments System Risk Policy* and the *Overview of the Federal Reserve's Payments System Risk Policy*.[22] These documents provide detailed descriptions of how to comply with part II of the PSR policy, concerning the provision and use of intraday credit.

Through continual enforcement of part II of the PSR policy, including contacts with participants and the monitoring of overdraft usage, the Reserve Banks assess account holders' awareness of the PSR policy.[23] Moreover, the Reserve Banks offer account holders training on both the intraday credit aspects of the PSR policy and account management tools.

2.4 Operating Circular 6 (Funds Transfers through Fedwire)

OC 6 consists of detailed rules regarding funds transfers over Fedwire and several appendixes setting out model agreements to be executed by an institution in order for that institution to use Fedwire. Among other things, the rules in OC 6 set out operating hours, address security procedures, specify format and media requirements for payment orders, identify messages that are not payment orders, and specify charges for funds transfer services.

OC 6 also establishes that, regardless of which Reserve Bank maintains an institution's online connection or initiates offline transfers to or from the institution, payment orders sent by an institution are deemed to be sent to the Reserve Bank holding the institution's

[22] The Policy, Guide, and Overview are available at www.federalreserve.gov/PaymentSystems/PSR/.
[23] Account holders are defined in OC 1.

account. Before issuing a payment order to, or receiving a payment order from, a Reserve Bank, a sender or receiving bank must execute with the Reserve Bank holding its account an agreement (in the form appended to OC 6) regarding the security procedures to be used by the Reserve Banks to verify the authenticity of a payment order over Fedwire.

As provided in OC 6, participating institutions may request an extension of Fedwire hours, which may be granted either when Fedwire network equipment fails or when there is a significant operating problem at a bank or major dealer and as a result the Federal Reserve Bank of New York, or its designee, deems the extension necessary to prevent a significant market disruption.

The roles of the Reserve Banks and participants in an emergency situation are also set forth in OC 6. Contingency guidelines are also provided to participants.

2.5 Notification of Operating Hour Extensions and Operational Outages

Online Fedwire participants receive information about Fedwire operational issues, including extensions and problems experienced by major customers. The Reserve Banks post this information to their financial services website, www.frbservices.org, and have the ability to disseminate additional messages to their online customers.

3 Core Principle III: *The system should have clearly defined procedures for the management of credit risks and liquidity risks, which specify the respective responsibilities of the system operator and the participants and which provide appropriate incentives to manage and contain those risks.*

3.0 Assessment of Compliance

Credit and liquidity risks to Fedwire participants are managed principally through immediate payment finality and the provision of intraday credit. In addition, through the use of credit limits, assessment of monetary charges, and monitoring and collateralization requirements, the Reserve Bank provides incentives for the management of these financial risks. Fedwire observes Core Principle III.

3.1 Management of Credit Risk

3.1.1 Credit Risk to Participants

Funds transfers over Fedwire settle in central bank money with immediate finality and, as a result, credit risk to the receiving institutions is eliminated. Sending institutions, however, may face the operational risk of erroneous funds transfers because of these characteristics.

3.1.2 Credit Risk to the Central Bank

To the extent a Reserve Bank provides daylight credit to a Fedwire participant, it exposes itself to direct credit risk from that participant. If that participant were to fail and be closed before it extinguished its daylight overdraft, its Reserve Bank could face a financial loss. The PSR policy attempts to control and mitigate these exposures while providing sufficient liquidity to account holders for making payments.

Part II of the PSR policy, adopted in 1985 and modified subsequently, sets out the Federal Reserve's rules regarding the use of Reserve Bank intraday credit or daylight overdrafts. The policy requires all institutions incurring daylight overdrafts in their Reserve Bank accounts to establish a maximum limit on uncollateralized daylight overdrafts ("net debit cap"), based on a multiple of the institution's risk-based capital. Only those institutions eligible to use the discount window, the Reserve Bank's overnight credit facility, may incur daylight overdrafts.[24] All net debit caps are granted at the discretion of the Reserve Banks.[25]

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[24] Discount window access is governed by the Board's Regulation A (12 CFR § 201). Procedures for access to the discount window are provided at www.frbdiscountwindow.org.

[25] Net debit caps are calculated by applying a cap multiple from one of six cap classes (zero, exempt-from-filing, de minimis, average, above average, and high) to a capital measure. The different cap categories correspond to different degrees of permissible intraday credit usage. The different cap categories and selection processes are described in detail in the *Guide to the Federal Reserve's Payments System Risk Policy*. See www.federalreserve.gov/PaymentSystems/PSR/.

Net Debit Caps

One way that the Reserve Banks manage their credit risk is through periodic and ongoing assessments of institutions' financial condition. Institutions that have access to the highest levels of daylight credit must assess annually their financial condition and operating environment. Net debit caps for these institutions generally are based on creditworthiness, as determined by the institutions' capital adequacy and most recent supervisory rating. Moreover, these institutions must monitor and control their customers' use of daylight credit. Institutions with unsatisfactory creditworthiness may not use Reserve Bank intraday credit.

