Task Force on Tri-Party Repo Infrastructure

Payments Risk Committee

Final Report

February 15, 2012

The Task Force on Tri-Party Repo Infrastructure was formed in September 2009 under the auspices of the Payments Risk Committee, a private sector body sponsored by the Federal Reserve Bank of New York. The Task Force membership includes representatives from multiple types of market participants that participate in the tri-party repo market, as well as relevant industry associations. Federal Reserve and SEC staff participated in meetings of the Task Force as observers and technical advisors.

Executive Summary

The Task Force on Tri-Party Repo Infrastructure ("Task Force") was formed in September 2009 to address potential systemic risk concerns associated with the infrastructure supporting the tri-party repo market. The Task Force membership includes representatives from multiple types of market participants that participate in the tri-party repo market, as well as relevant industry associations.[1]

The Task Force issued a report ("Task Force Report") in May 2010 containing sixteen recommendations, including a call for substantial operational enhancements to the tri-party repo market infrastructure.

Since that time, the Task Force has continued to meet regularly, with a focus on the implementation of its recommendations. As described in this document below, substantial progress has been achieved with regard to many of the recommendations. In December 2010, the Task Force published for consultation a paper outlining possible approaches to the detailed operational changes necessary to achieve the Task Force's recommendations in this regard.

The feedback from this consultation, including feedback from the Federal Reserve, led the Task Force to conclude that further work was necessary to more concretely specify a "Target State" infrastructure that would facilitate the full achievement of the Task Force's most important recommendation–the practical elimination of intraday credit associated with the settlement of tri-party repo transactions.

A primary purpose of this Final Report is to articulate this Target State vision for the benefit of all market participants and to describe at a high level the implementation programs developed by the two Clearing Banks, BNY Mellon and JPMorganChase ("Clearing Banks") and the Fixed Income Clearing Corporation ("FICC") to achieve the Target State vision. In addition, this Final Report summarizes overall progress to date regarding the Task Force's original recommendations.

In summary form, the key elements of the Tri-Party Repo Infrastructure Target State vision are the following:

- Non-maturing trades will not unwind. (***Reduces demand for intraday credit.)***

- Settlement process for new and maturing trades will feature one large initial batch to settle all trades confirmed and funded by 3:30 pm, with additional smaller batches settled continuously thereafter as needed for all other trades. Settlement of maturing repos will not cause the dealer to exceed their committed credit facility[2]. (***Balances desire for rapid settlement with need to accommodate late day activity.***)

[1] Federal Reserve and SEC staff participated in meetings of the Task Force as observers and technical advisors.

[2] Committed credit facilities (where offered) will be negotiated on a Dealer-by-Dealer basis, based on the risk profile of the Dealer and the credit policies and decisions of the Clearing Bank.

- A clear, agreed, common rule set will govern the settlement prioritization of each Dealer's trades across all Cash Investors, and will in the future be recorded in bilateral repo documentation. (***Ensures transparency of treatment.***)

- Collateral allocation and optimization processes will be further streamlined and automated. ***(Speeds settlement finality.)***

- Secured credit for the settlement of tri-party repo trades from Clearing Banks to be capped at 10% of a dealer's notional tri-party book when core elements of Target State are implemented. ***(Reduces supply of intraday credit.)***

- Legal foundation to be established for Clearing Banks to process multiple transactions simultaneously on their books, eliminating concerns with "momentary" credit exposures ***(Reduces demand for intraday credit.)***

- General Collateral Finance ("GCF") Repo settlement will be better integrated with tri-party repo settlement. (***Reduces demand for intraday credit.***)

Collectively, these elements will ensure that the tri-party repo market can function effectively and efficiently with substantially reduced extensions of intraday credit by the Clearing Banks.

The full implementation of this Target State vision—and therefore the practical elimination of intraday credit--will require more time than the Task Force originally estimated, and will constitute a multi-year project. We wish to highlight the progress that has already been achieved relative to the Task Force's recommendations.

- Mandatory three-way trade confirmation between Dealers, Cash Investors, and Clearing Banks was fully implemented across the tri-party repo market by the end of 2011.

- Both clearing banks have implemented automated collateral substitution capabilities, which are a critical prerequisite for the further operational enhancements needed to reduce the market's reliance on clearing bank extensions of intraday credit.

- The daily "unwind" of most tri-party repo transactions, excluding rehypothecated collateral, on the books of the Clearing Banks has been moved from early morning to mid-afternoon, reducing the duration of intraday credit extensions. Cash Investor liquidity management has adjusted to elimination of the morning unwind.

- There is improved clarity of responsibility regarding the credit and liquidity risks associated with tri-party repo transactions. Cash Investors have undertaken additional stress testing and contingency planning associated with potential Dealer defaults.[3]

[3] See the document prepared by the ICI to assist sponsors of money market funds in these areas, available online at http://www.ici.org/policy/current_issues/11_mmf_repo_checklist.

- Many dealers have undertaken efforts to reduce their reliance on short-term funding, in accordance with proposed Basel 3 liquidity regulations that will provide no recognition of reliance on short-term secured funding for less-liquid forms of collateral.

- Monthly reporting of activity in the tri-party repo market is now available online and covers the size of the market, collateral breakdowns, Dealer concentrations, and margin levels.[4]

Task Force members have put in considerable time and effort over the past two years to help bring about these improvements and to develop an improved understanding of what further changes are needed. The complex dependencies and relationships involved in the tri-party repo infrastructure have required the existence of a collective forum for discussions of their redesign.

At this time, however, the Federal Reserve has signaled that with the Task Force's articulation of a clear vision for the future state of the tri-party repo market, and the work that the Clearing Banks and FICC are planning to do to realize that vision, it will now be taking on oversight of service providers' implementation of the Target State vision from the Task Force. This approach was deemed the most appropriate given the Task Force was originally established to develop a set of recommendations to improve and mitigate risks related to tri-party repo transactions and was not organized with governance that would allow it to oversee and manage a complex multi-year implementation, particularly given the heavy reliance on technology investments by the individual Clearing Banks. The Clearing Banks, FICC, and other market participants have indicated that they intend to keep each other well informed of progress through regular updates and user forums. Task Force members have agreed that they are prepared to convene again should collective discussions on particular points be needed in the future.

