
Recommendations for
Best Practices in
Order Entry and Transmission of
Exchange-Traded Futures
and Options Transactions

For Public Release: March 15, 2001

National
Futures
Association
and
Futures
Industry
Institute

February 2, 2001

Honorable James E. Newsome
Acting Chairman
Commodity Futures Trading Commission
1155 21st Street, N.W.
Washington, DC 20581

Dear Acting Chairman Newsome:

On behalf of the National Futures Association and the Futures Industry Institute, we are pleased to forward to you the enclosed *Recommendations for Best Practices in Order Entry and Transmission of Exchange-Traded Futures and Options Transactions* ("Report"). Approximately one year ago, the Commodity Futures Trading Commission ("Commission") directed us to undertake an "industry-wide study of issues associated with order transmission and entry procedures for exchange-traded futures and options and the diligent supervision of the order transmission and order entry process by commodity professionals."¹ Consistent with that charge, the recommendations contained in this Report represent the collective efforts of a wide cross-section of the exchange-traded futures and options community.

An Advisory Committee of senior representatives of the derivatives industry provided critical guidance to the members of our study team in developing and implementing the study plan. In addition, four Expert Panels, one representing end-users and the other three comprised of individuals with expertise in operations, technology and compliance, generously shared their knowledge with us, allowing us to appreciate more fully the practical implications of the various international trading modalities and regulatory structures, as well as assisting us in developing the recommendations set forth in this Report. Finally, we conducted interviews both here and in Europe with officials from six governmental and regulatory agencies, ten derivatives exchanges and approximately thirty entities representing intermediaries, independent technology service providers and end-users. In all, nearly 300 individuals shared their knowledge and opinions with us. This Report would have been impossible without their support and active participation. We want to take this opportunity to thank each of them.

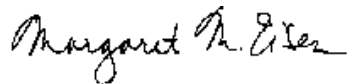
¹ *In the Matter of Refco, Inc.*, CFTC Docket No. 99-12, May 24, 1999.

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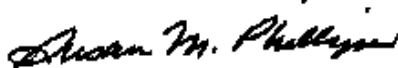
Finally, we would like to express our deep appreciation to the members of the team who conducted the study that formed the foundation of the Report. Coordinating the receipt and analyzing the views of such a wide cross-section of the industry was not a simple task. They performed admirably. Our thanks as well to the National Futures Association, which generously furnished office space and administrative support and which, with the Futures Industry Institute and the Futures Industry Association, made available the services of senior staff to represent us in the day-to-day management of the Study.

We appreciate your confidence in asking us to undertake this Study and welcome the opportunity to discuss our recommendations with you, the other members of the Commission and members of the Commission staff in greater detail.

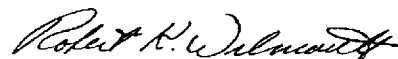
Sincerely,



Margaret M. Eisen



Susan M. Phillips



Robert K. Wilmouth

**Recommendations for Best Practices in Order Entry and Transmission
of Exchange-Traded Futures and Options Transactions**

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SUMMARY AND INTRODUCTION

In May 1999, at the direction of the Commodity Futures Trading Commission (“Commission”), the National Futures Association and Futures Industry Institute undertook an “industry-wide study of issues associated with order transmission and entry procedures for exchange-traded futures² and options and the diligent supervision of the order transmission and order entry process by commodity professionals.”³ Our mission was to develop futures industry “best practices,” in particular as they relate to the handling of customer orders. The recommended best practices we developed and which constitute the body of this Report were designed to ensure the fair treatment of all users of the futures and options markets while supporting the efficient functioning of these markets. In this regard, the areas to be examined included order entry, acceptance, transmission, delivery, execution, reporting and the supervision of each of these areas.⁴ A diagram indicating these chronological stages in the flow of customer orders is outlined below in this section.

This Report, *Recommendations for Best Practices in Order Entry and Transmission of Exchange-Traded Futures and Options Transactions*, represents the collective efforts of a wide cross-section of the exchange-traded futures and options community. An Advisory Committee of senior representatives of the derivatives industry provided critical guidance to the members of our study team in developing and implementing the study plan.⁵ In addition, four Expert Panels, one representing end-users and the other three comprised of individuals with expertise in operations, technology and compliance, generously shared their knowledge with us, allowing us to appreciate more fully the operational implications of the various trading modalities and regulatory structures that under-

² Recent amendments to the Commodity Exchange Act revamp the regulatory structure for U.S. futures exchanges and introduce new terms, such as “derivatives transaction execution facilities,” “exempt boards of trade,” and “excluded electronic trading facilities.” As used in this Report, the term “exchange” refers to entities that would have been termed “contract markets” at the time the Report was undertaken.

³ *In the Matter of Refco, Inc.*, CFTC Docket No. 99-12, May 24, 1999.

⁴ We, therefore, did not analyze, nor does the Report make any recommendations relating to, either sales practices or clearing of exchange-traded derivatives transactions.

⁵ See Appendix A.

lie the recommendations set forth in this Report.⁶ Finally, we conducted interviews both here and in Europe with officials from six governmental and regulatory agencies,⁷ ten derivatives exchanges⁸ and approximately thirty entities representing intermediaries⁹, independent technology service providers and end-users.¹⁰ In all, nearly 300 individuals shared their knowledge and opinions with us. This Report would have been impossible without their support and active participation.

Scope of the Study

The essential purpose of any order entry and transmission process is to assure the fair and equitable treatment of all market participants, in particular public customers, and to safeguard the efficient functioning of the markets. This premise guided our research and analysis and was foremost in our minds as we developed our recommendations.

During the organizational stage of the assignment, a number of assumptions were developed and reviewed with the Advisory Committee and the Expert Panels. These assumptions were used in the development of interview questions and as a general guide for the conduct of the study. The seven assumptions are as follows:

- The study will deal with both open-outcry and electronic markets in a rapidly changing environment.

⁶ See Appendix B.

⁷ See Appendix C.

⁸ See Appendix D.

⁹ For purposes of this Report, an “intermediary” is defined as any person that acts for or on behalf of a customer in effecting transactions on or through the facilities of a derivatives exchange. This term will be used most often to refer to brokerage firms (*e.g.*, futures commission merchants or FCMs in the U.S.) that solicit or accept orders for execution and, in connection therewith, hold customer funds. However, in appropriate circumstances, an intermediary could include an introducing broker, an account manager, a floor broker, or an exchange (if the exchange performs functions that an intermediary normally performs).

¹⁰ See Appendix E. In addition to interviews, we also distributed a written survey to a number of industry professionals. However, as we received very few written responses we decided it would be more effective to pose these questions during the oral interview process. It should be noted, however, that the survey responses we did receive were consistent with those emanating from the interview process.

- Some best practices exist today and have served the industry well.
- Some practices can and should be improved.
- New or enhanced best practices must be achievable in terms of the cost, time and resources necessary to develop and maintain them.
- To be effective, best practices must be widely accepted. Further, existing regulations and their enforcement must continuously evolve to support tomorrow's best practices.
- Current and emerging technologies present opportunities to enhance existing processes and procedures.
- While automated systems appear to provide a better audit trail, they are not foolproof.