In addition, the Reserve Banks have developed extensive guidelines to monitor internally the condition of institutions that have access to Reserve Bank intraday credit. These guidelines, known as the "condition monitoring" guidelines, establish standard criteria and practices used by the Reserve Banks for account risk management. These criteria help identify institutions that present high potential risk to the Reserve Banks and that, as a result, require special controls and monitoring. The Reserve Banks may decrease or reduce to zero an institution's net debit cap. Reserve Banks may also choose to monitor an institution's payment activity in such a way that if an outgoing Fedwire funds transfer exceeds the institution's available funds, the transfer will not be processed and may be immediately rejected back to that institution.

Collateral

The PSR policy generally does not require institutions to pledge collateral to the Reserve Bank to secure daylight overdrafts. The PSR policy allows certain institutions to pledge collateral for the specific purpose of gaining additional daylight credit beyond a net debit cap. In addition, the Reserve Bank may require institutions that pose exceptional risk, such as those in weakened financial condition or in imminent danger of failure, to pledge collateral to secure any daylight overdrafts.[26]

Even though the PSR policy does not require the explicit collateralization of most daylight overdrafts, a significant amount of the Reserve Banks' intraday credit exposure is secured by collateral. Regulation J provides that, to secure any overdraft, as well as any other obligation due or to become due to its Reserve Bank, each sender, by sending a payment order over Fedwire, grants the Reserve Bank a security interest in all of the sender's assets in the possession of, or held for the account of, the Reserve Bank. The security interest attaches when an overdraft or other obligation becomes due and payable. Thus, any of the sender's assets that are in the possession of, or held for the account of, a Reserve Bank secure the sender's daylight overdrafts, up to the value of those assets.[27]

[26] For more information on the types and valuation of assets accepted for collateral purposes, see www.frbdiscountwindow.org.

[27] Similar to Regulation J, OC 1 explicitly states that to secure overdrafts an account holder grants to its Reserve Bank a security interest in all of the account holder's assets in the possession of any Reserve Bank. In addition, institutions desiring access to the discount window must execute the letter of agreement in Operating Circular 10 (Lending) (OC 10). Under OC 10, collateral pledged by an institution to secure discount window advances secures both intraday and overnight credit.

Daylight Overdraft Fees
Since 1994 the PSR policy has included a fee on daylight overdrafts. The intent of this fee is to moderate the use of daylight credit. The fee is set as an annual percentage rate. Initially, this rate was set at 24 basis points and was increased to its current level of 36 basis points on April 13, 1995. The overdraft fee is applied to a measure of average daily overdrafts for each institution less a deductible amount related to the institution's capital.[28]

3.2 Management of Liquidity Risk

3.2.1 Liquidity Risk to Participants

An institution's account balance, which includes both reserve and clearing balances, is available for settlement purposes throughout the Fedwire business day.[29] In addition, most Fedwire participants have access to Reserve Bank daylight credit. Although this intraday credit eliminates almost all liquidity risk in originating Fedwire payments, certain participants can be constrained from making payments by controls and monitoring that may be imposed by the Reserve Banks.

Daylight overdrafts must be extinguished by the end of the operating day. Daylight overdrafts can be extinguished by incoming payments to an institution's Reserve Bank account, including payments from financing obtained in the money markets, or borrowed funds from the Reserve Banks' discount window. To obtain a discount window loan, institutions must have executed the appropriate legal agreements with and pledged adequate collateral to its Reserve Bank. Daylight overdrafts are not automatically converted into discount window loans. An institution must contact its Reserve Bank and explicitly request the discount window loan. A discount window loan is made at the discretion of a Reserve Bank.

3.2.2 Liquidity Risk to Central Bank

Because the Reserve Banks have access to unlimited liquidity, the Reserve Banks do not face liquidity risk from Fedwire operations or the provision of intraday credit.

3.3 Tools for Managing Credit and Liquidity Risks

The Reserve Banks maintain a series of tools to manage the financial risk posed by Fedwire participants. These tools include an account balance monitor, a daylight overdraft reporting and pricing system, a collateral management system, and a database that aggregates supervisory, financial, and other information to assess risk and

[28] A detailed description of the fee and its calculation can be found in section IV of the *Guide to the Federal Reserve's Payments System Risk Policy*. See www.federalreserve.gov/PaymentSystems/PSR/.
[29] For more information on Reserve Bank accounts, see the *Account Management Guide* and the *Reserve Maintenance Manual* available at www.frbservices.org/OperatingCirculars/index.html.

creditworthiness.[30]

The Reserve Banks monitor, in real time, the payment activity and intraday account balances of certain institutions, including those deemed to pose heightened risk to the Reserve Banks, such as institutions in deteriorating financial condition or with a history of excessive overdrafts. If an institution that is being monitored sends any outgoing Fedwire funds transfer that exceeds the institution's available funds, the transfer is immediately rejected and sent back to that institution.[31] The institution can initiate the transfer again when sufficient funds became available in its account. Because only a small number of institutions are monitored in this way, it is mechanically possible, although not permitted under the policy, for most institutions to send payments in excess of their available funds, exposing the Reserve Banks to credit risk beyond institutions' net debit caps.