The Task Force believes that implementation of its Target State vision over the next few years will provide a meaningful reduction in both the potential for systemic risk and the magnitude of the risk associated with the tri-party repo infrastructure. While changes in infrastructure alone cannot address all of the systemic consequences associated with a Dealer default or prevent a sudden loss of short-term Dealer funding, the Task Force believes that sharply reducing market participants' reliance on the Clearing Banks as providers of large amounts of intraday credit, and developing robust infrastructure that can safely and efficiently support the financing of appropriate collateral will yield significant reductions in the systemic risk profile of this important financing market.

Task Force Recommendation 1 – Operational Enhancements and Intraday Credit Exposure

The first and most significant of the Task Force's recommendations called for substantial operational enhancements to the tri-party repo market infrastructure, with the objective of achieving the "practical elimination" of intraday credit. The Task Force Report defined this as a point beyond which the residual amounts of intraday credit extensions are both relatively small and can be governed by transparent bilateral arrangements, known in advance to participants. In practice, the Task Force has targeted the objective of bringing intraday credit extensions by the Clearing Banks under a committed credit facility capped at no more than 10% of a Dealer's

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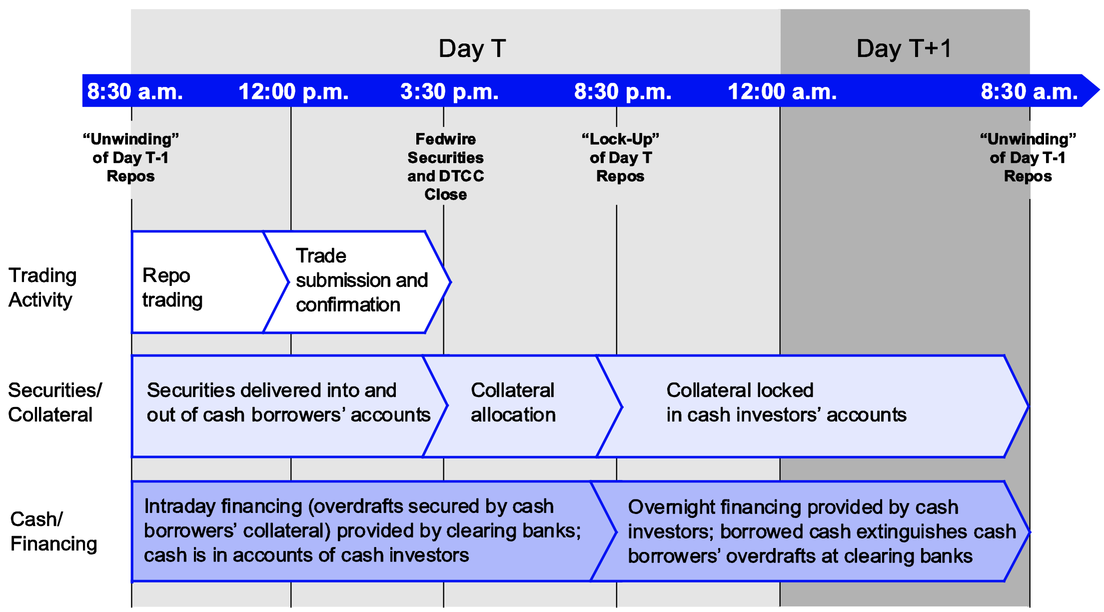
[4] The most recent report can be viewed at *http://www.newyorkfed.org/tripartyrepo/margin_data.html*

notional tri-party book.

It is helpful to briefly review the key elements of the tri-party settlement process up to May 2010 as well as the rationale for reducing the secured extensions of intraday credit by the Clearing Banks.[5] The most important characteristic of this process was that the unwind of all tri-party repo transactions (maturing as well as non-maturing) on the books of the Clearing Banks used to occur early in the morning. This required the Clearing Banks to extend intraday credit to the Dealers from 8:30 in the morning until all collateral allocations were finalized and "locked up," in the evening. This timing is illustrated in the following diagram, excerpted from the Federal Reserve's May 2010 White Paper ("Federal Reserve White Paper"), whose publication coincided with the publication of the Task Force Report and provided the Federal Reserve perspective on the issues addressed by the Task Force Report.

Key Elements of Current Daily Repo Process (May 2010)



Note: Timeframes are approximate.

The Task Force Report and Federal Reserve White Paper identified multiple benefits from achieving the practical elimination of intraday credit extended by Clearing Banks to Dealers.

- It would eliminate the potential need for a Clearing Bank to take a Dealer's entire portfolio onto its balance sheet in the event of an intraday default and would therefore greatly reduce the potential for a market loss of confidence in the Clearing Bank.

- It would reduce the potential for Cash Investors to assume that the Clearing Bank will always be there to unwind their trades, which has in the past resulted in some Cash

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[5] For additional background, see the May 2010 Task Force Report and the accompanying Federal Reserve White Paper on Tri-Party Repo Infrastructure Reform, both available at http://www.newyorkfed.org/banking/tpr_infr_reform.html.

Investors underestimating their credit and liquidity risk exposure and being insufficiently prepared to manage through a Dealer default.

- It would reduce or even eliminate the chance that a Clearing Bank would suddenly withdraw intraday credit from a Dealer that would otherwise be able to continue financing itself, thereby precipitating a default event at the Dealer.

The Task Force Report contained a series of specific sub-recommendations to its primary recommendation calling for operational enhancements and the practical elimination of intraday credit. By the end of 2011, these specific sub-recommendations had been achieved. The three specific enhancements called for in these sub-recommendations were the following.

- Implementation of market-wide, three-way, real-time point of trade confirmations, which was completed by the end of 2011. This marks the first time the $1.7 trillion tri-party repo market has an established and mandatory confirmation process which is a critical step towards eliminating intraday credit extensions.

- Implementation by the Clearing Banks of automated collateral substitution capability that allows for collateral within a tri-party repo transaction to be removed and used for settlement or other purposes, subject to valid collateral being substituted in its place. This functionality was implemented in June 2011 for all non-rehypothecated-collateral repo transactions that occur within the tri-party repo platform. The Clearing Banks are now developing this functionality for repo collateral that is rehypothecated into tri-party repo transactions. Collateral substitution helps to facilitate regular market activity as Dealers are able to access their tri-party repo portfolio through the day to provide liquidity.

- Agreement and implementation of a standard settlement time for maturing repo transactions. An afternoon settlement time, 3:30 pm, was agreed and implemented in August 2011 for all transactions except those supported by rehypothecated collateral. Tri-party transactions involving rehypothecated collateral continue to be unwound in the morning.

In addition to these enhancements, the Task Force supported and the Clearing Banks implemented in August 2011, a delay in the timing of the daily unwind of non-maturing trades from early-morning until 3:30 pm in the afternoon. In combination, these changes provide meaningful benefits relative to the rationales for reducing intraday exposures outlined above.