In developing this Report, we recognized that neither the markets we examined nor the regulatory structures that govern them are static. New and different trading systems are introduced almost daily. Meanwhile, established markets are racing to form international alliances that will extend their trading days and make them more attractive trading venues. In response, several regulatory authorities, including the Commission, have undertaken major initiatives that revise significantly the manner in which business is conducted on derivatives exchanges worldwide.¹¹ To have continuing vitality in this uncertain environment, therefore, we recognized that our recommendations should be flexible enough to apply to any type of trading system that currently exists or may be introduced in the near future.

Although we concluded it would be inappropriate to design our recommendations for existing regulatory structures, neither would it be appropriate to ignore them. We carefully analyzed the relevant rules of the Commission, the various U.S. self-regulatory organizations and, to a lesser extent, the U.S. securities markets

¹¹ Similar to the Commission's substitution of performance standards contained in "core principles" for numerous prescriptive rules, the recommendations in this Report similarly do not set strict legal requirements. Rather, these recommendations establish realistic goals and leave to the markets and market participants the decisions on the best means of achieving such objectives.

and several European derivatives markets. To varying degrees, these rules were designed to achieve the goals of fair treatment and market efficiency described earlier. We also analyzed prominent Commission administrative proceedings that found improper conduct in the allocation of customer orders.¹²

We concluded, and our interviews confirmed, that existing relationships among customers, account managers, intermediaries and exchanges are far too diverse and complex to permit the adoption of a single best practice for any aspect of this process. Moreover, as the markets evolve and new electronic trading systems are developed, these relationships are certain to change significantly. Consequently, as previously mentioned, our recommendations generally set forth goals to be achieved rather than propose a specific course of conduct through various stages of the order process.

An additional element of our study was an analysis of the place of technology in exchange-traded markets. We interviewed information technology personnel and observed different systems at more than thirty exchanges, intermediaries, order-routing vendors and related systems providers. To state the obvious, technology plays an essential role in every trading system that we examined, including the open-outcry markets.

In particular, these latter exchanges either have implemented or are undertaking pilot programs to test systems that route orders directly from intermediaries or other market participants to the pit. Several of these systems also are able to deliver orders into electronic deck-management systems that are either controlled by individual floor brokers or are administered by the exchange. Such systems then route fill reports back to the customer or account manager who placed the order. When these routing systems are connected to trade-matching engines, customer protections can be further enhanced by providing timely, accurate, anonymous trade matching and automated allocation, as well as a more precise audit trail for trade reconstruction. For their part, intermediaries and other market participants also expect to devote an increasing amount of their resources to the development and purchase of electronic order-routing and management systems.

Methodology of the Study

As the study commenced, we determined to decompose the order process and identify chronologically the essential steps by which an order is entered, transmitted for execution and reported back to

¹² See Appendix F.

the customer as filled. In addition to viewing the order flow process in terms of its timeline, we also developed a topical, analytical framework. While these two approaches are complimentary and in many respects overlapping, we found the latter methodology more useful in structuring the analysis and recommendations for best practices of the final Report. However, because both means of viewing the order process provide relevant insights, we outline below the salient elements of the order-flow chronology from order entry through trade reporting and relate them to the topical issues that constitute the core of this Report.

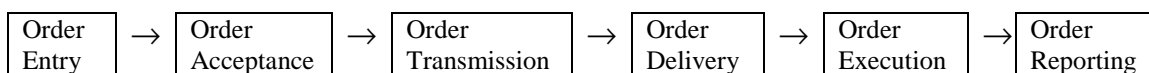
First, however, we note that the process begins with the financial beneficiary – the one who directly or indirectly receives the gain or loss resulting from the trade – and the order originator – the person authorized to determine the elements of an order. The order originator and financial beneficiary may be the same or different persons.

Order originators and financial beneficiaries include, among others, individuals, institutional investors, other commercial entities, commodity pool operators, fund managers, futures commission merchants, introducing brokers, and their associated persons. Prior to originating an order, best practices involve a due-diligence examination by the financial beneficiary/order originator and his or her intermediary of the risks of trading, as discussed in the next chapter of this Report.

Finally, it should be noted that the order-flow process – from both a chronological and an analytical approach – involves supervision at all stages and within all aspects of the process. The regulations as well as best practices focus on supervisory responsibilities of registrants, such as associated persons of intermediaries and account managers. Nevertheless, institutional investors and proprietary traders, as part of their internal controls programs, also have a responsibility to develop and assign supervisory duties to their employees.

Chronology of the Order Flow Process and Its Relationship to the Best Practices Topics Addressed in this Report.

Order Flow Chronology



Order Entry: The process by which the elements of an order are recorded and entered into the order flow.

Once the elements of the order have been established by the order originator, they must be effected. Key questions related to best practices include: (1) which order elements are essential; (2) when are they required; (3) how do the essential elements and their time of entry affect customer protection; and (4) what are the advantages and disadvantages associated with electronic versus manual entry.

Currently, U.S. requirements include the recording of the commodity, contract month, number of contracts, order type, account identifier, order number and time stamp. On major European exchanges and under their regulatory environments, account identifiers are not required universally when customer orders are entered, nor are time stamps required when a broker receives an order.

The purpose of the account identifier in the U.S. is to tie a particular order back to its order originator, while the time stamp facilitates the reconstruction of trading and the location of a particular trade within a sequence of trades. Best practices during this step of the order-flow process involve operating procedures to safeguard the identity of the account for which the trade was entered while expediting the order's entry. These issues are discussed in the Account Identification section of this Report.

In an electronic market, a complete time history can and should be maintained on all orders. The situation in open-outcry markets is not as simple and involves significant financial as well as technological considerations, particularly for those open-outcry markets that are beginning or planning shortly to migrate to an electronic platform. Discussion of the Best Practices related to these issues is contained in the Trade Reconstruction, Electronic Order-Routing Systems, and Electronic Trading sections of this Report.

Order Acceptance: The process by which entered order data are reviewed and approved.

For many institutional clients a routine pre-execution screening of orders is not considered a best practice. This results from the fact that the trading or hedging performance of many non-retail clients

may be adversely affected by even a short delay prior to execution of an order, and because a single intermediary normally has only partial knowledge of such customers' trades and positions. In all cases intermediaries should have the ability to identify every order from acceptance through execution as belonging to a particular customer or group of customers in the case of a bunched order. For certain types of market users it is a best practice for intermediaries prior to order acceptance to employ order-routing systems that interface with credit review/risk management systems. This Report highlights these issues in the Electronic Order-Routing Systems and the Account Identification sections.

Order Transmission: The process that, directly or indirectly, receives accepted order data in an open-outcry environment and presents such information to the trading floor booth.

Order Delivery: The process that receives and presents accepted order data into the execution vehicle.

