

June 1, 1998

General Collateral Finance (GCF) Repo Service

This bulletin outlines GSCC's new General Collateral Finance (GCF) Repo service that will allow our dealer members to freely and actively trade general collateral repos throughout the day without requiring intra-day, trade-for-trade settlement on a DVP basis. The concepts set forth in this bulletin stem from the collaborative effort of GSCC, its two clearing banks - The Bank of New York and The Chase Manhattan Bank - and industry representatives serving on GSCC's Repo Implementation Committee and its associated GCF Repo Working Groups.

The GCF Repo service will enable dealers to execute general collateral repos, based on rate and term, throughout the day on a blind-brokered basis. Standardized, generic CUSIPs established exclusively for GCF processing will be used to specify the acceptable type of underlying Fedwire book-entry eligible collateral, either U.S. Treasuries, Agencies or mortgage-backed securities.

Brokers will submit these GCF Repos to GSCC within 5 minutes of trade execution via a new terminal function. Upon receipt of data, GSCC will immediately report transaction details to dealers via a terminal dynamic display facility, and the GCF Repos will receive GSCC's settlement guarantee.

Submission cutoff will occur approximately 15 minutes after a pre-determined trading deadline, but not later than 15 minutes after the close of the securities Fedwire (normally 3:30 p.m.). Dealers will have until 3:45 p.m. to act to affirm or disaffirm trade data submitted against them by a broker; if they have not acted, the data will be automatically affirmed. GSCC will then conduct an afternoon net exclusively for GCF Repo activity, establishing a single funds borrower or funds lender requirement for each dealer in each security. Corresponding receive and deliver obligations will also be generated for the associated collateral movements. Funds borrowers will allocate acceptable securities (determined by the generic CUSIP) and deliver those securities versus payment to a GSCC account within their clearing bank in a tri-party-like arrangement. GSCC will then deliver those securities versus payment to funds lenders within the same clearing bank. All GCF Repo activity will settle between dealers and the GSCC within the dealers' clearing banks.

Initially, the GCF Repo service will be implemented on an intra-bank basis, meaning that a participating dealer will be able to trade GCF Repos only with other dealers using the same clearing bank. While an intra-bank approach does not provide for *maximum* liquidity, it should provide sufficient liquidity, as the number of GSCC repo netting members (currently 51) that clear at either The Bank of New York or The Chase Manhattan Bank is approximately evenly divided. Our ultimate goal is to implement an inter-bank service across multiple clearing banks that will enable members to trade GCF Repos without any

consideration of where their counterparty clears. (To refer to the section describing our Implementation Strategy, click [here](#).)

GSCC plans to implement the first phase of the GCF Repo service in late August, providing that the rules filing has been approved by the SEC and participants and clearing banks have satisfactorily tested the new service with GSCC. Participant testing is slated to begin the end of June.

GCF Repo Service Benefits

The GCF Repo service will bring the following benefits to the dealer community:

- **Increased Liquidity.** The service improves market liquidity by adding an additional borrowing resource to the current options (i.e., bank loans and tri-party repos). Liquidity will be further enhanced by providing to the dealer community open access to a larger number of funds providers when the service becomes available on an inter-bank basis.
- **Enhanced Ability to Trade General Collateral Repos.** This is accomplished by removing the current constraints on collateral allocation and notification on every transaction, allowing dealers to freely trade rate and term while having only one settlement on a net basis at the end of the day.
- **Additional Collateral Source.** The GCF Repo service provides an alternative vehicle for dealers to buy or sell collateral, finance positions, or swap collateral.
- **Risk Protection.** Through netting and novation, GSCC will become the legal counterparty to all GCF repos within minutes of execution, thereby eliminating counterparty risk. In addition to GSCC's current risk management procedures, dynamic risk assessment processes will be implemented to address any intra-day risk associated with this product.
- **Open Access.** The GCF Repo service will be available to a broad spectrum of industry participants - brokers, dealers, securities lenders, money borrowers, and any qualified clearing bank that provides clearance services to GSCC members.
- **Additional Balance Sheet Netting.** GCF Repos will be fully eligible for netting under FIN 41, and GCF Repos may be netted with other GSCC repo activity having the same settlement date (and conforming to other FIN 41 requirements, such as clearing bank requirements). This will further allow firms to add Fedwire book-entry eligible mortgage-backed securities to products that can be netted for balance sheet purposes. (Refer to Attachment E, Price Waterhouse opinion letter.)

Document Organization

This bulletin provides a detailed description of the GCF Repo service. Information has been organized into the following sections:

- I. Service Eligibility: Participant & Securities
- II. Broker Submission
- III. Trade Recording and Dealer Notification
- IV. Dealer Affirmation
- V. GCF Repo Netting and Terminal Position Display
- VI. Securities Allocation
- VII. Next-Day Return of Collateral
- VIII. Risk Management
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C. Dynamic Display Screens

D. Initial and Final Timeframes

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I. **Service Eligibility**

Participant Eligibility

To be eligible for the GCF Repo service, brokers and dealers must meet the qualifications for Repo Netting Membership as defined by GSCC's rules. In addition, dealer members will be required to designate, in writing, those brokers that are authorized to submit GCF Repo transactions on their behalf.