- The Clearing Banks and some market participants consider that the risk exposures have been *somewhat* reduced. Where previously the Clearing Banks executed the daily unwind early in the morning without knowledge of a Dealer's success in obtaining further financing, they will now observe a Dealer's trade confirmations and benefit from all information that can be gathered up to 3:30 pm before executing the daily unwind and exposing the Clearing Bank to the risk of intraday default.

- The amount of "clock time" that the Clearing Bank is exposed to the risk of a surprise intraday Dealer default is reduced from ten to twelve hours to three to five hours. Together with the introduction of three-way confirmation, this also means that the point at which the Clearing Bank would have to decide whether to extend intraday credit to a Dealer would occur after new financing trades should be confirmed, providing additional visibility on the state of a Dealer's new financing prior to this decision point.

- As a result of the additional visibility that Clearing Banks will have regarding a Dealer's financing situation prior to execution of the daily unwind, Clearing Banks would have no reason to withdraw intraday liquidity in circumstances where a Dealer can obtain sufficient financing in time for trades to be confirmed prior to 3:30pm. The Task Force believes this is an improvement over the situation prior to these enhancements.

- As a consequence of the events of the financial crisis and supported by the Task Force's work as well as that of individual Cash Investors and industry associations, Cash Investors now understand they are very likely to bear credit and liquidity risks in the event of a Dealer default.

- Successful implementation of the afternoon unwind has also been important in showing that Cash Investors have the means to manage their intraday liquidity needs without the daily return of cash provided by the morning unwind.

The operational enhancements and changes in business practice that were implemented during 2011 are important prerequisites for achieving material reduction of the potential systemic risk associated with extensions of intraday credit in the tri-party repo infrastructure. However, they have not been sufficient to achieve the Task Force's goal of limiting the clearing banks' provision of intraday credit to a committed amount capped at 10% of a Dealer's notional tri-party book.

Importantly, we note that the daily unwind has not yet been eliminated. This means that in many cases, the Clearing Banks are still extending discretionary credit equal to the full amount of each Dealer's notional tri-party book each day, albeit for a shorter period of time.[6] Therefore, in the view of the Task Force, while the net result of the industry's accomplishments to date is quite positive, the risk that a Clearing Bank might have to absorb the entire tri-party portfolio of a defaulting Dealer, or the risk that a Clearing Bank might suddenly withdraw or drastically change the terms of its provision of intraday credit to a Dealer has not yet been eliminated. Full completion of the Task Force's original objectives will require that intraday exposure be capped and committed, which will reduce the potential for either of these outcomes to zero.

At the time the Task Force Report was issued, the operational changes envisioned were believed by all members to be sufficient to allow for intraday credit to be capped at 10%. As noted, however, these changes have now been achieved and the Task Force recognizes that these changes alone will not be sufficient. This reflects the fact that at the time the Task Force Report was issued in May 2010, sufficient operational detail to allow for enforcement of a 10% cap had not yet been fully developed.

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[6] There are methods that Dealers might use to prevent unwinding their entire books each day. If Dealers limit the unwind of non-maturing trades to only those that require re-optimization or re-hypothecated collateral, then non-maturing trades can remain locked-up. Dealers can use the recently implemented auto substitution functionality to manage the collateral locked up in these trades.

Capping intraday extensions of credit at 10% of the notional size of Dealers' books requires that the daily settlement process for tri-party repo transactions is very efficient with respect to credit. This daily settlement process encompasses the maturation of existing repos, the initiation of new repos, and the potential optimization and re-allocation of collateral across new repos as well as ongoing term and open repo transactions. The Task Force had initially assumed that subsequent to the implementation of the other operational enhancements, that these processes would be "Dealer-directed". In other words, each Dealer would determine the order and timing in which maturing transactions were settled relative to the timing of new transactions being initiated and the existence of a 10% cap.

In a Dealer-directed settlement scenario, Cash Investors would make cash available to the Dealers for settlement purposes beginning at 3:30 pm for any incremental net cash obligation relating to new trades less maturing trades. Dealer intraday credit from the Clearing Banks would be considered to equal the actual cash debit in the Dealer's account less the amount of cash made available to the Dealers for settlement purposes by the Cash Investors and the cash associated with non-maturing trades. Cash and collateral tests would be performed to ensure that settlement of maturing trades by a Dealer would not lead to a violation of the 10% cap once all new and rolling transactions that had been funded by Cash Investors were settled. Dealers would have the information to settle maturing trades on a rolling basis as cash relating to new trades was made available to them by Cash Investors.

The Dealer-directed scenario was assumed to provide sufficient flexibility that Dealers would be able to manage settlements—on a rolling basis if necessary—with much less intraday credit. However, extensive discussions within the Task Force ultimately led to the rejection of the Dealer-directed approach on the following grounds.

- In the event of a partial settlement scenario—where a Dealer either does not have sufficient new financing to mature all existing trades or where there is uncertainty whether they will receive sufficient additional financing--the Dealer-directed approach was viewed as providing too much discretion to Dealers regarding which maturing trades would be settled first. Discussions with Federal Reserve staff emphasized their concerns that the lack of ex ante transparency on how stressful funding situations would be addressed could itself be destabilizing and reduce Cash Investors' ability to accurately assess their risk exposures.

- The need to accommodate the existing time-frame for settlement of GCF Repo and late-day repo trading meant that it would be difficult to accommodate all settlement activity and return cash on maturing trades within a one hour or even 90 minute window following 3:30 pm. The existing GCF Repo settlement process itself has been moved earlier, but in its present form still takes until 4:30 pm to complete, and only then could the Dealer-directed process truly begin to settle maturing trades in earnest.

The Task Force's recognition of these concerns with the Dealer-directed approach led it to develop a more comprehensive Target State vision for the tri-party repo settlement process that would fully address all of the needed attributes, in particular the need to cap intraday credit while providing clarity and transparency in the event of a partial settlement scenario.

Target State Vision and Rationale

The Task Force agreed on the seven elements outlined below as the critical components of the Target State for tri-party repo infrastructure. These elements have been shared with the Federal Reserve and the Task Force believes that implementation of these elements as described below would address outstanding systemic risk concerns with the tri-party repo infrastructure. However, it should be emphasized that these elements do not fully address every aspect of the Target State infrastructure and it is anticipated that Dealers and Cash Investors will continue to play an important role in shaping the precise details in conjunction with the Clearing Banks and FICC.