This distinction between order transmission and order delivery is fading as electronic markets proliferate and open-outcry markets introduce more sophisticated technology up to and into the pit or ring. Regardless of whether the market is electronic or open outcry, electronic order-routing systems, when properly designed and functioning, enhance the speed, accuracy and customer protection of the order flow process. Best practices require such order-routing systems to have high levels of functionality, capacity, security, integrity, and risk management and for the purveyors of such systems to provide clear, user-friendly information and training for their use. These requirements are outlined in the Electronic Order-Routing Systems and Electronic Trading Systems sections of this Report.

Included among issues arising during order transmission and delivery are problems associated with the transfer of unfilled orders and the movement of orders across multiple time zones. Best practices facilitate such transfers, in part by ensuring that sufficient staffing is available whenever the markets are open, including those in other time zones. These issues are discussed in the Transfer of Unfilled Orders section of this Report.

Order Execution: The process by which an order is filled.

Whether in an electronic or open-outcry market, the minimization of intraday market risk is essential. Real-time matching of trade data facilitates risk reduction and therefore is a best practice. While such matching occurs naturally when an electronic exchange is functioning properly, in open-outcry markets trade data currently are matched at intervals from five minutes to twice daily, a critical lag that should be reduced. Related to real-time matching is the prompt resolution of all unmatched trades. The Real-Time Matching section of this Report expands on these issues.

Best practices as related to order execution also include standards to assure equitable treatment of market participants, market transparency, customer education and trade practice surveillance, as well as to foster system security, capacity, and integrity. These issues are addressed in the Electronic Trading Systems section of this Report.

Customer protection also is enhanced by making available the tools that particular customers need to manage their risks, including the ability to execute trades by various modalities. Cross trades and block trades, which in analogous forms are available in U.S. securities markets, fill such needs for certain market users. The provision of such alternative means of trade execution is discussed in the Alternative Trading Procedures section of this Report.

Trade Reporting: The process by which executed trade data are confirmed, directly or indirectly, to the Order Originator.

Speed and accuracy are essential in an efficient order-reporting system. To meet such standards, an electronic order-routing system should be employed. Best practices associated with the use of such systems are discussed in the Electronic Order-Routing Systems and Electronic Trading Systems sections of this Report.

In order to improve the flow of post-execution information, firms are strongly encouraged to develop a common technology to transmit data. This is especially critical for trade-allocation and give-up data. These areas are discussed in the Intermediary Communications Technology and Give-Up Transactions sections of this Report. Customer protection also requires those firms executing and/or carrying customer positions to exercise due diligence in reviewing relevant data for unusual activity, (e.g., position trans-

fers between customer and proprietary accounts, account number changes after trade date plus one). These issues are addressed in the Unusual Account Activity section of this Report. Finally, after the fact it may be necessary to reconstitute all or significant parts of the chronology of an order. To address these issues, which encompass the entirety of the order-flow process, we developed the Trade Reconstruction and Records Retention sections of this Report.

Recommendations for Best Practices

Our recommendations, which number forty-seven, are grouped among thirteen separate topics, as discussed in the following chapters. While some recommendations may appear obvious, others likely will be controversial.

Four central themes dominate our best practices recommendations: (1) due diligence is required of all market participants, (2) customer protection is best served by tailoring best practices to customers' sophistication and needs; (3) mitigation of systemic risk and financial failures is fundamental to customer protection; and (4) significant benefits flow from expanding the use of technology to all markets, market participants and relevant processes of the futures industry.

Due Diligence Required

Our first recommendations for best practices are designed to highlight the critical role that intermediaries and customers play in assuring that they are aware of the risks and obligations of entering into exchange-traded derivatives transactions and establishing business relationships with each other. These risks and obligations cannot be eliminated, and customers as well as intermediaries have an obligation to understand them. Further, as discussed in the next chapter of this Report, intermediaries and exchanges both have an obligation to make available to customers sufficient information for customers to make a reasoned decision to participate in these markets.

Best Practices Tailored To Customers' Needs

All market participants are entitled to fair treatment and to have their orders handled expeditiously. However, because large institutional customers and professional account managers who exercise discretionary trading authority over customer accounts frequently engage in complex transactions across multiple markets and jurisdictions, the needs of such customers may require different means of accomplishing these objectives. Our recommenda-

tions in this regard are found in the Account Identification, Allocation of Bunched Orders, Give-up Transactions, and Alternative Trading Procedures sections of this Report.

Mitigation of Systemic Risk

Customer protection in the largest sense involves much more than assuring that every customer receives equal treatment, fair trades and timely order handling. Equally important is assuring the financial integrity of the process and those involved in it – exchanges, clearinghouses, and intermediaries – while permitting clients the maximum freedom to choose where and with whom to trade. During the last two decades the greatest threat to all types of customers, as well as to many intermediaries, has been the specter of systemic loss triggered by the failure of an intermediary – recall the Volume Investors, Barings, Griffin and Klein affairs, to name a few. Because the give-up process, without proper safeguards, could pose a risk to customers, we considered it an important area in which to develop best practices in this Report. The mitigation of systemic risk is also addressed in the section of this Report detailing Intermediary and Customer Due Diligence Prior to Trading.

Expanded Use of Technology

Technology can facilitate the prompt transmission and confirmation of all orders regardless of the trading platform through which they are executed. Moreover, the expanded use of technology can assist market participants in performing essential risk-management functions and can provide a reliable audit trail to benefit all market participants. In particular, customer protection can be enhanced significantly by the application of technology to produce an order-flow process that includes the following elements: (1) the customer or account manager enters the order directly, or through the intermediary, into an electronic order-routing system; (2) as appropriate for the type of customer and transaction, the order is processed through a risk-management/credit-control program; (3) the order is routed electronically to a trading engine (on an electronic exchange) or to a deck-management system (on an open-outcry trading floor); (4) upon execution, the fill report is transmitted electronically back to the intermediary and order originator; (5) the trade is matched in a real-time environment; (6) trade endorsement information is transmitted to the intermediary's back office and the exchange's clearinghouse; and (7) executed trades that were not processed through a risk-management/credit-control program prior to execution are processed as soon as possible after execution.

Nonetheless, we recognize that some of the recommendations contained in this Report could require significant changes in existing exchange or intermediary systems. Further, as discussed in several sections of this Report, certain technologies cannot be readily adapted to all market participants or applicable to all trading strategies. Moreover, certain technological enhancements to existing systems may not be advisable if such systems are scheduled to be replaced in the near future. Therefore, the costs of implementing these recommendations, as well as the benefits to be achieved, must be considered carefully.

Purpose of Recommendations for Best Practices

Before turning to the detailed discussion of our various recommendations, we wish to note again that these recommendations do not establish rigid legal prohibitions or requirements. Nor do these recommendations presume to ordain a particular course of conduct as appropriate for all market participants in all circumstances. Such an interpretation would be contrary to the Commission's recognition that the diversity of the markets and their participants requires flexibility in the choice of the means to implement core principles and meet regulatory objectives.