Fedwire participants can also monitor their intraday account balances to manage their use of intraday credit. The Reserve Banks provide a web-based monitoring tool, which provides real-time account balance summary of Fedwire funds and securities activity. Additionally, debits and credits resulting from an institution's non-Fedwire payment activity processed by a Reserve Bank, such as check and automated clearinghouse (ACH) activity, are captured periodically throughout the day by the monitoring tool.[32] The monitoring tool also provides information on an institution's opening balance, its net debit cap, and collateral, if any.

The Reserve Banks have another analytical tool to monitor institutions' overdraft activity and compliance with the PSR policy on an ex-post basis, as well as to calculate daylight overdraft charges. In addition, this tool produces various ex-post reports for institutions to monitor daylight overdrafts, prohibited overdrafts in excess of net debit caps, and account balances.

The Reserve Banks have additional tools related to overdraft activity that are not available to the participants. The Reserve Banks have a web-based application that integrates information that is needed to support risk-management decisions. This application provides ex-post access to information for monitoring the condition of institutions, automates the administration of certain risk-management policies, and provides advanced analytical tools to support credit risk management decisions.

In addition, the Reserve Banks support a collateral-management system, which is an automated collateral inventory and transaction-processing application used to monitor

[30] Monetary policy, bank supervision, or lending function personnel may only share confidential information with Reserve Bank financial services personnel when such action fulfills an important supervisory objective, preserves the integrity of the payment mechanism, or protects the assets of the Reserve Banks. Confidential information is only provided with the approval of senior management and on a need-to-know basis.

[31] Available funds are defined as an institution's account balance plus any available intraday credit.

[32] The time schedule for posting such debits and credits is outlined in the PSR policy, available at www.federalreserve.gov/PaymentSystems/PSR/.

collateral held primarily for discount window, PSR, and Treasury programs. The system supports the valuation of collateral pledged to the Reserve Banks. Fedwire participants do not have access to this system, but periodically receive reports regarding their collateral holdings from the Reserve Banks.

3.4 Incentives to Manage Credit and Liquidity Risks

Daylight Overdraft Fees
The daylight overdraft fee is a critical component of the Board's PSR policy. The Board believes that the fee encourages institutions to reduce and manage daylight overdrafts, thereby reducing overall credit risk to the Reserve Banks. From its inception, the fee was intended to create economic incentives for institutions that incur large daylight overdrafts to reduce and allocate more efficiently their use of daylight credit.

Overnight Overdrafts
Institutions that do not extinguish their daylight overdraft position by the end of the Fedwire operating day may be charged for an overnight overdraft. The rate charged on overnight overdrafts is generally four percentage points more than the effective federal funds rate on the date the overdraft occurred. In addition, the institution must make up reserve balance deficiencies subsequently by holding extra reserves.

Counseling
Institutions in sound financial condition that incur daylight overdrafts in excess of their net debit caps are contacted by the Reserve Banks and counseled to keep future overdrafts within the appropriate limits. Institutions that frequently exceed their net debit caps may be required to apply for a higher cap, if eligible, to increase their clearing balances, to pledge collateral, or to have payments monitored in real time.

4 Core Principle IV: *The system should provide prompt final settlement on the day of value, preferably during the day and at a minimum at the end of the day.*

4.0 Assessment of Compliance

As an RTGS system, Fedwire provides real-time, immediate finality. Fedwire observes Core Principle IV.

4.1 Final and Irrevocable Settlement

As discussed in section 1, Regulation J provides the legal foundation for settlement finality in Fedwire. Payment to the receiving participant over Fedwire is final and irrevocable upon the crediting of the receiving participant's account, or when the payment order is sent to the receiving participant, whichever is earlier. Payment orders generally are processed immediately following the Reserve Bank's receipt of a transfer message.

4.2 Rejected Transfers and Error Handling

Although Regulation J allows a Reserve Bank to reject a payment order for any reason, payment orders are generally accepted as long as security procedures are met and online messages conform to the proper message format. If an institution is being monitored by the Reserve Banks' account balance monitor (as described in section 3), the institution must also have available funds to make the payment. An institution that has a payment order rejected is usually informed of the rejection immediately. The intended receiving institution is not made aware of the rejection.

4.3 Bankruptcy

As discussed in section 1, U.S. banking and bankruptcy laws do not contain a zero-hour rule that would have the effect of reversing a settled funds transfer over Fedwire. The payment from the originator to the beneficiary should not be affected by the insolvency of an institution unless the institution is the originator and a court finds the payment void as a fraudulent conveyance, unlawful preference, or some similar inequitable conduct.