Non-Maturing Trades

Removal of non-maturing trades from the unwind will make a large difference in the amount of intraday exposure and is a priority the Task Force established for the Clearing Banks' plans. Non-maturing trades include both term trades that have yet to reach maturity as well as many open trades. Open trades will not mature unless one side or the other signals a desire for the trade to mature prior to 10 am. After 10 am, both sides have to signal agreement for the open trade to be included as a maturing trade.

From a risk reduction perspective, this element should reduce intraday exposure during the post-unwind period by 30% to 40% based on current trade populations. However, there is a potential for this proportion to be even larger, if Dealers follow the Task Force's recommendation to convert more of their existing overnight trades to term trades. Currently, non-maturing trades are included in the unwind due to the optimization needs of the Dealers. At both Clearing Banks there is presently a linkage between the collateral that is included in the daily optimization process and the collateral that is unwound.

Dealers may be able to achieve reductions in intraday credit even before the Target State is fully implemented by removing non-maturing trades from the unwind. While currently this also means removing those trades from the daily optimization process, Dealers would still be able to use auto substitution capability to achieve similar outcomes on a targeted basis. Initial indications suggest that this option merits further consideration by Dealers and Clearing Banks.

More generally, the Task Force encourages market participants to explore approaches that can reduce risks associated with tri-party repo activities during the period before the Target State will be fully achieved. This can include increasing the share of term trades, which reduces overall liquidity risks, and efforts to reduce intraday exposures. In the latter case, it is important that participants take care to ensure that the approaches do not introduce material operational risks and are likely to be effective in both stressed and normal circumstances.

Achieving this Target State element will require IT development at both Clearing Banks, and behavioral changes among other market participants, to enable the optimization process to include collateral that is not unwound, and subsequently to execute the associated optimization via a series of sequential cash or securities substitutions within the Dealer's committed credit facility. As part of this effort, the Clearing Banks will also incorporate the functionality to support either inclusion or exclusion of term trades from the daily optimization process. It is expected that open trades excluded from the daily unwind would be included in the optimization process.

Settlement Prioritization

One of the most significant elements of the Target State is the settlement process itself. As discussed above, the Task Force determined that a Dealer-directed process would not address concerns regarding clarity and transparency in the event a Dealer was struggling to finance its inventory or failed to be able to do so. Accordingly, the Task Force concluded that there should be a consensus prioritization rule that all Dealers will follow and that will be recorded in bilateral repo documentation.[7] The Task Force has developed a prototype for such a consensus prioritization rule based on asset type, size (smallest to largest including accrued interest), and number of CUSIPs allocated (highest to lowest). New trades would be collateralized from largest to smallest. A more complete summary of the prototype allocation rule is contained in Appendix A. It is expected that the final rules adopted by the industry and applied by each Clearing Bank might differ slightly from the prototype and/or from each other, however they will be clearly specified and transparent to all participants. The Clearing Banks will provide their clients with the necessary tools to follow the prioritization rules and/or embed the allocation rules within their tri-party repo settlement engines.

Rolling Settlement Process

In terms of the settlement process itself, the Task Force concluded that this should consist of one large initial batch that will attempt to settle ALL maturing trades using cash from new trades matched and funded by 3:30 pm. This means that if a Dealer's new trades which are fully confirmed and funded at 3:30 pm can provide the necessary funding to allow the dealer to settle ALL their maturing repos, the prioritization rule will be unnecessary—all of their transactions will settle in the initial batch. However, if this is not the case, then the prioritization rule will determine which trades can settle in the initial batch and in each subsequent smaller batch thereafter as more trades are confirmed and funded. This approach also accommodates late-day trading.

Intraday Credit Cap and Committed Facility

The tri-party repo intraday credit cap set by the Clearing Bank based on a committed credit facility agreement would apply during the settlement process. This cap would be agreed between the Clearing Bank and its Dealer Clients, reflecting the Clearing Bank's risk appetite and internal risk management processes, and would in any case be expected not to exceed 10% of the Dealer's notional tri-party book. Risk management controls at the Clearing Bank would incorporate cash and collateral tests to ensure that the Clearing Bank's exposure could not exceed the capped amount at any time during the day.

Development of the requisite settlement engines incorporating the functionality described will require substantial operational changes and technology development efforts by both Clearing Banks. The Task Force agreed that to ensure a smooth settlement process, Dealers will also need to adjust their business practices as needed to take greater responsibility for promptly settling maturing repos and protecting against the risk of being unable to finance illiquid collateral. The

[7] This could be incorporated by reference to allow for the consensus rule to be updated more readily than the documentation itself.

Task Force believes that this should encourage Dealers and Cash Investors to match their trades earlier in the day. Examples of other behavioral changes by Dealers might include increasing amounts of cash and/or highly liquid collateral buffer assets at their Clearing Bank.

Collateral Allocation and Optimization Processes

A fifth element of the Target State is enhanced functionality for the collateral allocation and optimization processes, which is intended to further automate and streamline the end-of-day settlement process and eliminate the need for manual intervention or allocation scripts by Dealers. This may also include improvements to the underlying algorithms to allow faster and earlier allocation, optimization and to accommodate more granular asset information in order to facilitate more precise risk management by Cash Investors. The recommendation of enhanced functionality stems in part from a desire expressed by Cash Investors in the Task Force for greater real-time visibility into the collateral supporting their trades, and for the ability to limit the extent of continuous optimization should Clearing Bank systems advance to the point where that was possible. As a principle, the Task Force discussed the importance of completing daily allocations in a timely manner allowing for review and correction by participants.

This enhanced functionality for the collateral allocation and optimization processes combined with the legal framework for simultaneous exchange discussed in the next section will contribute meaningfully to the reduction of intraday credit extension from the Clearing Banks.

Establishment of a Legal Framework to Ensure Simultaneous Exchange

The objective of the Task Force with respect to this element is to support the ability for Clearing Banks to process multiple transactions simultaneously on their books without creating "momentary" credit exposures related to one portion settling without the other. Current legal documentation does not fully support this treatment, so even when one maturing repo transaction is being replaced by an identical new transaction, there is a (brief) period of time where intraday credit extension would be needed to bridge the gap.

To make simultaneous exchange without intraday credit possible, work will be required both with respect to underlying contractual documentation and with respect to operational capabilities at the Clearing Banks. That is, clearing bank systems will need to be able to effect all parts of "simultaneous" transactions within a tolerably brief period of time. In addition, legal agreements among tri-party repo participants will need to be able to establish a commonly understood and legally sound "operational moment" representing this brief period of time, in order to avoid the need for credit to facilitate settlement.