As previously indicated, our recommendations establish what we believe are realistic performance standards and leave to the markets and market participants the decisions on the best means of achieving them. Exchanges, intermediaries and customers alike should adopt those procedures and technologies that are most appropriate for the nature and scope of the futures and options activities in which they engage. Consequently, the decision of a market participant to elect a course of conduct that complies with the spirit of this Report but not the letter of a particular recommendation would not imply that the participant's conduct is contrary to the industry's best practices.

We note further that, similar to the markets themselves, these recommendations are not intended to be static. As the markets and the relationships among exchanges, intermediaries and other market participants continue to evolve, we anticipate that it will be necessary to revisit and revise these recommendations and the assumptions that underlie them. This is particularly important in light of recent statutory changes that affect the industry's regulatory structure. We strongly encourage the industry to do so.

INTERMEDIARY AND CUSTOMER DUE DILIGENCE PRIOR TO TRADING

Everyone involved in a futures or futures options transaction has a responsibility to understand and appropriately manage the risks of such transactions. These responsibilities extend to exchanges, clearing organizations, intermediaries, money managers, institutional investors and all other users of the markets.

Recommendations for Best Practices:

- Intermediaries and customers should take appropriate steps to understand the risks of trading on derivatives exchanges as well as the reciprocal risks involved in establishing business relationships with each other. Included in such understanding is specific knowledge of the risks associated with trading on different exchanges and clearing through particular clearing organizations, because each has its own structure, requirements and safeguards that customers and intermediaries should assess prior to trading.
- Exchanges and clearing organizations have a responsibility to provide adequate information about their contracts, rules, trading system, structure, and fees so that intermediaries and their customers can exercise due diligence in determining whether or not to trade on a particular market or exchange.
- As appropriate for the type of customer, an intermediary should examine carefully a potential customer's creditworthiness, business reputation, and anticipated trading patterns before authorizing a customer to commence trading. Based on such review, the intermediary should establish margin requirements and risk guidelines or internal limits appropriate for each customer, and these levels should be reviewed periodically and revised as necessary. In addition, intermediaries should have procedures designed to prevent unauthorized persons from acting on behalf of the customers.
- Intermediaries should provide their customers with a level of risk disclosure and information about the markets appropriate to the particular customer and the type of trading that the customer is anticipated to undertake.
- Intermediaries' order-routing systems should interface with credit review/risk-management systems to identify trading activity that

exceeds any risk guidelines or limits the intermediary may establish for a customer or any risks that could pose unnecessary financial peril to the intermediary and/or its other customers. A review of all identified items should occur in a timely manner, and in certain cases such as retail clients, it may be appropriate to complete such checks before orders are accepted and forwarded for execution.

- Intermediaries should establish customer confidentiality procedures to prevent the unauthorized use of customer information and trade data for the benefit of other customers, including the intermediary's proprietary traders, if any. In particular, intermediaries that trade both customer and proprietary accounts must assure that an appropriate separation exists between the two.
- A customer or an intermediary that also trades one or more proprietary accounts, either on its own behalf or on behalf of an affiliate, should have clearly defined trading objectives and should establish and maintain loss limits or risk guidelines consistent with these objectives. This is particularly important in circumstances in which the customer or intermediary has granted trading authority to an account manager or must rely on individuals to implement the entity's objectives. In such circumstances, entities should institute appropriate procedures to protect against unauthorized trading by employees or independent account managers.
- Before establishing a relationship with an intermediary a customer should review, to the extent practicable, the intermediary's capital, business reputation (including disciplinary history), and exchange and clearing organization affiliations. It also may be appropriate for a customer to inquire regarding the nature of the intermediary's customer business, as well as the possibility that one or a few customers' default could cause material harm to the intermediary.
- Once trading begins, a customer should review carefully all confirmation reports and monthly statements to assure that trading activity is consistent with the customer's objectives. Customers that are legal entities should designate experienced supervisory staff separate from those responsible for trading or independent third parties to review actual trading results on the customers' behalf. Intermediaries that trade proprietary accounts should establish similar audit procedures to ensure timely, independent review of their trading activity.

Discussion:

Both intermediaries and their customers have due diligence responsibilities with respect to their transactions in exchange-traded derivatives markets. In this regard, intermediaries have an ongoing obligation to take appropriate steps to understand and, as necessary take precautions against, the risks of entering into futures and options transactions with particular customers.

From an intermediary's perspective, potential customers must be carefully and thoroughly evaluated. When initially accepting a customer's account, an intermediary should make appropriate inquiry as to the nature of the transactions the customer expects to undertake, *i.e.*, markets to be traded, size and types of orders, frequency of trading, etc. An intermediary's basic understanding of a customer's expected trading patterns should be one of the factors used to establish initial risk and credit guidelines or internal limits. This preliminary understanding should be reviewed periodically and revised as appropriate.

Intermediaries are required to provide their customers an adequate level of risk disclosure. For many customers, the first step in risk disclosure is dissemination and, as necessary, explanation of prescribed risk disclosure statements. Beyond this, intermediaries must exercise prudent judgement whether or not to provide additional disclosure to a particular customer. As indicated in interviews, firms take additional steps, as required by the circumstances, to ensure customers are aware of the risks involved in trading futures and related options contracts. Such steps include sending detailed explanatory or loss awareness letters to unsophisticated clients.

Further, if a customer grants trading authority over its account to an account manager, the customer should be certain that the account manager understands and is willing to trade in accordance with the customer's trading objectives. Trading managers should provide and customers should maintain written agreements detailing their respective rights and obligations and those of their intermediaries. In turn, customers, either directly or in the case of legal entities through experienced supervisory staff or independent third parties, should monitor their accounts carefully and continually in order to assure that these objectives are being met.

In addition, customers should be aware of the particular risks that may be involved when engaging in transactions with certain intermediaries, on certain markets, through certain clearing entities or

in certain jurisdictions. Such risks include the potential consequences of a default of the intermediary through which the customer effects transactions, the default of the intermediary through which the customer's intermediary clears a particular exchange, and the failure of the clearing organization through which the customer's transactions are cleared. To the extent the requisite exchange or clearinghouse information is not readily available, customers should request assistance from their intermediaries to obtain it.

Similarly, customers should investigate fully the intermediaries through which they are dealing. An intermediary should be willing to furnish to current and potential customers pertinent information with respect to its capital,¹³ business reputation, exchange and clearing organization memberships, and other intermediaries that clear the intermediary's transactions on certain exchanges. It is especially important in dealing with brokerage firms that are not well capitalized to have an understanding of the types of customers¹⁴ that trade through such intermediaries. Customers should further supplement data provided by their intermediaries with information from independent sources and from the customers' own reviews. For example, the adjusted net capital, segregation requirements, and designated self-regulatory organization status of U.S.-registered FCMs are available to the public on the CFTC's web site. This financial information should provide the customer the ability to compare a particular firm's capitalization and regulated customer business with that of other FCMs.