Members must additionally test with GSCC and demonstrate that they are able to receive output from GSCC pursuant to the communications links, formats, timeframes, and deadlines established for this service. In addition to output testing, brokers must also demonstrate their ability to submit GCF Repo input to GSCC. For specific guidelines for service participation, please contact Participant Services at (212) 412-8551/8541/8826.

Securities Eligibility

Securities eligible for the GCF Repo service will include Fedwire book-entry eligible U.S. Treasury, Agency, and mortgage-backed securities. GSCC will continuously review with its Repo Implementation Committee members and appropriate Bond Market Association committees the appropriateness of making eligible other types of securities.

Because the specific collateral is not known at the point of trade, brokers will submit all GCF Repos to GSCC using generic general collateral CUSIPs that denote the underlying product. It is expected that the initial types of generic CUSIPs that will be used for GCF Repo activity will denote the following categories: all Treasury securities, Treasury securities with a remaining maturity of ten years and under, all Fedwire-eligible Agency securities, and Fedwire-eligible fixed rate mortgage-backed securities. Again, GSCC will continuously review with its Repo Implementation Committee members and appropriate Bond Market Association committees the appropriateness of making other types of generic CUSIPs eligible for GCF Repos. For additional details regarding generic CUSIPs for GCF Repos, refer to Attachment A, the "Generic GCF Repo CUSIP Listing."

It should be noted that cash is an acceptable substitute for collateral in the event that the dealer is unable to come up with the required collateral at the end of the day. Further, all term GCF Repos are collateralized intra-day by cash until the allocation of securities each afternoon.

II. **Broker Submission**

All GCF Repos will be executed by dealers as money-fill transactions via eligible GSCC brokers on a blind-brokered basis¹. Trades will be submitted by the brokers within five (5) minutes of trade execution, and will have a single dealer on the repo side, matched to a single dealer on the reverse side. To facilitate this prompt submission, GSCC will implement a new terminal facility that will provide the following:

- **Large Trade Submission.** Brokers will be able to submit large GCF Repos to GSCC, having principal values (i.e. start amounts) of up to \$2 billion. This will facilitate timely submission by reducing the number of required submissions for large trades. For example, given the current maximum transaction size for DVP trades of \$50 million, for a \$2 billion GCF Repo, a broker would make a single entry rather than breaking the trade into 80 individual \$50 million pieces to satisfy both sides of the trade using the current method. (Note: The minimum transaction size for a GCF Repo will be \$1 million, with a \$1 million multiple requirement.)

- **Single Screen Entry.** Brokers will have the ability to simultaneously submit data for both the repo and reverse sides of the trade using a single screen.
- **Data Entry Short Cuts.** The screen design will further increase data entry efficiencies by requiring that brokers enter critical fields only. GSCC will automatically populate certain fields with default values, such as trade date, start date, etc., which brokers will not need to enter unless the actual information differs from the default values supplied by the system. The system will also automatically calculate the end money for the repo based upon start amount, term and rate.

A batch input facility will not be provided for GCF Repo input. GSCC is currently building an interactive facility to provide for real-time data submission.

The submission cutoff will occur 5 minutes after a pre-determined trading time, but not later than 15 minutes after the close of the securities Fedwire (normally 3:30 p.m.). GSCC will send an online terminal notification to its members 15 minutes prior to the system's close. Trades not submitted prior to the cutoff will not be eligible for netting and guaranteed settlement through GSCC.

GSCC will require that every participating broker provide its trading screen to GSCC on GSCC's premises, so that GSCC Operations staff can monitor trading. For additional details regarding broker submission, refer to Attachment B, "Broker Input Screen and Required Input Fields."

III. Trade Recording and Dealer Notification

GSCC will immediately record, as compared, all GCF Repos upon receipt of trade data from the brokers. This type of trade recording, called Broker-Assisted Processing, will replace the traditional matched comparison process. That means that both the repo and reverse sides of the transaction will be processed based solely upon broker input, without requiring the submission and matching of corresponding trade details from the dealer members.

By using input from a single, approved submission source (i.e., the brokers) to process GCF Repos, the intrinsic limitations and processing delays associated with two-sided comparison are avoided. This is especially important in order to effectively net each dealer's GCF Repo activity on a real-time basis, as opposed to the overnight process that is currently performed for regular DVP buy/sell and repo activity.

Upon receipt of trade data from the brokers, GSCC will immediately provide dealers with GCF Repo transaction details via a dynamic, real-time, on-line display. The most recent trades will be displayed in a window at the bottom of

these screens, while up-to-the-minute position information will be displayed at the top of the screen. Position information will be available at both the individual CUSIP level and the cumulative, overall level.

For additional details regarding dynamic display screens for dealers, refer to Attachment C, "Dynamic Display Screens."

IV. Dealer Affirmation

Dealers will have an obligation to promptly review trades and either affirm or disaffirm them. Affirming a transaction indicates that the dealer recognizes the trade and agrees to its terms. If a dealer disaffirms a trade, that means that the dealer does not know the trade, and the trade is cancelled on our books, the GCF position is automatically adjusted, and a notification is sent to the broker.

During the affirmation process, dealers will have the ability to provide their reference number. Entry of a reference number will result in the automatic affirmation of the trade. Any trade that has not been affirmed or disaffirmed by the close of business will be automatically affirmed by the system. Because prompt review of transactions is critical in a same-day processing environment, penalties for late dealer affirmation will be assessed once the service has been fully operational for a few months. GSCC will reserve the right to waive any and all penalties depending upon individual circumstances.