As part of further enhancements to the underlying legal documentation supporting tri-party transactions, the Task Force urges that market participants make efforts to support netting of the cash obligations of Cash Investors, and that these conversations continue. The experience during 2011 of modifying existing documentation to support three way trade confirmation and other enhancements highlighted the importance of early and pro-active communication, true two-way dialogue and consultation, and a clear regulatory deadline, to ensure that changes both incorporate the views of stakeholders and get completed on time.

Integration with GCF Repo

A final element that had not been envisioned in the Task Force's initial project timeline, but became increasingly clear to the Task Force during 2011, was the need to better integrate the GCF Repo settlement process with the improvements to the tri-party repo infrastructure. Currently, the GCF Repo process unwinds and rewinds completely at the beginning and end of each day, respectively. This creates a bottleneck with respect to the other elements of the Target State since it would entail potential intraday credit needs well in excess of the amount of net financing obtained via GCF Repo.

The Task Force came to realize in recent months that the process required fundamental re-engineering in order to achieve the desired risk reduction. The Target State solution to be developed by FICC, in partnership with the Clearing Banks, will entail "netting the net", including netting today's new GCF repo trades against the maturation of yesterday's trades, so only the change in net position requires funding via an unwind on the books of the Dealer's Clearing Bank. Initial indications are that this set of enhancements will reduce the size of intraday credit needed to support GCF Repo activity in the aggregate by more than 75%.

This solution has a number of pre-requisites before it can be achieved. In addition to those already articulated above as part of the Target State vision, other requirements include real-time messaging capability between the two Clearing Banks and support for substitution of re-hypothecated collateral at each of the Clearing Banks. The latter is already in development at both Clearing Banks to enable support for substitution of collateral subsequently employed via GCF Repo. Completion of the GCF Repo Target State integration will also require IT development work at FICC itself. Finally, changes in legal agreements will be required of market participants in order to establish the cross-lien arrangements to support this approach.

Implementation Approach – Next Steps

Following the Task Force's articulation of the Target State vision described herein, both Clearing Banks and FICC have been assessing the development efforts associated with the implementation of the seven elements of the Task Force's vision. At this stage, it is clear that for some aspects of the Target State, a substantial amount of IT work must be done by the Clearing Banks and FICC. Nonetheless, all parties represented on the Task Force including both Clearing Banks have fully endorsed the Target State.

Timeframes for implementation of each element are still being finalized, though it is clear that the timeframe will extend beyond 2012, and possibly as far as 2016 for some elements of the Target State. Each Clearing Bank, and FICC, expects to publicly communicate an implementation plan and timeframes for each of these elements by the end of Q1 2012, with details being provided to Cash Investors and Dealer clients, as well as the regulatory community.

The table in Appendix B outlines the key changes that are expected to be initiated and/or completed in 2012. The implementation dates outlined are dependent, in many cases, on Dealers testing these changes with their respective Clearing Banks. Cooperation among the various market participants will be required to achieve these deliverable dates; they are not solely dependent on the Clearing Banks.

Beyond 2012, both Clearing Banks have indicated that implementation of committed credit caps will be dependent on their implementation of (1) removal of non-maturing trades from the unwind, (2) a sound foundation for simultaneous exchange being embedded in revised legal documentation and system capability, (3) deployment of automated rolling batch settlement, and (4) migration of GCF Repo settlement to a “net of net” basis and the incorporation of this new process into the automated rolling batch settlement. Both Clearing Banks expect (1) and (2) to complete first, with (2) being undertaken as a joint effort insofar as the legal aspects are considered. The deployment of (4) and therefore to some extent (3) will require coordination across the two Clearing Banks. That is, the two Clearing Banks can implement automated rolling batch settlement independently, but will not likely be able to implement a credit cap until GCF Repo settlement can be migrated to a “net of net” basis.

A key issue will therefore be whether the GCF Repo settlement migration (phase four) can be done independently of the deployment of automated rolling batch settlement at the Clearing Banks. If so, this would mean that it could proceed sooner and potentially enable the Clearing Banks to implement credit caps at different points in time. It may be desirable to implement such caps at the same time, but doing so would then mean that implementation would be delayed until both Clearing Banks are fully ready to proceed. These issues are being actively discussed by the Clearing Banks with the Federal Reserve.

This discussion clearly reinforces the importance of ongoing communication between the Clearing Banks and FICC as well as with all participants in the tri-party repo and GCF Repo markets. In this regard, both Clearing Banks and FICC have agreed that they will be describing and updating their implementation programs regularly to all interested parties.

The Task Force itself will cease to meet regularly as the path forward is now sufficiently clear. The Task Force believes that it has been most effective in discussing policy issues and reaching agreements on the operational pre-requisites for successful achievement of policy objectives. Unfortunately, it did not foresee the policy concerns that would make the achievement of its primary recommendation unattainable in the original timeframe, but is confident that the Target State vision will achieve this policy objective once successfully implemented.

The Task Force process has also highlighted the challenges of seeking to “project manage” a complex multi-lateral process in the absence of clear supervisory authority or business mandates from participating firms. Accordingly, the Federal Reserve requested the Task Force to conclude its efforts and will take a more active role in overseeing progress going forward.

The Task Force wishes to emphasize its appreciation for the time and efforts of all those who have contributed to its discussions and to the associated improvements that have been and will be made to the tri-party repo infrastructure.

Summary of Task Force Recommendations

The status of the original 16 recommendations published in the May 2010[8] Task Force Report is summarized below (see the May 2010 report for the full description of each recommendation). Some have been addressed in the July 2011[9] Task Force Progress Report and others remain recommendations that all tri-party repo market participants are encouraged to continue to observe. As an example, the Task Force emphasizes the ongoing importance of efforts by market participants to improve the timeliness and quality of collateral valuations.

The recommendations have been split into two tables to separate recommendations that have a clear final deliverable (Table 1) versus those that the Task Force continues to support as market practice (Table 2). Although the Task Force has not undertaken the responsibility to monitor industry progress or to measure the extent of adoption across the market for these recommendations, they continue to be strongly endorsed by the Task Force as key requirements for ensuring Tri-Party Repo market stability and efficiency.