In addition, potential customers should be able to obtain an intermediary's disciplinary history from the regulatory authority or self-regulatory organization with jurisdiction over the intermediary. In the U.S., the National Futures Association serves as a clearinghouse for all disciplinary actions that have been taken against CFTC registrants and provides this information on its web site. Such data help customers analyze an intermediary's reputation and relate the intermediary's offerings to the customer's own needs.

¹³ Generally, futures brokers are subject to regulatory minimum financial requirements. Other intermediaries, such as account managers or floor brokers, may not be subject to such requirements. Nonetheless, customers may wish to determine the financial resources of such intermediaries.

¹⁴ To the extent a customer participates in so-called give-up transactions described in a later chapter, the customer also should be aware of the particular risks that may be associated with such transactions, including the risk of dealing through two or more intermediaries.

Recent failures of intermediaries serve as a stark reminder that a customer's trading activities can threaten the financial integrity of the firm that carries the defaulting customer's account and that an intermediary's resulting losses can threaten the financial well being of all of its customers. Such threats to financial integrity arise with proprietary as well as other customer accounts. Customer protection is enhanced, therefore, when an intermediary adopts procedures to establish and enforce credit or risk guidelines or internal limits appropriate for each of its customers, including proprietary accounts.¹⁵ In particular, an intermediary should implement systems to identify unfavorable market moves or activity that would exceed established risk levels set by the intermediary for customers or that otherwise would pose an unacceptable financial risk to the intermediary.¹⁶ Once such risks have been identified, the intermediary should review any problem accounts to determine whether corrective action, *e.g.*, instructing the customer to adjust certain open positions or deposit additional collateral, may be warranted. An intermediary's credit review and risk-management procedures should be evaluated periodically.

Several of the firms interviewed currently employ real-time reviews of trading activity in which order routing systems interface with credit/risk management systems prior to execution and compare orders to pre-established limits. Such reviews normally are limited to the retail-customer segment.

In contrast, the vast majority of those interviewed in both the U.S. and Europe asserted that automated real-time credit review and analysis is neither practicable nor reasonable for many large clients, particularly institutional customers. These latter frequently trade numerous cash and derivative products across multiple markets and jurisdictions, using several brokers to execute and clear transactions on the customers' behalf. It is not possible for any one intermediary to have comprehensive, accurate, and up-to-date information on such clients' complex trading activities across

¹⁵ Such guidelines or limits, of course, are for the protection of the intermediary and its other customers and not for the purpose of protecting a customer from its own misjudgments.

¹⁶ Discussions with intermediaries indicated that, while there is no generally accepted risk model, some algorithms are gaining fairly wide acceptance. Risk parameters vary greatly depending on the customer's trading profile and risk capital; other factors include whether credit is apportioned on a product, market or customer basis.

intermediaries. In this context, many customers indicated that they use multiple brokers for a number of reasons, including competitive factors and to avoid a situation in which one or two intermediaries have comprehensive knowledge of the clients' global positions.

Certain clients also indicated that the imposition of a credit/risk review prior to order execution would impose costly, and in some cases unacceptable, time delays. For such customers under normal trading conditions, firms instead should perform post execution reviews of account activity to assess compliance with risk guidelines and internal limits.

In addition, an intermediary or customer that trades for one or more accounts on its own behalf should establish clear trading objectives, as well as credit or risk guidelines designed to conform to these objectives. In this regard, senior management of legal entities that trade futures and their related options should institute comparable safeguards applicable to trading personnel, desks, departments or other business segments. Intermediaries should establish additional audit procedures to ensure that their employees comply with established safeguards. Common procedures noted during the interview process include the separation of duties among sales, trading, and bookkeeping staffs; routine review and analysis of trade data for suspicious, unauthorized, or unusual patterns by autonomous compliance, risk or other control-oriented departments; and internal training programs to ensure a well-versed, competent work force. Such internal controls are a proprietary trader's first line of defense.

Separately, intermediaries must take appropriate steps to maintain the confidentiality of customer orders and positions, which is particularly important in those circumstances in which an intermediary also carries one or more proprietary accounts. Firms interviewed noted a number of means of implementing Chinese walls, including in some instances the physical separation of the brokerage and proprietary trading departments of the firm.

ACCOUNT IDENTIFICATION

Paramount to customer protection is the ability to assure that each customer, at all times, receives the trades to which he or she is entitled. Experience indicates that this regulatory imperative can be accomplished when there are effective systems to identify an order from entry through execution and to assure that orders that group the trades of multiple customers are fairly allocated. A further requirement is that there be procedures to monitor the implementation of these systems. Customer protection also is well served when these systems and procedures impinge as little as possible on the timely execution of orders. These issues are discussed in the current and following two sections — Account Identification, Allocation of Bunched Orders and Unusual Account Activity.

The goals of account identification procedures, the first of the three areas to be discussed in terms of best practices, is to enable an intermediary to identify an order, from acceptance through execution, as belonging to a particular customer (or group of customers). Related to this is the objective to assure the timely and efficient execution of the order.

Recommendations for Best Practices:

- At the time it accepts an order for execution, an intermediary should have sufficient information to identify the customer (or group of customers in the case of a bunched order)¹⁷ on whose behalf the order was placed. During the entire order-flow process – from entry through post-execution reporting – an intermediary should be able to tie back an order to the customer who placed that order.
- One means of accomplishing such account identification is by recording a customer's complete account identifier immediately upon receipt of an order.
- Alternate means for assuring unique identification of an order are appropriate for certain accounts, such as large institutional ones, when the delay involved in recording the complete identi-

¹⁷ Additional procedures relating to the execution and allocation of orders executed on behalf of a group of customers, *i.e.*, bunched orders, are discussed in the Allocation of Bunched Orders and Give-Up Transactions sections below.

fier introduces significant financial exposure. In such cases, intermediaries should develop procedures that satisfy customers' business imperatives while assuring customer protections comparable to those afforded by recording the complete account identifier. A "short-code" is an example of such a procedure.

- All orders, whatever the identification process, must carry from receipt a customer or proprietary account indicator if the order was entered by an individual having control over a personal or proprietary account as well as a third-party account.
- All orders that do not include the complete account identifier immediately upon receipt should indicate whether the order is for a customer or proprietary account.
- To assure effective trade practice and market surveillance programs, an intermediary should be able to make the complete account identifier available to the appropriate regulatory or self-regulatory authority no later than the business day immediately following the trade date.¹⁸
- An intermediary should be able to demonstrate the adequacy of its account identification procedures to the satisfaction of the appropriate regulatory or self-regulatory authorities.

Discussion:

The principal purpose of account-identification recordation requirements is to assure accurate trade attribution. Related to this is the facilitation of effective trade practice and market surveillance programs. The goal of the recommendations contained in this section of the Report is to maintain high standards of customer protection and market integrity, including the timely discovery of abuses such as misallocation and frontrunning of trades, while providing prompt, efficient execution and confirmation of customers' orders.