V. GCF Repo Netting and Terminal Position Display

GSCC will net all of the GCF Repos intra-day for each dealer into a single net funds settlement amount per generic general collateral CUSIP submitted. This funds amount is collateralized by a net GCF Repo securities position, and represents the aggregate net dollar amount borrowed by the repo dealer or loaned by the reverse dealer.

GCF Repo netting will consist of adding all of the carryover activity (i.e., previous term and previously submitted forward-starting activity that is starting today) for GCF Repos together with the current day's activity. In this way, positions associated with term repos would be re-netted each day with the dealer's current activity.

GSCC will provide netting results to the clearing banks and its netting dealer members. Clearing banks will be responsible for notifying their members regarding the allocation of collateral and the transfer of funds (refer to the next section, GCF Collateral Allocation). GSCC will carry every trade in its system, and will be responsible for maintaining a database of all financial data for the repos. This includes tracking all relevant terms of the transaction and insuring that the appropriate final settlement amounts are paid at the conclusion of the repo.

A real-time, on-line display will be provided to brokers, dealers, and the clearing banks over GSCC terminals to provide all transaction and position information necessary for the intra-day processing of GCF Repo activity. Brokers and dealers will therefore have the ability to view real-time position information, both at the CUSIP and overall position levels, on their terminals throughout the day. The bottom of these position screens will also include a revolving dynamic display of the most recent four transactions processed against that participant. The clearing banks will have the ability to monitor the positions of their clearing members using their terminal, and will also be able to monitor projected inter-bank position and funds movements, when inter-bank services for GCF are provided. (To refer to Attachment C, Dynamic Display Screens, click [here](#).)

VI. Securities Allocation

Dealers that are net borrowers of funds will be responsible for allocating the appropriate collateral (as defined by the generic general collateral CUSIP) to the clearing banks using whatever acceptable mechanism they mutually agree upon with the bank. Dealers must give priority to the allocation of GCF Repo collateral so that reallocation to the ultimate customer may occur promptly.

To encourage timely collateral allocation, GSCC will impose a penalty for collateral allocations made after 4:30 p.m. EST. These penalties will not be imposed initially, but will go into effect once the service has been fully operational for a few months. Allocations not made by 7:00 p.m. EST will be considered fails.

As noted in the Introduction, the GCF Repo service will initially be implemented within each participating clearing bank separately. Dealers will be limited to trading only with those dealers belonging to the same clearing bank. GSCC currently is engaged in discussions with staff of the Federal Reserve Bank of New York regarding the appropriateness of GSCC's proposed means for accomplishing "after-hours" inter-bank securities allocations. Assuming a satisfactory resolution of the issues involved, GSCC expects to expand the GCF Repo product to allow participating dealers to engage in GCF Repo trading with other dealers that use different clearing banks.

VII. Next-Day Return of Collateral

Securities received by dealers as the result of reverse GCF Repos (which will be received from a GSCC account on a tri-party-like DVP basis) should only be allocated to locations that are available for reversal before the opening of the securities wire on the next day. Examples of acceptable locations are overnight tri-party repos, hold-in-custody repos, and bank loans.

All GCF Repo positions will be reversed the next business day prior to the opening of the securities Fedwire. This next day reversal will occur for all GCF transactions regardless of the term of the transaction. It is imperative, therefore,

that participants not lock up collateral received in a GCF reverse in a term tri-party where collateral is not substituted daily. The term repos themselves will be fully collateralized intra-day by cash.

VIII. Risk Management

GCF Repo transactions, and resulting settlement obligations, will be subject to all of GSCC's existing, comprehensive risk management processes. This will enable GSCC to appropriately assess our members' overall, cumulative exposure as a result of their combined DVP buy/sell and repo activity and their GCF Repo activity. A brief summary of GSCC's risk management procedures with an explanation of how GCF Repo activity will be incorporated into these processes is provided below.

Interest Rate Mark-to-Market

GSCC employs a Forward Margin process to protect GSCC and its members against market value fluctuations in securities prices and repo interest rates for guaranteed trades from their submission date through to their settlement date. This is required because, in the event of a participant default, GSCC, as transaction guarantor and counterparty, must maintain funds sufficient to replace the defaulting member's settlement obligations at their current market value. Each day, all future-settling trades are therefore marked from contract value to market value. For repos, this mark-to-market includes the cost of financing from the current date to the scheduled end date. Forward Margin debits and credits are settled each day through GSCC's daily funds-only settlement process.

GSCC will perform a daily interest rate mark-to-market for all term GCF Repo activity to bring transactions to their current replacement value². The mark will result in the daily collection and pass-through of accrued repo interest to date, plus or minus the repo rate differential. The rate differential equals the difference between the contractual repo rate for the term and the GSCC replacement cost repo rate. Additionally, there will be a separate marking process for forward-starting GCF Repos that will be the same as the marking process currently employed for marking forward-starting DVP repos.

Each participant's net funds settlement amount stemming from GCF Repo activity will be incorporated into the net funds settlement amount for its regular cash DVP activity to avoid the need to conduct a second funds-only settlement.