5 Core Principle V: ***A system in which multilateral netting takes place should, at a minimum, be capable of ensuring the timely completion of daily settlements in the event of an inability to settle by the participant with the largest single settlement obligation.***

As an RTGS system, Fedwire does not allow the multilateral netting of payment orders. Core Principle V is, therefore, not applicable.

6 Core Principle VI: *Assets used for settlement should preferably be a claim on the central bank; where other assets are used, they should carry little or no credit risk and little or no liquidity risk.*

6.0 Assessment of Compliance

Fedwire effects the transfer of account balances held at a Reserve Bank. Therefore, all Fedwire transfers are by definition settled in central bank money. Fedwire observes Core Principle VI.

7 Core Principle VII: *The system should have a high degree of security and operational reliability and should have contingency arrangements for timely completion of daily processing.*

7.0 Assessment of Compliance

Fedwire maintains a high degree of security and operational reliability. Stringent security standards protect Fedwire applications and participants' payment orders. Contingency operations are tested on a regular basis and operate effectively. Fedwire observes Core Principle VII.

7.1 Security Policy and Controls

Fedwire operates within the context of the Federal Reserve's overall information security program, consisting of defined policies and an architectural framework. This program is designed to protect information from loss or misuse, and thereby to minimize the risk of monetary loss, productivity loss, or embarrassment to the Federal Reserve. One component of the program is an information security policy that describes the procedures for maintaining confidentiality and integrity of information.

This policy requires each Reserve Bank with managerial responsibility for a business function, such as Fedwire, to complete an information-security risk assessment to determine that the appropriate levels of security controls are in place. Risk assessments must address the risk of monetary loss, productivity loss, and embarrassment to the Federal Reserve. The assessments consider both the likelihood and impact of the threats.

The applications, networks, and data centers that are critical to Fedwire rely on numerous security controls. These controls are routinely reviewed and enhanced.

The Reserve Banks outline security procedures for online and offline Fedwire funds transfers in their operating circulars and other administrative and security documents. Among the security procedures for online transfers are embedded protocols in the transmission hardware and software; identification codes, confidential passwords, and digital certificates used for access control; and traffic encryption across private or virtual private network connections. In addition, online participants must implement their own physical and logical security and management controls that appropriately protect the hardware, software, and access controls. Participants are also responsible for implementing any additional procedures set forth in the applicable security documentation provided by the Reserve Banks. Offline security procedures include the use of individual identification codes provided by the Reserve Banks and may involve call back or listen back procedures.

7.2 Operational Reliability

Fedwire reliability depends, among other things, on the availability of the Fedwire application, environmental applications, and the national communications network.

Fedwire is considered unavailable when customers cannot move funds into or out of their accounts because of a problem within the Reserve Banks' control, regardless of whether the problem is due to an application, environmental software, or the communications network. The availability standard for Fedwire is 99.90 percent of operating hours. In 2005, the Fedwire application was available for 99.97 percent of operating hours.[33]

7.3 Business Continuity

The Reserve Banks view Fedwire's business continuity as critically important. Fedwire meets or exceeds the recommendations published in the *Interagency Paper on Sound Practices to Strengthen the Resilience of the U.S. Financial System.* The Reserve Banks maintain multiple out-of-region backup data centers and redundant out-of-region staffs that support the data centers, Fedwire applications, and customer support. The Reserve Banks conduct multiple on-site and remote-site Fedwire recovery tests each year. Backup resources are also exercised regularly through periodic production rotation between sites.

Participant Responsibilities
As outlined in OC 6, Fedwire participants are responsible for developing their own contingency and recovery plans, such as backup computer and operations facilities, to ensure their ability to continue Fedwire operations in the event of an equipment failure or other operational disruption. The Reserve Banks require high-volume and high-value customers to participate in a minimum number of contingency tests each year, including tests from the customers' own backup sites. In 2005, for example, approximately seventy Fedwire participants were required to participate in three of four contingency tests, and approximately sixty-five additional Fedwire participants were required to participate in two of four contingency tests. The Reserve Banks also maintain multiple testing facilities that are available to all Fedwire participants. In addition, the Federal Financial Institutions Examination Council (FFIEC) has issued supervisory guidance to regulated financial institutions regarding business resumption and information systems contingency planning.[34]

[33] In 2006, through October, the Fedwire application has been available 100 percent of operating hours.
[34] The FFIEC prescribes uniform principles, standards, and report forms for the examination of financial institutions by the Federal Reserve, the Federal Deposit Insurance Corporation, the National Credit Union Administration, the Office of the Comptroller of the Currency, and the Office of Thrift Supervision and makes recommendations to promote uniformity in the supervision of financial institutions.