In discussing account-identification requirements with the FCM community and their clients in the U.S. it was apparent that customers' needs and perceived benefits differ considerably, depending upon the clients' particular characteristics. In this context, the

¹⁸ Nevertheless, an exchange should be free to establish a more stringent timetable.

vast majority of those interviewed expressed the belief that large institutional customers, because of their global and cross-market trading patterns, require immediate access to the markets and that recording the complete account identifier at order entry may cause unacceptable time delays for such customers.

In contrast, intermediaries and their institutional customers in Europe generally did not express such concerns, because they seldom, if ever, use full account codes for time-sensitive clients. Instead, representatives of clients and intermediaries interviewed in Europe routinely use 2- or 3-character short codes. Those interviewed also noted that identifying trades as customer or proprietary, in conjunction with such short codes, permits the major European exchanges (which were the exchanges under discussion during these interviews) to monitor for cross-trading and frontrunning violations as well as to identify unusual account activity.

As described in interviews of intermediaries and clients, a large money manager's futures orders may represent only a small portion of the manager's overall trading strategy. Other pieces might include securities, foreign currencies, and cash commodities, and trades may be executed on numerous offshore futures and securities exchanges as well as in over-the-counter markets. Therefore, for certain trading or portfolio strategies it is essential to assure that all components of the strategy are in place at approximately the same time, because even split second delays can affect a portfolio's profitability or create large financial exposures. In such cases, the use of a shortened identifier at order entry effects the trade expeditiously without compromising either its attribution or the audit trail, thereby meeting both objectives of account identification. The consensus of those interviewed in the U.S. and Europe indicated that recording the complete account identifier post-execution is desirable and appropriate for institutional clients implementing multi-market strategies.

To assure both the prompt transmission of orders for execution and their proper identification and confirmation after execution, an intermediary should be encouraged to develop internal operating procedures that permit the use of a shortened identifier that ensures, at the time the order is accepted, the intermediary has sufficient information to tie the order back to the customer (or group of customers) on whose behalf the order was placed. Such tie-back must be accomplished no later than the end of the trade date.

Most importantly, any such identification procedure must be amenable to independent verification that meets the requirements of the appropriate regulatory or self-regulatory authority.¹⁹ Because exchange and clearing organization systems frequently require that account identification fields be complete to effect order entry, matching and/or clearing, these systems would have to be modified in connection with implementation of the procedures suggested above. As previously mentioned, to assure effective trade practice and market surveillance programs, an intermediary should be able to make the complete account identifier available to the appropriate regulatory or self-regulatory authority no later than the business day immediately following the trade date.

Verifiable systems that interface bookkeeping systems with an account master file to provide a complete account identifier are currently available. Such systems could be used to effect the example discussed below.

Example:

Firm XYZ has several large institutional clients and many small retail customers. Each is assigned a complete customer identifier at account opening. In addition, the institutional customers are assigned a series of unique order numbers which are documented at the time the assignment is made. These order numbers are linked to the complete identifier in the account master file. Immediately upon receipt of an institutional order, the unique order number is recorded. After execution, the bookkeeping and account master file interface. The account master file recognizes the connection between the full account identifier and the abbreviated order numbers, and the shortened order numbers are replaced with the complete account identifier.

For example, institutional customer A is assigned order numbers A100 to A300, while institutional customer B receives numbers B100 to B200. In an electronic environment, customer A's order is entered through a terminal with the "C" customer indicator and A-100 in the account field. In an open-outcry environment, customer A calls the floor to place his order. The desk clerk completes the order ticket using order number A-100 and "C" as the customer indicator. This customer's second order would use A-101, etc.

¹⁹ To the extent that implementation of this recommendation would require regulatory relief, this relief should be applicable to exchanges as well as intermediaries.

Upon execution, the filled order data are entered into the book-keeping system using the short order number. During normal trade processing, the account master file is accessed, and the order code is replaced with the complete customer account identifier. Under this scenario, the order has been entered in a timely and efficient manner without compromising customer safeguards. The audit trail is complete, and in case of inquiry, the order can be traced from entry to execution and attributed to the appropriate customer.

*ALLOCATION OF BUNCHED ORDERS*²⁰

Customer protection requires that orders involving more than one customer, so-called bunched orders, be fairly allocated among all such customers. The goal of post-execution allocation procedures for bunched orders is to provide prompt and efficient execution of such orders without sacrificing the ability to assure equitable allocation of the trades among participant customers.

Recommendations for Best Practices:

- The benefits of post-execution allocation procedures should be extended to all customers of account managers when the following conditions are met:
 - the account manager is registered or otherwise subject to appropriate regulation;
 - the account manager has adopted and implemented an equitable allocation scheme that is sufficiently objective and specific to permit independent review of such procedures by the appropriate regulatory or self-regulatory authorities and the account manager's accountants;
 - the account manager makes available to its customers the general structure and nature of its allocation method;
 - the account manager allocates all transactions among its customers no later than the end of the trade date.
- Account managers should be encouraged to use average-price systems to assure non-preferential price allocations of split fills among the managers' customers²¹
- Account managers should adopt additional non-preferential procedures for the allocation of partial fills.²² Such procedures

²⁰ A bunched order is an order entered by a money manager on behalf of multiple customers with respect to which the money manager exercises discretionary trading authority. The contracts that comprise an executed bunched order are allocated among the customers on whose behalf the order was entered.

²¹ A split fill of a bunched order takes place when the contracts in the bunched order are executed at two or more different prices.

²² Partial fills of bunched orders occur when fewer than the total number of contracts representing a bunched order are executed. While one exchange

should be sufficiently objective and specific to permit independent review by appropriate regulatory or self-regulatory authorities and the account manager's accountants.

Discussion:

Customers are entitled to the fair allocation of all trades that are included in bunched orders. Allocation issues have been the focus of numerous administrative actions taken by the Commission, including the one that generated this Study and Report, and others, as detailed in Appendix F. The current regulations attempt to guard against fraudulent allocations and other forms of customer abuse by requiring that the account for which a trade is being placed be identified in writing at the time the order is accepted. When multiple accounts are included in the same order, however, compliance with the pertinent rules can become cumbersome. This is particularly true when account managers are trading for multiple clients pursuant to the same strategy.

Current regulations have attempted in two ways to provide flexibility in the manner in which the general rule applies to bunched orders. First, an account manager can provide an executing or carrying broker with a group identifier for the accounts included in a particular trade if the account manager has prefiled with the FCM an objective allocation methodology that would allow the FCM to perform the allocations without further input from the account manager after the bunched order has been executed. Second, if the account manager and all of its clients meet certain institutional and/or financial eligibility requirements, pre-filing of the allocation methodology is not necessary, and the account manager may provide allocation instructions after a trade has been executed.