Clearing Fund

GSCC requires that its netting members maintain deposits in the GSCC Clearing Fund account to provide adequate risk protection and liquidity in the event of a participant failure. The Clearing Fund guards against potential market exposure

that could occur between the current date and the liquidation date of the insolvent participant's obligations. This is accomplished by calculating the net effect of : 1) estimated daily changes in the value of the securities underlying each participant's transactions; 2) estimated daily fluctuations in repo rates for the participant's repo activity; and 3) the participant's estimated Funds Settlement exposure. All estimates of these exposures are based on an ongoing analysis of historical rate and price volatility and cover at least two standard deviations of all historical movements.

These three Clearing Fund components are summarized on the table below:

Component:	Based on Risk Related to:
Securities Liquidation	Potential changes in security values from now until liquidation.
Repo Volatility	Potential changes in repo interest rates during the remaining term of the repo.
Funds Adjustment (FAD)	Size of overall daily funds-only settlement values associated with all activity types.

GCF Repo activity will be included in all three Clearing Fund calculations, along with the member's other activity, effectively providing a cross-margin of each member's GCF and other DVP activity.

Securities Liquidation Component

The risk associated with security receive and deliver obligations is based on price volatility. If a participant were to default, GSCC would ensure that all of that participant's obligations settled. This would expose GSCC to differences in the current market and liquidation values. The Securities Liquidation Component accounts for this exposure. For GCF Repo activity, in order to provide appropriate protection for the market risk associated with the underlying collateral, GSCC will calculate the Securities Liquidation component based upon a representative portfolio of securities, as designated by each generic general collateral CUSIP.

Repo Volatility Component

While market exposure related to the underlying collateral is provided for in the Securities Liquidation component of the Clearing Fund, the risk pertaining to the interest amount is accounted for in the Repo Volatility component. The Repo Volatility component estimates the amount repo rates might change over the course of a repo. Calculations for this component are based on analysis of historical repo rate volatility.

Funds Adjustment (FAD) Component

The FAD portion of the Clearing Fund is based on each participant's average funds-only settlement amount. The relevant variable in this calculation is the size of the settlement amount. It does not matter whether the funds are collected or paid. The FAD component is the average of the absolute value of the 20 largest funds-only settlement obligations over the most recent 75 business days. As noted above, the mark associated with GCF Repo activity will be incorporated into the member's overall funds-only settlement requirement.

Intra-day Risk Protections

GSCC plans to manage intra-day risk by maintaining the capability to run Clearing Fund calculations multiple times throughout the day to assess the impact of significant changes in position on Clearing Fund deposit requirements, and making margin calls as necessary. Further, the calculation of net settlement positions arising from GCF Repo activity will be dynamic, allowing GSCC and clearing banks to perform real-time position monitoring.

Loss Allocation Procedure

GSCC has reviewed its loss allocation procedure in conjunction with the GCF Repo product and has determined that GCF Repo activity will be included in GSCC's existing loss allocation process.

IX. Trade Modification/Cancellation

Transaction Modification

The rules for trade modification are: 1) a broker may modify the identification number of the repo dealer and/or the reverse dealer; 2) brokers may not modify any other data on GCF Repos; rather, they must cancel and resubmit the trade; and 3) dealers may not modify any data on GCF repos; rather, they must cancel (or request cancellation of) the trade³.

The modification of an unaffirmed trade will result in the immediate replacement of the original trade, and all affected processing screens will be immediately updated accordingly.

Transaction Cancellation

The two basic rules for canceling GCF Repos are: 1) an unaffirmed trade may be unilaterally cancelled by either the broker or the dealer at any time during the processing day; and 2) a trade which has been affirmed, either by a dealer, or by the system as part of end-of-day processing, will require bilateral cancellation.

A unilateral cancellation of an unaffirmed GCF Repo by the broker will result in the immediate cancellation of both sides of the trade, and the corresponding adjustment of all associated cash and collateral positions.

A unilateral cancellation of an unaffirmed GCF Repo by a dealer will result in the cancellation of that dealer's side of the trade, including the corresponding adjustment of the associated cash and collateral positions. (The other dealer's side of the trade will remain intact.) The canceling dealer will be automatically replaced by the broker in the trade. The broker will carry the position and incur all associated responsibilities unless and until the broker submits a correcting entry (i.e., an entry where the broker enters a new single-sided transaction with the correct dealer to eliminate the broker's position). GSCC's settlement guarantee will remain in effect regardless of whether the broker carries the position, and GSCC will reserve the right to act on behalf of the broker, and, if necessary, arrange for financing of the trade on the broker's behalf.

For trades that have been affirmed by the dealer or by the system, cancellation must be bilateral (i.e., the dealer may request a cancel and the broker must approve the cancel or vice-versa). A dealer or broker request for cancellation of an affirmed trade that is not acted upon by the counterparty will require manual intervention by GSCC Operations to determine whether or not the trade should be canceled.

X. Machine-Readable Output (MRO)

GSCC has established a separate reporting stream to produce a full range of machine-readable output (MRO) for the GCF Repo product which will be substantially similar to the output currently provided to participants in conjunction with their regular cash and repo trading activity. MRO will be available to members each afternoon within one hour of the trading deadline for GCF Repo processing.

In designing the GCF Repo service, GSCC has made every attempt to limit the number and magnitude of changes made to existing MRO formats to accommodate the GCF product so as to reduce the development effort required by our members. Output specifications are currently available and may be obtained from GSCC Participant Services.