Table 1. Finite Recommendations

#	Recommendation	Original Due Date	Current Status
Operational Arrangements			
1	"Practical elimination" of intraday credit	30 Jun 2011	• OPEN - Will be incorporated into the Target State vision as indicated above
1A	CB plans for automated collateral substitution	15 Jul 2010	• COMPLETED August 3, 2010 – for transactions within the tri-party repo platform • OPEN - Functionality for repo collateral that is rehypothecated into tri-party repo transactions. Will be incorporated into the Target State vision as indicated above
1B	Eliminate ambiguity in TPR booking	31 Aug 2010	• COMPLETED December 31, 2011 (with implementation of 3-way trade confirmation)
1C	Agree timing for intraday settlement for maturing repo trades	31 Aug 2010	• COMPLETED December 3, 2010 • See press release for details www.newyorkfed.org/tripartyrepo/pdf/pr_101203.pdf • On August 22, 2011 the unwind for all tri-party repo trades moved to 3:30pm NYT (excluding rehypothecated collateral)
1D	Agree solution for 3-way trade confirmation	15 Oct 2010	• COMPLETED December 3, 2010 • See press release for details http://www.newyorkfed.org/tripartyrepo/pdf/pr_101203.pdf

[8] Task Force on Tri-Party Repo Infrastructure May 17, 2010 Report is available at: www.newyorkfed.org/prc/report_100517.pdf

[9] Task Force on Tri-Party Repo Infrastructure July 6, 2011 Report is available at: www.newyorkfed.org/tripartyrepo/pdf/tpr_progress_report_110706.pdf

#	Recommendation	Original Due Date	Current Status
1E	CB to complete development of auto-substitution	15 Feb 2011	• COMPLETED June 30, 2011 - for transactions within the tri-party repo platform (BNYM: cash for securities substitution) • OPEN - Functionality for repo collateral that is rehypothecated into tri-party repo transactions. Will be incorporated into the Target State vision as indicated above • OPEN – Functionality for BNYM to substitute securities for cash collateral to be incorporated into the Target State vision.
1F	Operational Readiness of Dealers and Cash Investors	15 Feb 2011	• COMPLETED December 31, 2011 (once all market participants had implemented 3-way trade confirmation)
1G	Implement 3-way trade confirmation	15 Apr 2011	• COMPLETED December 31, 2011 • Confirmations must match on an agreed set of at least 13 data fields • List of specifications is accessible at http://www.newyorkfed.org/tripartyrepo/pdf/Minimum_Parameters_TPR.pdf • List of Collateral Types accessible at http://www.newyorkfed.org/tripartyrepo/pdf/tpr_proposal_101203.pdf
Dealer Liquidity Risk Management			
5	Agree terms for intraday credit facilities	15 Nov 2010	• OPEN - Will be incorporated into the Target State vision as indicated above
Contingency Planning			
10	Publish Best Practice Guidance for Cash Investors	30 Sep 2010	• COMPLETED July 6, 2011 • Further discussion is included in the July 2011 Task Force Progress Report • ICI prepared a checklist to facilitate these recommendations accessible at http://www.ici.org/policy/current_issues/11_mmf_repo_checklist
11	DTCC to maximize potential for offsetting of positions upon Dealer default	30 Nov 2010	• CLOSED – DTCC analyzed prior Dealer defaults and existing Dealer portfolios and concluded the scope for offsetting was unlikely to provide material benefits.
Transparency			
13	Monthly publication of TPR statistics	30 Jul 2010	• COMPLETED May 31, 2010 • Since May 2010, the FRBNY has been publishing summary statistics on the US tri-party repo market • Starting May 2011 monthly statistics on aggregate GCF Repo transactions are available as well • Reports accessible at www.newyorkfed.org/tripartyrepo

#	Recommendation	Original Due Date	Current Status
14	Establish valuation working group	15 Oct 2010	• COMPLETED October 15, 2010 • The findings and recommendations from the valuation working group were published in the July 2011 Task Force Progress Report

Table 2. Ongoing Recommendations

<table>
<tr><th>#</th><th>Recommendation</th><th>Original Due Date</th><th>Current Status</th></tr>
<tr><td colspan="4">Operational Arrangements</td></tr>
<tr><td>2</td><td>Dealers and Cash Investors to undertake regular due diligence reviews of Clearing Banks</td><td>Ongoing</td><td>• Market Participants urged to continue observing</td></tr>
<tr><td colspan="4">Dealer Liquidity Risk Management</td></tr>
<tr><td>3</td><td>Improve liquidity risk management</td><td>Ongoing</td><td rowspan="2">• Market Participants urged to continue observing
• Task Force has not sought to benchmark Dealer progress with the expectation that supervisors have increased their focus in this area and given the sensitivity of firm-specific information.
• Further discussion is included in the July 2011 Task Force Progress Report</td></tr>
<tr><td>4</td><td>Not to assume short-term TPR financing is inherently stable</td><td>Ongoing</td></tr>
<tr><td colspan="4">Margining Practices</td></tr>
<tr><td>6</td><td>Ensure appropriate collateral margins</td><td>Ongoing</td><td>• Market Participants urged to continue observing
• “Principles to Consider for Margin Requirements” can be found in the May 2010 Task Force Report</td></tr>
<tr><td>7</td><td>CB to share information on intraday margin methodologies</td><td>Ongoing</td><td>• Market Participants urged to continue observing</td></tr>
<tr><td colspan="4">Contingency Planning</td></tr>
<tr><td>8</td><td>Cash Investors to undertake regular stress tests</td><td>Ongoing</td><td rowspan="2">• Market Participants urged to continue observing
• Further discussion is included in the July 2011 Task Force Progress Report
• ICI prepared a checklist to facilitate these recommendations accessible at http://www.ici.org/policy/current_issues/11_mmf_repo_checklist</td></tr>
<tr><td>9</td><td>Cash Investors to put in place contingency plans for Dealer default</td><td>15 Jan 2011</td></tr>
</table>

#	Recommendation	Original Due Date	Current Status
12	Continue exploring other concepts to increase TPR market stability and resiliency	Ongoing	• Market Participants urged to continue observing
Transparency			
14A	Clearing Banks to disclose Pricing Vendor	Ongoing	• Market Participants urged to continue observing
14B	Clearing Banks to coordinate webinars for Vendors to present to TPR Cash Investors	Ongoing	• Market Participants urged to continue observing
14C	When available, Clearing Banks will refresh pricing of assets at the beginning of the day	Ongoing	• Market Participants urged to continue observing
15	Cash Investors and Dealers to have robust management processes for reviewing collateral	Ongoing	• Market Participants urged to continue observing
16	Process to manage cases where the Dealer's marks are materially below the vendor prices provided by the Clearing Banks	Ongoing	• Market Participants urged to continue observing • In order to facilitate implementation of the recommendation, the Task Force published guidance including a proposed definition for "materially below" in the July 2011 Task Force Progress Report