In Europe, in contrast to the U.S., allocation issues generally have not generated the same controversy or concerns, nor have they been a significant focus of regulatory activity.²³ In this respect, the United States is virtually unique in adopting order allocation

adopted a rule allowing account managers to allocate an average number of contracts to customers, this rule was not used and has been repealed.

²³ Several industry representatives interviewed in Europe, however, mentioned concerns about allocation data received from U.S. CTAs the next business day. The late receipt of such data delays the completion of many give-up transactions on European exchanges. Most frequently, such problems arise when U.S. CTAs transact at the close on a European market, and, because of a 5 to 9 hour time difference, post-execution allocation data from the U.S. arrive long after the European business day has ended.

procedures designed specifically to inhibit account managers, before the fact, from favoring certain customers to the detriment of others.

Bunched orders provide particular advantages to account managers and their customers. Specifically, bunched orders facilitate the prompt execution of what otherwise would be a substantial number of small orders. Moreover, by affording an account manager the opportunity to place orders for all of its customers at one time, a bunched order assists an account manager in the exercise of its fiduciary responsibility to treat all customers fairly and equally. Finally, a bunched order is more likely to be executed at a single price than is a series of separate orders.

Both intermediaries and money managers interviewed for this Report indicated that the current allocation requirements are unnecessarily cumbersome. Those interviewed stressed that post-execution allocation of bunched orders is beneficial for all customers in that customers who are not eligible to be included in a post-execution allocation scheme could be unfairly disadvantaged in the quality and timing of their fills. The commenters also felt that the U.S. requirements generally cause unacceptable processing delays without adding customer protections that otherwise could be realized through equally effective, less costly procedures.

FCMs, while cognizant of their responsibilities to monitor accounts for unusual activity, uniformly believe that post-execution allocation would be greatly improved if the primary responsibility for allocation of bunched orders were lodged with the originator of the allocation methodology. In particular, the latter is the person who knows and must keep records detailing the totality of each of its customers' positions, which may be held at several FCMs.

Best practices in the area of bunched orders must provide customer protections equivalent to those currently in place. To assure that an account manager's bunched order allocation procedures are fair and equitable, best practices require that such processes be sufficiently objective and specific to permit independent review of any trade or series of trades that involves bunched orders. If a registered account manager is responsible for the post-execution allocation of a bunched order, the account manager should develop internal procedures pursuant to which its trading programs can be analyzed at regular intervals. The results of such reviews should be documented and made available to appropriate regulatory or

self-regulatory authorities upon request and/or to the money manager's own auditors.

If there is evidence of divergent performance among client accounts over time, the account manager must be able to demonstrate to the appropriate authorities that such results are attributable to factors other than the account manager's trade allocation or execution procedures. In this context, SROs should undertake periodic reviews or audits of such registrants to assure that their actual trade allocations are equitable. Further, account managers should be required to make available the general structure and nature of their allocation methods to their customers.

In addition, account managers should be required to allocate all transactions among their customers no later than the end of the trade date. To minimize the potential for end-of-day congestion related to trade allocations, intermediaries carrying such accounts may require account managers to provide allocation information earlier in the trading day, for example within specified time-periods after trades have been executed. This is particularly important for European markets when the time differential for CTAs based in the continental U.S. ranges from five to nine hours.

Moreover, as discussed in the Intermediary Communications Technology section below, intermediaries should encourage account managers to transmit allocation data electronically. Finally, an account manager should assure that adequate staff is available at appropriate times to transmit detailed allocation data in a timely manner, particularly for those trades that cross time zones.

With the above-enumerated protections in place, best practices suggest that the current size and sophistication requirements for clients to participate in post-execution allocation schemes can be eliminated to open the benefits of such processes to all customers of qualified account managers. With proper safeguards inherent in the allocation scheme itself, less sophisticated clients should not be at a disadvantage in assuring that their trade allocations are fair and equitable.

Recommendations in this section of the Report, in conjunction with those detailing Account Identification, Unusual Account Activity, and Give-Up Transactions, should meet clients' business needs as well as customer protection requirements by ensuring the fair allocation of trades while quickening market access and streamlining order flow.

UNUSUAL ACCOUNT ACTIVITY

In addition to systems that match customers to their trades, customer protection requires that those handling customer orders institute compliance or audit programs with respect to trading activity that may indicate illicit conduct on the part of an account owner or a third party with control over or access to an account. In this context intermediaries have a responsibility to take reasonable steps to identify and review unusual account activity within or among accounts.

Recommendation for Best Practices:

- Intermediaries should adopt procedures designed to identify and review in a timely manner unusual activity within or among accounts which may indicate illicit trading practices. Such unusual activity could include frequent or large non-routine account transfers, account number changes and error accounts that appear to be used for trading purposes. An intermediary's compliance or audit procedures may vary based on the type of trading conducted by the client (e.g., hedging or risk management vs. speculation) and the level of discretion or constructive control exercised by the intermediary over the client's account.

Discussion:

Unexpected activity within or among accounts may be an indication that the parties that own or control the accounts are engaged in one or more illicit activities, including wash trading, money laundering, and improper allocation of positions among accounts by an account manager. Intermediaries should establish procedures designed to identify and review such unexpected activities. In appropriate circumstances, such as unexplained and repeated post-execution transfers of trades between accounts, intermediaries should have procedures regarding approval of any such activities before they take place.

An intermediary's compliance or audit program should require review of the following areas, as appropriate: account changes involving different legal or beneficial owners, including a change in tax identification numbers; frequent movement of funds or positions between or among accounts; error accounts that appear to be used for trading purposes; mirror accounts;²⁴ transfers between

²⁴ Mirror accounts are generally defined as accounts that consistently enter into equal and opposite transactions in the same contracts.

customer and proprietary accounts; and account number changes after trade date plus one. Once identified, the intermediary should determine the reasons for such activity. If warranted, the intermediary should review further and, if appropriate, prepare a written record of the results of its review.

The case that gave rise to this Report involved the fraudulent allocation of trades. A review of the enforcement actions involving this type of illicit conduct, which are summarized in Appendix F, reveals three basic points. First, all of the cases involve certain common themes. Although the perpetrators of these schemes have used a variety of techniques, each of the schemes involved an order originator who had trading authority over more than one account. In addition, in every case the perpetrator, sometimes in collusion with others, caused profitable trades to be placed in favored accounts and losing trades to be allocated to other accounts.

Second, the perpetrators of the fraudulent allocations were most frequently employees of the intermediary. Intermediaries, therefore, should be particularly vigilant for such abuses when their employees have discretion over customer accounts and trade for their own accounts as well. Finally, the cases make clear that it would be nearly impossible to detect a fraudulent allocation of trades by focusing on an isolated transaction. By their very nature, allocation schemes involve a pattern of abusive conduct. For example, it would be a “red flag” if a personal trading account of an intermediary’s employee consistently made significant profits while customer accounts controlled by the employee consistently suffered losses. The review procedures of an intermediary should attempt to identify the types of activity discussed above.