XI. Print-Image Reports

Print-image reports will also be made available to members through a separate reporting stream each afternoon within one hour of the trading deadline for GCF Repo processing. Nine reports will be generated in conjunction with the GCF Repo service: five existing reports, some with modifications, and four new reports. Members electing to use the new network access will have the ability to

view these reports on-line using GSCC's Archive Reporting Facility (to refer to "GCF Communications Alternatives," click [here](#)).

The five existing reports that will be generated are:

1. **The Contract Listing of Compared Trades** - This report lists all GCF Repos processed and automatically compared on the current date. The trade affirmation time has been added to this report, along with an indicator that the trade was processed based upon broker input alone. A list of modified xref numbers is provided in a section at the end of this report.
2. **The Uncompared Report** - This report lists all GCF Repos that are either pending cancellation, or for which requests for cancellation have been submitted.
3. **The Forward Margin Report** - This report lists all forward-settling GCF Repos and the forward margin due to/due from GSCC for each security. Grand totals across securities are provided in a section at the end of this report. (Note: Forward Margin will be collected the following business day as part of the Participant's daily funds-only settlement.)
4. **The Funds Settlement Statement** - This report shows the participant's total debit or credit funds settlement amount for the current day that stems from GCF Repo activity. This amount includes, among other things, the TAP, Forward Margin, Forward Margin Return and Forward Margin Interest associated with the member's GCF Repo activity. This amount will be included the following business day as part of the Participant's daily funds-only settlement.
5. **The (Afternoon) Netted Trade Summary** - This report lists all GCF Repos that are netted each day. Term GCF Repos enter the net each day, and are therefore listed on this report daily. All previously submitted GCF Repo trades are identified with an asterisk (*).

The four new reports that will be generated are:

1. **The Afternoon Collateral Lockup Report** - This report identifies either the net deliver or net receive position for each GCF Repo security in which the dealer has activity.
2. **The Projected Financing Report** - This report identifies the total amount of outstanding GCF Repo activity and the resulting net position for each future settlement date for each security in which the participant has activity.

3. **The Forward Starting Trades Report** - This report lists all GCF Repos having a future start date. It also provides the net repo or reverse amount for each start date.
4. **The Final Settlement Report** - This report lists all GCF Repos that are settling on the current report date, and also shows the associated net Transaction Adjustment Payment (TAP) for each security.

XII. **a name="_Ref420230868">Implementation Strategy**

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Our current understanding is that, if the Federal Reserve determines it is appropriate to make this after-hours window available (which determination will not be made until, among other things, after there has been a period for public comment on this proposal), it would not be implemented in the near future. GSCC has therefore developed a phased implementation plan that will provide most of the benefits of GCF Repo processing to its members in advance of the complete after-hours, inter-bank DVP implementation.

The implementation phases will be:

Phase 1: Intra-Bank Implementation

Initially, the GCF Repo service will be available exclusively on an intra-bank basis. That means that GCF Repos may be traded among only those dealer members that belong to the same clearing bank - either The Bank of New York or The Chase Manhattan Bank. When the service is first introduced, GCF transactions will be limited to a single CUSIP designating Treasuries under 10 years. In addition, a 2:00 p.m. (EST) trading deadline will be imposed. (Refer to Attachment D for a delineation of key timeframes.) These minor restrictions will enable GSCC to monitor GCF activity closely during the first few weeks of processing. GSCC will enforce trade reporting and affirmation deadlines, but will not initially implement its fine schedule for missed deadlines. Members will, however, be notified regarding their compliance to the schedule.

Phase 2: Use of Sub-Custodial Arrangements to Provide for Inter-bank Allocation of Securities

GSCC's goal is to operate the GCF Repo service on an inter-bank basis since all members do not clear at the same bank. It is likely that securities and cash positions will not balance within clearing banks (i.e., the net securities borrowed position across dealers will not match the net securities loaned position across dealers intra-bank), although the total net borrow amount will equal the total net loan amount across clearing banks. GSCC must therefore provide an acceptable mechanism for the allocation of collateral from one clearing bank (the net lender of securities) to another clearing bank (the net lender of funds).

Until an after-hours DVP mechanism to move collateral and cash across clearing banks is available, GSCC will work with The Bank of New York and The Chase Manhattan Bank to set up an arrangement pursuant to which each bank will act as the sub-custodian for the other. Under this arrangement, the clearing bank that is in a net lender of securities position will move GCF Repo collateral destined for dealers that clear at the other bank into a separate securities account for the benefit of the other bank. This will enable the other bank to book this collateral to the accounts of the dealers for which it clears.

Phase 3: After-hours Inter-bank DVP Collateral Movement (if approved)

As previously noted, GSCC's ultimate goal is to provide a DVP collateral movement capability inter-bank for the GCF Repo service, which will enable GSCC to make the service available to the broadest range of market participants and banks possible. Implementation of this phase would require the provision of an after-hours DVP "window" of time for such inter-bank collateral movements to be made over the securities Fedwire. The ability to provide this capability is currently being reviewed by GSCC, the staff of the Federal Reserve Bank of New York, and our clearing banks.

XIII. GCF Communications Alternatives

Existing Facilities

The Broker-Network facility currently used for regular cash DVP activity will also be utilized for MRO and Print Image output file transmissions from GCF. Different file numbers will be assigned to distinguish GCF output from regular output.

The Dial-in Terminal facility, which is currently available for regular cash DVP activity, will also support dealer screen access to GCF, and provide dynamic displays, transaction lists and trade affirmation capability. A GCF-specific telephone number will be provided.