8 Core Principle VIII: *The system should provide a means of making payments which is practical for its users and efficient for the economy.*

8.0 Assessment of Compliance

Fedwire operates efficiently, providing high-quality, practical services to participants. Fedwire management regularly seeks user feedback regarding Fedwire services and systems, working to ensure future efficiency and practicality. Fedwire funds transfer prices are reviewed annually, according to the principles of the MCA, to ensure recovery of the cost of service provision thereby encouraging private-sector competition.[35] Fedwire observes Core Principle VIII.

8.1 Economic Benefits

The creation of Fedwire in 1918 substantially reduced the cost of interbank settlements and continues to contribute to economic efficiency today. Upon its creation, Fedwire helped to reduce and eliminate the regional exchange rates for the U.S. dollar that existed within the United States before 1918. Furthermore, Fedwire reduced transaction costs for making interbank payments, particularly those payments associated with interbank lending and monetary policy.[36] Moreover, through immediate finality and settlement in central bank money, Fedwire plays a key public policy role by helping to ensure a stable and reliable payment system and by minimizing systemic risk.

8.2 Pricing Policy and Competition

The United States Congress reaffirmed its intention that the Federal Reserve promote an efficient payment system through the passage of the MCA. The MCA, designed in part to encourage competition between the Reserve Banks and private-sector providers of payment services, required the Board to develop a set of pricing principles, and to use those principles to set fees for certain Reserve Bank services, as outlined in the MCA. The MCA requires the Board to set service fees that, over the long run, recover the actual costs incurred to provide the services, as well as imputed costs the Reserve Banks would have incurred and imputed profits they would have expected to earn if they were private-sector firms.[37] The pricing principles adopted by the Board added to the aggregate cost-recovery objective specified in the MCA a more stringent objective of full cost recovery for each service line, such as Fedwire.[38] These requirements promote competition and economic efficiency by placing the Reserve Banks in a situation more comparable to private institutions.

Since 1999, Fedwire funds transfers have been priced using a volume-based fee schedule. This policy was established to reflect more accurately the cost structure of and demand

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[35] See 12 U.S.C. § 248(a).
[36] See Kenneth D. Garbade and William L. Silber, "The Payment System and Domestic Exchange Rates: Technological versus Institutional Change," *Journal of Monetary Economics*, Jan. 1979, v5: 1, p 1-22.
[37] See www.federalreserve.gov/boarddocs/press/other/2005/20051012/attachment.pdf.
[38] See www.federalreserve.gov/paymentsystems/pricing/principles.htm.

elasticity for Fedwire services. In particular, Fedwire is characterized by high fixed costs and low marginal costs. To have Fedwire fees more accurately reflect this cost structure while maintaining full cost recovery, a three-tier block-declining price schedule was implemented. This type of structure remains in place today. Fedwire participants pay both for originating and for receiving transfers. Offline participants are assessed a surcharge to initiate or receive a funds transfer. This surcharge reflects the resource costs of handling offline transfers.

The Reserve Banks also charge connection fees to recover costs associated with communications infrastructure provided for online participants. Connections are priced by line speed and type.[39]

8.3 Cost Efficiency Measures

Over the past decade, the Reserve Banks have undertaken a number of initiatives to improve the efficiency of Fedwire. During the mid-1990s, Fedwire processing was consolidated from twelve primary sites to one primary site, and Fedwire applications were upgraded to operate more efficiently.

In 1999, the Reserve Banks consolidated offline processing from twelve to two sites. Offline processing requires extensive manual processing on the part of the Reserve Banks.

Overall these changes significantly reduced the cost of providing Fedwire services. Between 1996 and 2005, total Fedwire costs have declined more than 20 percent. Fedwire use grew about 60 percent over the same period. Together, these effects allowed for a 59 percent reduction in service fees.[40]

8.4 Service Practicality

The Reserve Banks strive to ensure the efficiency of Fedwire by providing high-quality, practical services to Fedwire participants. Through the availability of a variety of Fedwire access vehicles, including computer interface connections for high-volume institutions, FedLine Advantage connections for moderate-use institutions, and offline services for low-volume users, the Reserve Banks allow participants to match connection needs and costs appropriately.

In addition, service practicality has been enhanced by extending operating hours and expanding the Fedwire format. In 1997 and 2003, the Reserve Banks extended Fedwire's operating hours from ten hours to eighteen hours and twenty-one and a half hours, respectively. This change increased overlap of Fedwire's operating hours with foreign markets and helped reduce foreign exchange settlement risk. In 1996 and 2002, the

[39] See www.frbservices.org for more information on electronic access fees.
[40] See www.federalreserve.gov/BoardDocs/Meetings/2004/20041104/2005RepricingMemo.pdf for more information on service fee reductions.

Reserve Banks modified the format of Fedwire transfer messages to allow for increased levels of straight-through processing. These changes helped eliminate the need for manual modifications of transfer messages that were received from or transferred to other communication networks or funds transfer systems.