Appendix A – Prototype of Consensus Prioritization Rule

The objective of developing a Prioritization Rule is to establish a rules-based, transparent, rolling settlement process the Clearing Banks can employ in circumstances where a Dealer is not fully financed (non-credit related) that will:

- Allow Investors to gauge the relative settlement risk of a particular tri-party repo trade
- Promote the founding principles of the Task Force (reduce risk, increase transparency, promote operational efficiency, and provide liquidity)

Overview of the Prioritization Rule

- When a Dealer is not fully financed at 3:30, the deals will be matured by:
  1. Asset type (see Asset Ordering list below)
  2. Size (smallest to largest, inclusive of accrued interest)
  3. Number of CUSIPS allocated (highest to lowest)

  New trades will be collateralized from largest to smallest

The following example illustrates by asset class how deals will settle according to the proposed rules based rolling settlement process. Deal settlement will occur in the following order:

- Within asset class considering cash received
- Maturities within asset class by size - smallest to largest

- Within asset class when off leg size is equal, by number of CUSIPs allocated - largest to smallest
- New trades settled within asset class based on cash received - largest to smallest

Maturities		
Amount	Asset Class	Settlement Status
-10	Gov't	Pending
-9	Gov't	Settled (s -> l)
-8	Gov't	Settled (s -> l)
-11	Corp	Pending
-8	Corp	Settled (s -> l)
-8	Corp	Settled (s -> l)
-9	Equity	Pending (CUSIPs #)
-9	Equity	Settled (CUSIPS #)
-9	Equity	Settled (CUSIPS #)

New Trades			
Amount	Asset Class	Cash Status	Settlement Status
12	Gov't	Cash Rec'd	Pending
8	Gov't	Cash Rec'd	Settled
7	Gov't	Cash pending	Pending
11	Corp	Cash pending	Pending
8	Corp	Cash Rec'd	Settled
8	Corp	Cash Rec'd	Settled
10	Equity	Cash Rec'd	Settled
9	Equity	Cash pending	Pending
8	Equity	Cash Rec'd	Settled

Proposed Implementation

- Dealers will be responsible for initiating the settlement process at the Clearing Bank, as well as, reviewing the maturing deal order to ensure adherence to agreed-upon industry-wide algorithm.
  - Clearing Banks will develop tools for the Dealer community to facilitate these functions.
- Cash and collateral projections will be performed by the Clearing Banks, with results communicated to Dealers, at 3:35pm EST. Potential results and outcomes:
  1. Cash at the Clearing Bank plus available credit is equal to or exceeds 100% of Dealer's obligations
     - Full settlement commences with all cash from maturing deals released and collateral allocated via optimization to all existing and new repo trades.
  2. Cash at the Clearing Bank plus available credit is less than 100% of Dealer's required funding at the given point of time when the projection is run.
     - Collateral allocation is run with optimization to mature maximum amount of maturing deals with available new cash.
     - Defined algorithm is deployed to settle remaining maturities based on rules-based, transparent process not settled during the collateral optimization allocation process.
- The process repeats throughout the settlement window as more cash becomes available.

Asset Ordering List

1. Treasuries
2. Treasury Strips
3. GNMAs
4. Agency Debentures & Strips
5. Agency MBS
6. Agency CMOs
7. Corporate FDIC Guaranteed
8. Money Market Instruments
9. Corporate Investment Grade
10. Equities
11. Convertible Bonds
12. Municipals
13. Private Label CMOs
14. ABS Investment Grade
15. Corporate Non-Inv Grade
16. Private Label CMOs Non-Inv Gr
17. ABS Non-Investment Grade
18. Whole Loans/Trust Receipts
19. Other

Appendix B – Summary of Target State Actions

Issue	Actions in 2012		Actions beyond 2012	
Rehypothecated Collateral	Both Clearing Banks are planning to deliver capability to substitute rehypothecated collateral with cash collateral on a real-time basis, which will enable substitution of collateral used in GCF Repo. This capability will be deployed initially on an intrabank basis only. Both Clearing Banks have committed to deliver this capability in Q4 2012.			
Intraday Credit Cap and Committed Facility	Bank of New York Mellon BNYM will deploy a credit line monitoring dashboard for cash needs simulation to clients in Q2 2012. This capability will enhance the ability of both BNYM and Dealer clients to assess on a dynamic basis the amount of potential intraday credit extensions. In Q4 2012, BNYM will enhance the credit line monitoring dashboard to include collateral values available and eligible to secure the potential use of the credit line. In an effort to reduce intraday credit usage, BNYM will evaluate its policy on extending credit regarding less liquid assets. BNYM will review their plan with the Federal Reserve, Dealers and Cash Investors by Q2 2012.	JP Morgan Chase In December 2011, JPMC released a cash simulation tool to their Dealer clients that outlines available funding and compares it to their TPR and GCF obligations. This view is available real time intraday. JPMC currently has the ability to perform collateral simulations to project a dealer's collateral sufficiency and appropriateness to meet lender requirements.	Bank of New York Mellon Complete execution of committed credit caps will likely be dependent on implementation of various Target State objectives; the implementation plan includes how this will be achieved. See the discussion under "Implementataion Approach – Next Steps.	JP Morgan Chase Collateral simulation functionality will be made available to clients in Q2 2013. Funding sources included in the cash simulation tool will be expanded to reflect the availability of committed credit facilities in Q2 2013. JPMC's current target date for introduction of committed credit facilities is Q2 2013, however this may need to adjust to accommodate the integration of GCF Repo into the end of day settlement process. Complete execution of committed credit caps will likely be dependent on implementation of various Target State objectives; the implementation plan includes how this will be achieved. See also the discussion under "Implementataion Approach – Next Steps.