New Network

GSCC has completed implementation of a new communications network that will provide members with expanded access to all GSCC services through a single

communications connection. This network will provide a member with batch, terminal, and screen report access to GCF, as well as access to the regular production system and all of GSCC's participant testing environments (GCF, regular production and Year 2000).

Further information concerning this network will be distributed shortly. For those wishing to take advantage of this new network immediately, please call Participant Services at (212) 412-8541/8551/8826.

XIV. Participant Testing

GCF Repo Output Specifications and a GCF Repo User Guide are currently available, and participants may begin testing with GSCC in late June.

To facilitate testing, and to provide our members with the opportunity to learn more about the new GCF Repo service, GSCC will also be conducting training sessions for Operations personnel in late June. These comprehensive sessions will cover all aspects of the GCF Repo service. GSCC will issue a letter to participants shortly that further describes these training sessions and provides a schedule of dates, times and locations.

In July, GSCC will also offer individual terminal training sessions to requesting participants. These sessions will review all terminal functions related to the new GCF Repo service, including dynamic display monitoring and trade affirmation. In addition, GSCC will separately train all of our inter-dealer broker members regarding GCF Repo transaction input, as well as dynamic display monitoring and other terminal functions.

Inquiries regarding participant testing and training for the GCF Repo product may be directed to GSCC Participant Services at (212) 412-8541/8551/8826.

XV. Attachments

The following is a list of Attachments to this document:

- A. GCF Repo Generic CUSIP Listing
- B. Broker Input Screen and Required Input Fields
- C. Dynamic Display Screens
- D. Key Timeframes
- E. Price Waterhouse Opinion Letter

XVI. Contact Information

Operations Issues:

Joe Grima, Managing Director

(212) 412-8566

Dave Buckmaster, Vice President

(212) 412-8881

Legal Issues:

Jeff Ingber, General Counsel and Managing Director

(212) 412-8637

Thomas F. Costa
Managing Director

Footnotes:

1. GSCC will consider expanding the GCF Repo service to include dealer-to-dealer trading at some point in the future when real-time processing capabilities have been established between dealers and GSCC.
2. Because all GCF Repos are done using generic CUSIPs, the underlying collateral will not be marked by GSCC; however, clearing banks are responsible for ensuring that allocated collateral conforms to the terms of the contract, and that the collateral value is equal to 100% of the principal value of the repo.
3. Additional details regarding modification and cancellation rules are contained in the GCF Repo User Guide, which may be obtained by contacting GSCC Participant Services. Modification and cancellation procedures will also be reviewed at the participant training sessions to be held in late June.

Attachment A

GCF Repo Generic CUSIP Listing

Description	Short Name	CUSIP
GCF U.S. Treasury Bills	BILL	371487AA7
GCF U.S. Treasury Securities Maturing in Less Than 1 Year	TU1	371487AB5

GCF U.S. Treasury Securities Maturing in Less Than 5 Years	TU5	371487AC3
GCF U.S. Treasury Securities Maturing in Less Than 10 Years	TU10	371487AD1
GCF U.S. Treasury Securities Maturing in Less Than 30 Years	TU30	371487AE9
GCF U.S. Treasury STRIPS	STRP	371487AF6
GCF U.S. Treasury Inflation Indexed Securities	TIP	371487AG4
GCF Non-Mortgage Backed U.S. Agency Securities	AGCY	371487AH2
GCF U.S. Agency Discount Notes	AGDN	371487AJ8
GCF U.S. Medium Term Notes	AMTN	371487AK5
GCF Fannie Mae & Freddie Mac Fixed Rate Mortgage Securities	FFFIX	371487AL3
GCF Fannie Mae & Freddie Mac Adjustable Rate Mortgage Securities	FFARM	371487AM1
GCF Fannie Mae & Freddie Mac CMOs	FFCMO	371487AN9

*GSCC's Repo Implementation Committee, in conjunction with the Funding Division of the Bond Market Association, has approved these securities for initial service implementation. As noted previously, GSCC will continuously review the appropriateness of making other types of generic CUSUPs eligible for GSC Repos with these entities.

Attachment B

Broker Input Screen and Required Input Fields

Broker Input Screen

GCF>>>Broker Trade Entry		Broker: 95XX	ACME	Repo Broker	Date: 03/25/19
Trade Ref:	1234567890123456	Txn:	GCFREPO	GSCC TID:	000012-032519
Other Ref:	1234567890123456	Role:	B	STATE:	COMP_P_SET_S
Substate :					
Trade Date:	10/28/1997	Start Money:	2,000,000,000.00		
Start Date:	10/28/1997	Rate:	6.5675		
End Date:	10/31/1997	Interest:	1,094,583.33		
Term:	3	Final Money:	2,001,094,583.33		
Repo Dlr Id:	9544	Name:	Exec Id:		Loc:
Revr Dlr Id:	9688	Name:	Exec Id:		Loc:
Security:	371487AD1	GCF U.S. Treasury Securities Maturing in Less Than 10 Year			
Action:	APR				

Required Input Fields

To facilitate rapid transaction entry (within 5 minutes of trade execution), brokers will only be required to submit the following seven fields on broker input:

1. **Trade Reference** - The broker's unique reference number for this trade.
2. **End Date** - The settlement date for the repo close leg.
3. **Start Money (Principal)** - The start leg settlement amount.
4. **Rate** - The repo rate for the GCF Repo transaction.
5. **Repo Dealer ID** - Participant Number of the dealer executing the repo (i.e., the dealer borrowing funds and delivering collateral).
6. **Reverse Dealer ID** - Participant Number of the dealer executing the reverse (i.e., the dealer loaning funds and receiving collateral).
7. **CUSIP** - The nine digit generic general collateral security identifier or short name designating the acceptable underlying collateral.