8.5 User Consultations

The Reserve Banks, through the Reserve Banks' Wholesale Product Office (WPO), located at the Federal Reserve Bank of New York, regularly seek to improve the efficiency and practicality of Fedwire. The WPO uses external user groups to obtain information on best practices, participant business needs, demand for new features, and cost reduction.

National Fedwire Customer Advisory Groups
Two private-sector advisory groups (one for large institutions and another for medium-sized institutions) provide a mechanism for ongoing communication and collaboration between the WPO, other Reserve Bank business functions, and representative Fedwire participants. The WPO uses these advisory groups to better understand customer demands. The advisory groups work closely with the WPO to suggest and describe potential changes and enhancements to Fedwire, identify and consider the likely implications of changes to the services, suggest and structure additional analysis or market research needed to evaluate potential changes to the services, and participate in the review of high-level specifications for changes and enhancements selected for implementation.

Other
The Reserve Banks and WPO periodically seek input on specific issues through one-on-one interviews with customers, customer surveys, discussions in focus group meetings, or meetings with corporate trade groups. The WPO also formally requests input on proposed operational changes from Fedwire participants. The mechanism for formal public comment is discussed in section 10.

In addition, consolidated business and technical customer support units provide support and problem resolution related to specific service issues, such as answering questions about how to use features of the service, solving problems, reconciling transactions, and establishing and testing electronic access connections. Information from these areas is used to improve Fedwire services.

8.6 Changes and Reforms in Process

In response to customers' business needs, the Reserve Banks have adopted new electronic access options for financial services, including Fedwire. In 2004, the Reserve Banks began offering access solutions that employ web-based access and IP technology. The Reserve Banks will complete the migration of wholesale services to IP technology when they migrate computer-to-computer participants to IP-based FedLine Direct℠

Message during 2007 and 2008.[41]

[41] FedLine Direct is a service mark of the Reserve Banks.

9 Core Principle IX: *The system should have objective and publicly disclosed criteria for participation, which permit fair and open access.*

9.0 Assessment of Compliance

Criteria for Fedwire access are grounded in the FRA and related Federal Reserve policies and are clearly disclosed in publicly available documents. These laws and policies act to ensure objectivity and fairness in Fedwire access. Fedwire observes Core Principle IX.

9.1 Access to Fedwire

An institution with an account at a Reserve Bank may access Fedwire subject to the conditions detailed in OC 6, Operating Circular 5 (Electronic Access), and the PSR policy.

9.2 Access to an Account at the Federal Reserve

Any depository institution, Federal Reserve member institution, or otherwise eligible institution, including a U.S. branch or agency of a foreign bank, may maintain an account with a Reserve Bank. Each separately chartered or licensed eligible institution may hold a single "master account," with the possibility of creating multiple subaccounts.[42] To obtain an account, an institution must execute an account agreement pursuant to OC 1, which outlines the terms and conditions for a master account.[43]

9.3 Termination of Access

Reserve Banks retain the right to limit their risk exposure. If an institution presents undue risk to a Reserve Bank, the Reserve Bank will generally follow a series of escalating steps to reduce its exposure to that institution. The PSR policy outlines these steps with respect to daylight credit and Fedwire. Reserve Banks may counsel the institution, discussing ways to reduce its excessive use of intraday credit. The Reserve Banks also retain the right to reduce unilaterally net debit caps, impose collateralization or clearing balance requirements, hold or reject Fedwire transfers, or in extreme cases limit the institution to originating only offline payment orders or prohibit it from using Fedwire altogether.

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[42] A subaccount is an information record of a subset of transactions that affect a master account. Subaccounts are for informational purposes only and do not constitute a separate legal debtor-creditor relationship between an institution and its Reserve Bank.

[43] Accounts and access are also available to U.S. government agencies, GSEs, foreign central banks and governments, and certain official international organizations for which the Reserve Banks act as fiscal agents. Services to these institutions are beyond the scope of this report.

10 Core Principle X: *The system's governance arrangements should be effective, accountable and transparent.*

10.0 Assessment of Compliance

The governance structure of Fedwire is effective, accountable, and transparent. The responsibilities of the Reserve Banks and the Board are clearly delineated in U.S. law and Board policies. Each Fedwire participant has a contractual relationship with a specific Reserve Bank. It is with this specific Reserve Bank that a participant establishes a Reserve Bank account and any debtor/creditor relationship. The Reserve Banks' Financial Services Policy Committee (FSPC) and the WPO provide strategic direction and operational management of Fedwire on a consolidated, national basis. All Reserve Bank actions, including the operation and management of Fedwire, are subject to the general supervision of the Board, providing accountability both to the Board and the general public. Moreover, in helping to design and in approving the governance structure of Fedwire, the Board has exercised care to avoid any actual or apparent conflict between the Federal Reserve's role as a financial service provider and its role as a regulator and lender. As outlined below, the Board makes its major payment system policies, and the underlying considerations, available for public notice and consideration. Fedwire observes Core Principle X.