Issue	Actions in 2012		Actions beyond 2012	
	Bank of New York Mellon	JP Morgan Chase	Bank of New York Mellon	JP Morgan Chase
Non-Maturing Trades & Collateral Allocation and Optimization Processes	BNYM has the ability to suppress non-maturing trades from the daily unwind today, but doing so would mean that Dealers could not optimize their collateral. The need for this optimization is therefore the rationale for continuing the unwind. BNYM will initiate development in 2012 of the capability to remove non-maturing trades from the daily unwind while including them in the optimization processing.	JPMC will eliminate non-maturing trades from the daily unwind while allowing dealers to re-optimize their collateral by Q4 2012. The Q4 2012 deliverable will also allow non-maturing trades to be excluded from re-optimization based on the investors' preference.	By the end of 2013, BNYM will support enhanced optimization processing, which will result in the elimination of unwinding of non-maturing deals, while allowing such deals to be included in the optimization processing.	
Rolling Settlement Process & Settlement Prioritization	Both Clearing Banks will initiate development of capability to support automated rolling batch settlement, including completion of business requirements specification.		Bank of New York Mellon BNYM views the Rolling Settlement and Settlement Prioritization (Algorithm) as one development effort due to the interdependencies of these two new processes. In addition, there are many sub-projects that need to be accomplished prior to having the rolling settlement with algorithm in production and delivered to all clients. These sub-projects span the life of this effort. Full implementation to all clients (including client testing and full production adoption) of	JP Morgan Chase JPMC is targeting the release of rolling batch settlement capability for Q2 2013. The target date may be extended to accommodate the integration of GCF Repo into the end of day settlement process. JPMC's rolling batch release will include the ability for dealers to initiate the batch, binding cash and collateral tests to define the batch size, and the ability for dealers to confirm the trades conform to the pre-defined prioritization order.

Issue	Actions in 2012	Actions beyond 2012
		the rolling settlement with algorithm, inclusive of the re-engineered GCF process, will be completed no earlier than Q3 2016. It will also include collateral simulation tools for dealers to use throughout the day to aid in their ability to support end of day settlement. Additionally, this release will include the technical infrastructure to implement the simultaneous exchange referenced below.
Establishment of a Legal Framework to Ensure Simultaneous Exchange	Both Clearing Banks will jointly initiate efforts to ensure a sound legal foundation for simultaneous exchange. This effort will also benefit from involving an advisory group of Cash Investors and Dealers as well as FICC. It is expected that the legal framework can be completed in 2012.	
Integration with GCF Repo	FICC will focus on the first two phases of its four-phase plan to achieve the Target State vision. In phase one, the focus will be to build on the Clearing Bank capabilities to substitute rehypothecated collateral, and ensure that GCF Repo collateral can benefit from substitutions on an intrabank basis. FICC will work with its participants to ensure that debits incurred by FICC remain credit exposures of the Dealers via a cross-lien arrangement. In phase two, FICC will enhance the hourly provision of information to the Clearing Banks through an enhanced message format. This will permit inter-operability and enhanced inter-bank functionality on an hourly basis in advance of real-time interbank messaging.	In phase three, real-time messaging of interbank GCF transactions will allow for the GCF Repo Dealers to remained "locked" into their GCF obligations for the entire duration of the trade. In phase four, FICC will adopt "net of net" processing for GCF Repo. This build will be undertaken by FICC to calculate and process the daily changes of each GCF Repo Dealer's position on a cusip by cusip basis. This changes the current process by only requiring the delta of the position to be "topped up" or "matured". The ordering and timing of phases three and four are dependent on further discussions with GCF Repo participants, the Clearing Banks, and regulators. Prerequisites for both phases include substitution of rehypothecated collateral, real-time messaging between clearing banks, cash and collateral tests in place for Dealers, and finalization of the rolling settlement model. See also the discussion under "Implementataion Approach – Next Steps.

Appendix C – Members of the Task Force on Tri-Party Repo Infrastructure

Tri-Party Repo Task Force Members			
Role	Member	Alternate	Firm
Task Force Chairman	Darryll Hendricks		*UBS Investment Bank*
PRC Oversight	Don Monks		*Payments Risk Committee*
Clearing Banks	Karen Peetz Brian Ruane	Kevin Caffery Joseph Ciacciarelli John Duke Jeffrey Kuhn James Malgieri John Morik	*BNY Mellon*
	David Weisbrod	Kelly Mathieson Mark Trivedi	*JPMorgan Chase*
Dealers	Chris Korpi	Kenneth Leavy	*BNP Paribas*
	Dick Seitz	Joseph Johnston	*Bank of America*
	John Feraca	James Hraska David Lohuis	*Barclays Capital*
	Barrie Ringelheim	Thomas Mellina	*Citigroup Global Markets Inc*
	Tony Blasi	Vincent Albanese	*Credit Suisse*
	Tom Devine	Michael P. Johnson Steven Weinstock	*Deutsche Bank Securities*
	Robin Vince	Seth Kammerman Michael Kurlander Matt Leisen Sean McWeeney	*Goldman Sachs*
	Clark Murphy	James Stevenson	*JP Morgan Securities LLC*
	Donald O'Toole	Gary Campise Tim Corcoran Chuck Hendrickson	*Jefferies & Company*
	Tom Wipf	Ed Corral	*Morgan Stanley*
	Thomas Giacalone	Jeff Scott	*UBS Investment Bank*
Investors	Nancy Sullivan		*BNY Mellon*
	Robert Dolecki		*Fannie Mae*
	Debbie Cunningham	Sue Hill Jeff Petro	*Federated Investors*
	Norm Lind	Kevin Gaffney	*Fidelity*
	Laurie Brignac		*Invesco*
	Sean Dillon		*State Street*
Hedge Funds	Dan Dufresne	Colleen Hickey	*Citadel LLC*
Utilities	Murray Pozmanter	Gary Chan	*DTCC*
Industry Groups	Jason Minkler	Mary Stone	*The Asset Managers Forum*
	Brian Reid		*ICI*
	Carlotta King		*Managed Funds Association*
	Rob Toomey	Tim Cameron	*SIFMA*

Tri-Party Repo Task Force Members			
Role	Member	Alternate	Firm
Secretariat	Michele Braun Linda Fahy		*FRBNY Payments Policy*
	Emily Gu		*UBS Investment Bank*

Technical Advisors		
Institution	Member	Function
Federal Reserve Board of Governors	Matthew Eichner	*Research & Statistics*
FRBNY	Brian Begalle	*Payments Policy*
	Lucinda Brickler	*Financial Institution Supervision Group*
	Chris Burke	*Markets Group*
	Tom Ferlazzo	*Financial Institution Supervision Group*
	Sandy Krieger	*Credit & Payments Risk*
	Antoine Martin	*Research*
	Susan McLaughlin	*Markets Group*
	Larry Radecki	*Markets Group*
	Robert Rinaldi	*Financial Institution Supervision Group*
	David Sewell	*Legal*
SEC	Sharon Pichler	*Investment Management*
	Bob Plaze	*Investment Management*
Treasury	Lori Santamorena	*Treasury*