The following fields will be automatically populated with default data **which may be overridden by the broker**, as required:

1. **Trade Date** - The current date will automatically populate this field.
2. **Start Date** - The current date will automatically populate this field.
3. **Repo Exec. ID** - The information entered in the "Repo Dealer ID" field will automatically populate this field.

4. **Reverse Exec. ID** - The information entered in the "Reverse Dealer ID" field will automatically populate this field.
5. **Role** - Reserved for future use.
6. **Transaction** - Reserved for future use.

The following fields will be automatically calculated and/or populated by the system (these fields cannot be overridden by the broker).

1. **GSCC TID** - GSCC's unique transaction identifier, automatically assigned to a new trade by the system.
2. **Final Money** - The system will automatically calculate the close leg settlement money for the repo using start money, rate and term (based on Start Date and End Date).
3. **Security Description** - Automatically displayed by the system based upon CUSIP submitted.
4. **Repo Dealer's Name** - Automatically displayed by the system based upon the ID entered in the "Repo Dealer ID" field.
5. **Loc** - The clearing location (i.e., clearing bank) of the repo dealer.
6. **Reverse Dealer's Name** - Automatically displayed by the system based upon the ID entered in the "Reverse Dealer ID" field.
7. **Loc** - The clearing location (i.e., clearing bank) of the reverse dealer.
8. **Term** - Total number of days that the repo will be outstanding, automatically calculated and displayed by the system.
9. **Interest** - The total repo interest (i.e., the difference between the repo start and end money) automatically calculated and displayed by the system.

Attachment C

Dynamic Display Screens

The GCF CUSIP Position Monitor Screen

GSCC	GCF CUSIP Position Monitor	Pending Affirm:	1	Time:	12:24:01
Participant:	95XX XYZ Securities Corp	Affirmed:	2	Remaining:	02:35:59
Security:	371488AB3 U.S. Treasuries	Cancel Request:	0		
		Cancelled:	1		

	Reverse		Repo		Net		
	\$MM	#	\$MM	#	\$MM	T	#
Starting & Term	4	134	2	123	2	RV	257
New Overnight	0	0	0	0	0		0
New Term	1	1	28	3	27	RP	0
Net Today	1	1	28	3	27	RP	4
To Collateralize	5	135	30	125	25	RP	261

New Forwards	0	0	0	0
Prev Forwards	1	25	3	52

Time	Cusip	T	Trade	Start	End	Amount	Rate	Contra	Status
12:24	371488AB3	RP	10/15/97	10/15/97	10/20/97	25	5.1250	950B	PAF
12:10	371488AB3	RP	10/15/97	10/15/97	10/31/97	1	5.2500	950C	AFF
11:24	371488AB3	RP	10/15/97	10/16/97	11/30/97	2	5.6375	950B	AFF
11:23	371488AB3	RV	10/15/97	10/16/97	11/30/97	1	5.6375	950B	CAN

The GCF Overall Position Monitor Screen

GSCC	GCF Overall Position Monitor	Pending Affirm:	1	Time:	12:24:01
Participant:	95XX XYZ Securities Corp	Affirmed:	2	Remaining:	02:35:59
		Cancel Request:	0		
		Cancelled:	1		

Cusip	Description	Today		Previous		Net	
		\$(MM)	T	\$(MM)	T	\$(MM)	T
A) 371488AB3	U.S. Treasuries	25	RP	2	RV	23	RP
B) 371488AC1	Agencies	1	RP	0		1	RP
C) 371234BB1	FED Mortgage Backed	2	RP	0		2	RP
Overall Net		28	RP	2	RV	26	RP

Time	Cusip	T	Trade	Start	End	Amount	Rate	Contra	Status
12:24	371488AB3	RP	10/15/97	10/15/97	10/20/97	25	5.1250	950B	PAF
12:10	371488AC1	RP	10/15/97	10/15/97	10/31/97	1	5.2500	950C	AFF
11:24	371234BB1	RP	10/15/97	10/16/97	11/30/97	2	5.6375	950B	AFF
11:23	371234BB1	RV	10/15/97	10/16/97	11/30/97	1	5.6375	950B	CAN

The Clearing Bank Monitor Screen

GSCC	Bank Position Monitor			Time:	12:24:01
Bank:	GCF Bank & Trust			Remaining:	02:35:59

Cusip	Description	Today		Previous		Net	
		\$(MM)	T	\$(MM)	T	\$(MM)	T
A) 371488AB3	U.S. Treasuries	285	RP	230	RV	55	RP
B) 371488AC1	Agencies	97	RP	105	RV	8	RV
C) 371234BB1	FED Mortgage Backed	155	RP	150	RV	5	RP
Overall Net		537	RP	485	RV	52	RP

The Clearing Bank Dealer Position Monitor Screen

GSCC	Bank Dealer Position Monitor	Pending Affirm:	1	Time:	12:24:01
Dealer:	95XX XYZ Securities Corp	Affirmed:	2	Remaining:	02:35:59
		Cancel Request:	0		
		Cancelled:	1		

Cusip	Description	Today		Previous		Net	
		\$(MM)	T	\$(MM)	T	\$(MM)	T
A) 371488AB3	U.S. Treasuries	25	RP	2	RV	23	RP
B) 371488AC1	Agencies	1	RP	0		1	RP
C) 371234BB1	FED Mortgage Backed	2	RP	0		2	RP
Overall Net		28	RP	2	RV	26	RP

(NOTE: Values shown on the dynamic display screens represent millions. For example, a 25 on a dynamic display screen represents \$25,000,000.)