10.1 Policy and Decision Making Structure

As a government agency, the Board has broad policy-making powers, including the authority to issue certain regulations and exercise general supervision, over the Reserve Banks. Each Reserve Bank has a board of directors that is responsible for supervising the activities of that Reserve Bank. The Reserve Banks have selected the WPO to manage their Fedwire operations.

10.1.1 Board of Governors

Through the statutory authority described in section 1, the Board exercises general supervision over the Reserve Banks. The Board carries out these activities in two ways: issuance of regulations and policies, and general supervision of activities. The Board has issued regulations, such as Regulation J, under authority of the FRA.[44] In addition, Board staff reviews and approves any Reserve Bank operating circular changes or amendments. The Reserve Banks cannot issue or amend the circular if the Board raises an objection within ten days of receipt of the proposal.

To carry out its responsibilities, the Board has established two committees to provide direction on payment system issues. The Committee on Federal Reserve Bank Affairs (BAC) is charged with the Board's general supervision over Reserve Bank operations,

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[44] The Board issued Regulation J, subpart B pursuant to the Federal Reserve Act – paragraphs (i) and (j) of section 11 (12 U.S.C. § 248 (i), (j)), section 13 (12 U.S.C. § 342), section 16 (12 U.S.C. §§ 248 (o), 360), paragraph (f) of section 19 (12 U.S.C. § 464), and other laws.

budgets, and strategic plans. As such, the BAC oversees the Reserve Banks' provision and pricing of payments services. The Payments System Policy Advisory Committee advises the Board on issues related to risk management, the relationship between wholesale payment systems and financial markets, and medium- and long-term public policy issues surrounding innovation in the retail payments system. In addition to these two committees, the Board's staff, through the Division of Reserve Bank Operations and Payment Systems (RBOPS), provides support to the Board in exercising its general supervision of Reserve Bank payment services, providing analyses of payment issues, and developing payment policies and regulations. The Board has delegated authority to the director of RBOPS to approve certain types of proposals and expenditures. Other proposals and expenditures may be approved by the Board, or by the Reserve Banks under their own authority.

10.1.2 Federal Reserve Banks

The Reserve Banks serve as the operating arm of the central bank, providing a variety of services to financial institutions. As discussed in section 1, the FRA outlines the powers of the Reserve Banks in providing payment services. The Reserve Banks generally are responsible for maintaining customer accounts and relationships, including operating circulars and the operation of systems such as Fedwire. Management of these systems in accordance with the FRA and Board policies is the responsibility of the Reserve Banks.

Although stock in each Reserve Bank is held by member institutions, the legal organization of the Reserve Banks includes elements of both public and private accountability.[45] Each Reserve Bank has its own board of directors, representing public and private interests, including members appointed by the Board as well as members elected by stockholding institutions in each District. Each Reserve Bank, in carrying out the powers specifically granted in the FRA and such incidental powers as are necessary, is subject to the supervision and control of its board of directors. Although each Reserve Bank is a separate legal entity, the Reserve Banks often agree to conduct operations on a centralized or consolidated basis, and to implement consistent policies and services.

10.1.3 Federal Reserve Bank Committees

Cooperation among Reserve Banks is typically organized under the Conference of Presidents and Conference of First Vice Presidents, which, under their by-laws, may establish committees to coordinate activities among the Reserve Banks.[46] Two major committees established by the Conference of Presidents are the FSPC and the

[45] Member banks must subscribe to stock in their regional Reserve Bank. Additional information regarding the formation of the Reserve Banks can be found within *The Federal Reserve System: Purposes & Functions*. This is located on the Board's public web site at www.federalreserve.gov/pf/pf.htm.

[46] The Conference of Presidents, which includes the president of each Reserve Bank, meets to discuss policy issues of common interest to the Reserve Banks. The Conference of First Vice Presidents, which includes the first vice president of each Reserve Bank and a liaison from the Board and Federal Reserve Information Technology, meets to discuss strategic planning and operational issues of common interest to the Reserve Banks.

Information Technology Oversight Committee (ITOC).

Financial Services Policy Committee
The FSPC is responsible for the overall direction of financial services and related support functions for the evolving U.S. payment system. The FSPC is responsible for providing strategic leadership for the Reserve Banks' provision of Federal Reserve financial services. The Financial Services Council (FSC) is a standing committee established by the FSPC with the central purpose of addressing issues that have implications across more than one of the financial services provided by the Reserve Banks, as well as providing Reserve Bank leadership for the evolving U.S. payment system. The role of the FSPC is to provide strategic leadership for the Reserve Banks' provision of financial services.

The Board has delegated authority for certain policy decisions, mostly regarding the price- and service-change proposals, to the FSPC, which, in turn has delegated some of this authority to the product office directors. These committees develop financial services strategic goals and objectives on behalf of all twelve Reserve Banks.

<u>Wholesale Product Office</u>
The WPO is responsible for the daily operational management of Fedwire. The WPO's mission is to foster the integrity, efficiency and accessibility of the Reserve Banks' wholesale payments and settlement systems in support of domestic financial stability and economic growth in a global context. The WPO plays a leadership role in the development and enhancement of these payment systems within the domestic and international financial services communities. Changes to Fedwire services or prices are typically initiated through the WPO. The WPO is also responsible for initiating changes to operating circulars pertaining to Fedwire services, including OC 6.

The WPO submits periodic reports to the Conference of First Vice Presidents and the FSPC regarding service performance and trends. Specifically, the WPO submits its annual goals and budget objectives, with subsequent status reports of the office's progress to the Conference of First Vice Presidents for review and FSPC for approval.

Information Technology Oversight Committee
ITOC is responsible for setting strategic direction for Reserve Bank information technology, being the Reserve Bank approval body for all national IT standards and security policies, and overseeing the provision of national IT services to Reserve Banks and business functions by Federal Reserve Information Technology (FRIT).

<u>Federal Reserve Information Technology</u>
Most nationwide information technology activities are consolidated under FRIT. FRIT provides key technological support to the WPO and other financial services product offices through its Service Delivery and Architecture and Standards divisions. The Service Delivery division is FRIT's operating arm, providing centralized computer and network services to the Reserve Banks, including Fedwire applications and the national communications network. The Architecture and Standards division develops long-term

strategies for FRIT, and maintains Federal Reserve information technology standards.

10.2 Supervision and Audit

As prescribed by the FRA and Board policies, several types of supervision and audit are employed to ensure the effectiveness and efficiency of Fedwire.

10.2.1 Board Supervision

The Board is responsible for providing oversight and conducting necessary activities to maintain the public's confidence in the Federal Reserve as a prudent, well-managed, and effective public organization. For example, the FRA requires that the Board generally supervise and regularly examine each Reserve Bank.[47] The Board's RBOPS Division devotes significant resources to the general supervision of Reserve Bank operations to render an independent assessment of internal controls, assess compliance with organization policies and procedures, and evaluate the efficiency and effectiveness of Reserve Bank operations.[48]

10.2.2 External Audit

The Board engages a major public accounting firm to perform an annual audit of combined financial statements of the Board and the Reserve Banks. The firm also audits financial statements of each of the twelve Reserve Banks. The audit report is published in the Board's *Annual Report*. In 1999, Congress amended the FRA to codify this practice.[49]

The Government Accountability Office (GAO), a federal agency that acts as the investigative arm of the United States Congress, also audits the Board and the Reserve Banks at the direction of Congress. A list of audits or studies performed or under way by the GAO is available in the Board's annual *Budget Review*, which is sent to Congress.

10.2.3 Federal Reserve Bank Internal Audit

Each Reserve Bank has an internal audit function, directed by a general auditor, that is responsible for assessing the adequacy and effectiveness of the controls over (1) financial reporting, (2) efficiency and effectiveness of operations, and (3) compliance with laws and regulations. To promote independent and objective assessments, the general auditor reports directly to the Reserve Bank's board of directors through its audit committee. Each audit committee is responsible for assessing the effectiveness and independence of the Reserve Bank's internal audit function. The Board's RBOPS Division also assesses the performance of each Reserve Bank's internal audit function against Generally

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[47] See 12 U.S.C. §§ 248(j), 482.

[48] Information on the annual examinations can be found in the Board's Annual Report – 2005. This information is available on the Board's public web site at www.federalreserve.gov/boarddocs/rptcongress.

[49] See 12 U.S.C. §§ 248(j), 485.

Accepted Audit Standards developed by the Institute of Internal Auditors.

10.3 Consultation Process

In addition to the informal and user-group consultation processes outlined in section 8, the Board has also adopted formal procedures to obtain information and analysis from the public regarding proposed rules, regulations, policies, and substantive operational changes.

Federal Register

The Board uses, as appropriate, formal governmental procedures to obtain information and analysis from the public regarding proposed rules, regulations, policies, and changes to Fedwire that would have a significant longer-run effect. Promulgation of Board rules is subject to a federal statutory requirement for public notice and comment. In its rulemaking, the Board, as federal agency, is governed by the provisions of the APA. The APA generally requires that each federal agency provide notice to the public of a proposed rule making and an opportunity for the public to comment on the proposed rulemaking before it becomes effective. The notice of proposed rulemaking generally must be published in the Federal Register. In addition, the Board seeks public comment on major policy issues that are not necessarily "rules" under the APA.[50]

[50] Information regarding the *Federal Register* notification process can be found at www.access.gpo.gov/uscode.

11 Conclusion

11.0 Assessment of Compliance

This assessment concludes that Fedwire, the Reserve Banks' RTGS system, observes each of the nine applicable CPSS Core Principles. Core Principle V does not apply, because as an RTGS system, Fedwire does not allow for the multilateral netting of payment orders.