Attachment D

Initial Timeframes

- 8:00 a.m. Begin Accepting GCF Data for Current Day. Brokers Must Submit Trades within 5 Minutes of Execution.
- 10:00 a.m. Dealers Must Begin Affirming or Disaffirming (DKing) Trades within a Half Hour of Trade Entry⁴.
- 10:30 a.m. Deadline for Dealer Affirmation of All Transactions Entered Prior to 10:00 a.m.
- 1:00 p.m. Dealer Affirmation Timeframe Shifts from within One Half Hour of

- Trade Entry to within 10 Minutes of Trade Entry⁵.
- 2:00 a.m. Cutoff for GCF Repo Trading. Notification to Dealers that Auto Affirmation by GSCC Will Occur in 15 minutes.**
- 2:05 p.m. Cutoff for GCF Repo Data Submission by Brokers.**
- 2:15 p.m. Dealer Cutoff for Trade Affirmation/DK/Cancellation.**
All Unaffirmed Trades Automatically Affirmed by GSCC⁶.
Formal Notification of Final Position to Clearing Banks and Dealers via Terminal.
Allocation begins.
- 2:50 p.m. End-of-Day Output Generated for Dealers and Clearing Banks.**
- 4:30 p.m. Deadline for Normal Allocation of Collateral to All Net GCF Repo Obligations⁷.
- 7:00 p.m. Final Cutoff for the Allocation of Collateral to All Net GCF Repo Obligations. (Trades Not Allocated by 7:00 p.m. Will Be Considered Fails.)

⁴ Any trade affirmed more than a half hour after submission will be subject to a fine of \$100. Any trade disaffirmed more than a half hour after submission will be subject to a fine of \$250.

⁵ After 1:00 p.m., any trade affirmed more than 10 minutes after submission will be subject to a fine of \$100. Any trade disaffirmed more than 10 minutes after submission will be subject to a fine of \$250.

⁶ Any trades affirmed through this process are subject to a fine of \$100.

⁷ This is one hour after the normal close of the securities Fedwire. Allocations made after 4:30 p.m. will be subject to a penalty equal to 25 basis points on the amount of the obligation. The penalty will be increased by 5 basis points for each 15 minute period after the deadline (up to an established cap) during which the commitment remains unfilled. **(NOTE: Fines will not be imposed initially upon service implementation.)**

Final Timeframes

- 8:00 a.m. Begin Accepting GCF Data for Current Day. Brokers Must Submit Trades within 5 Minutes of Execution.
- 10:00 a.m. Dealers Must Begin Affirming or Disaffirming (DKing) Trades within a Half Hour of Trade Entry⁸.
- 10:30 a.m. Deadline for Dealer Affirmation of All Transactions Entered Prior to 10:00 a.m.
- 1:00 p.m. Dealer Affirmation Timeframe Shifts from within One Half Hour of Trade Entry to within 10 Minutes of Trade Entry⁹.
- 3:30 a.m. Cutoff for GCF Repo Trading. Notification to Dealers that Auto Affirmation by GSCC Will Occur in 15 minutes.
- 3:35 p.m. Cutoff for GCF Repo Data Submission by Brokers.
- 3:45 p.m. Dealer Cutoff for Trade Affirmation/DK/Cancellation.

All Unaffirmed Trades Automatically Affirmed by GSCC.¹⁰

Formal Notification of Final Position to Clearing Banks and Dealers via Terminal.

Allocation begins.

- 4:00 p.m. End-of-Day Output Generated for Dealers and Clearing Banks.
- 4:30 p.m. Deadline for Normal Allocation of Collateral to All Net GCF Repo Obligations¹¹.
- 7:00 p.m. Final Cutoff for the Allocation of Collateral to All Net GCF Repo Obligations. (Trades Not Allocated by 7:00 p.m. Will Be Considered Fails.)

⁸ Any trade affirmed more than a half hour after submission will be subject to a fine of \$100. Any trade disaffirmed more than a half hour after submission will be subject to a fine of \$250.

⁹ After 1:00 p.m., any trade affirmed more than 10 minutes after submission will be subject to a fine of \$100. Any trade disaffirmed more than 10 minutes after submission will be subject to a fine of \$250.

¹⁰ Any trades affirmed through this process are subject to a fine of \$100.

¹¹ This is one hour after the normal close of the securities Fedwire. Allocations made after 4:30 p.m. will be subject to a penalty equal to 25 basis points on the amount of the obligation. The penalty will be increased by 5 basis points for each 15 minute period after the deadline (up to an established cap) during which the commitment remains unfilled.

Attachment E

Price Waterhouse Opinion Letter

For a copy of this letter, contact GSCC Participant Services at (212) 412-8826 / 8551 / 8541.