When the account manager is not an employee of the intermediary, responsibility for the proper allocation of positions among accounts lies in the first instance with the account manager. However, an intermediary that executes or clears such transactions also may have responsibilities to its customers in this regard and should design its review procedures accordingly. If an intermediary has actual or constructive knowledge that an account manager may have allocated positions among accounts improperly, the intermediary has an obligation to make a reasonable inquiry into the matter and, if appropriate, refer the matter to the proper regulatory or self-regulatory authority.

GIVE-UP TRANSACTIONS

Give-up transactions provide customers²⁵ substantial flexibility, permitting a customer to execute transactions through one broker, *e.g.*, an executing broker that may have expertise in a particular market, while continuing to have its account carried with one or more carrying brokers that may be better capitalized or better able to provide a broad range of services across markets than the executing broker.²⁶

Recommendations for Best Practices:

- All parties to a give-up transaction should be aware of their respective rights and responsibilities. To the extent they are not prescribed by the rules of a relevant self-regulatory organization, these rights and responsibilities, as well as other terms and conditions of their relationship, should be reflected in a written agreement among the parties, such as the Uniform Brokerage Execution (Give-Up) Agreement. Whenever the terms and conditions of their relationship change significantly, each party should undertake to assure that all other affected parties are notified.
- A customer should take appropriate steps to understand the special risks associated with using both an executing FCM (or floor broker) and a carrying FCM. Before establishing a give-up relationship, a customer should review, among other factors, the executing broker's and carrying broker's capital, business

²⁵ Account managers acting on behalf of one or more clients are responsible for placing a substantial number of orders executed using give-up procedures. For purposes of this discussion, therefore, the term "customer" should be read to include such account managers.

²⁶ In a give-up transaction, one broker, known as the executing broker, executes an order, which is then "given-up" or carried on the books of a second broker, known as the carrying broker. In certain US markets, the executing broker is an individual floor broker, whose transactions are guaranteed by the individual's "primary clearing member" ("PCM"). For convenience, the term "executing broker" is defined to include both a member firm acting alone and an individual floor broker guaranteed by a primary clearing member. For a recent CFTC decision involving an intermediary's supervisory responsibility for give-up transactions, see In the Matter of Scott Szach, CFTC Docket No. 01-05, January 8, 2001.

reputation (including disciplinary history), and exchange and clearing organization memberships.

- In the absence of a written agreement among the parties, such as the Uniform Give-Up Agreement, an executing broker should exercise due diligence prior to accepting an initial order for a customer to confirm that the carrying broker identified by the customer will accept the executed trade. Periodically thereafter, as appropriate for the nature of the business relationship between the executing broker and the customer, an executing broker should reconfirm the carrying broker's willingness to accept trades executed on behalf of the customer.
- Because an executing broker is financially responsible for its errors, the relevant self-regulatory organizations should adopt capital requirements for executing brokers and, if applicable, their PCMs, that take into account more accurately than is currently the case the risks inherent in this activity. In addition, an executing broker should have in place risk assessment procedures, pursuant to which the broker evaluates and monitors the financial risks associated with acting in the capacity of an executing broker. These risk assessment procedures should assure that the broker has sufficient capital appropriate to the size and type of execution business that it conducts. If the executing broker is not a clearing member, the executing broker's PCM also should be required to adopt risk assessment procedures and to maintain sufficient capital appropriate to its business as a PCM. These risk assessment procedures should be subject to review by the relevant self-regulatory organization.
- Customers should provide their carrying brokers with a list of their executing brokers and adopt procedures to assure that the list is current at all times. Where appropriate, carrying brokers should establish, and communicate to an executing broker, limits (*e.g.*, order size, daily aggregate positions) on the trades that the executing broker can effect for a particular customer. As warranted, an executing broker should notify the carrying broker promptly after an order has been executed if a customer has initiated trades that, in the circumstances, appear to deviate significantly from the customer's normal trading activities.
- An executing broker should provide all relevant trade information to the carrying broker as soon as practicable after a trade has been executed. Customers should confirm such transactions separately, by providing the same information to the car-

rying broker. Trade information includes: (1) account identification; (2) the product; (3) the number of contracts; (4) whether the order is a “buy” or “sell”; (5) price; and (6) the name of the executing broker.

- In the case of bunched orders for which post-execution allocation procedures are available, an account manager should provide the allocation breakdown of bunched orders to the executing brokers and carrying brokers, as applicable, as soon as practicable following execution of the order. The executing broker, in turn, should provide such information to the clearing broker as soon as practicable thereafter.
- Carrying brokers should have the right to reject a trade only if (1) the trade exceeds trading limits the carrying broker has established for that customer and has communicated to the executing broker, or (2) the trade is an error for which the executing broker is responsible. If a carrying broker has a basis for rejecting a trade, it should notify the executing broker promptly after the executing broker has entered the trade information into the clearing system.
- Exchanges and clearing organizations also should consider adopting more uniform guidance concerning give-up transactions including, for example, time frames for submission and acceptance of give-up data.
- Electronic order routing and reporting systems should be improved to allow more efficient transmission of trade information among executing brokers, carrying brokers, exchanges and clearing. Further, as systems become more sophisticated, executing and carrying brokers should expand the use of real-time monitoring of intraday risk exposure.

Discussion:

Give-up procedures afford a customer the flexibility of having orders executed by one broker and then carried on the books of a different broker. Notwithstanding its benefits, all parties to a give-up transaction assume an increased level of risk. The customer assumes the risk that a transaction will be misdirected and will not be transferred to its carrying broker or, worse, that the carrying broker will refuse to accept the transaction.²⁷ Either result may

²⁷ When using give-up procedures, a customer should be aware that it is exposed to risks associated with both the executing and the carrying broker. For example, if the executing broker is responsible for an error or if a give-up trade

prevent a customer from managing properly its overall market exposure.

The executing broker assumes the risk that, if the clearing broker does not accept a trade, the executing broker will be required to carry a significant position overnight (or longer). In this case, the executing broker may be required to margin this position with its own funds, as well as be subject to increased capital requirements for which it may not be prepared. The carrying broker assumes the risk, especially during volatile market conditions, that it will be unaware of the considerable financial exposure that it will be expected to assume with respect to a customer's positions. Finally, the exchange and its affiliated clearing organization assume the risk that transactions will not be matched and cleared in a timely manner, exposing other exchange members to the risk of loss and the exchange to loss of reputation. The recommendations in this section are designed to diminish these risks.

To avoid unnecessary delay and confusion in order execution and clearing, give-up procedures should be uniform among market participants and across markets. In this regard, the industry and appropriate self-regulatory organizations may wish to consider adopting common guidance that would specify the parties' rights and obligations. In the alternative, or in addition to such guidance, participants should be encouraged to use a written agreement that specifies such rights and obligations.²⁸ For example, all parties should have a clear understanding of trading or position limits, if any, to which the customer (or an executing broker effecting trades on behalf of the customer) will be held and the circumstances under which either an executing broker or a carrying broker may reject a trade.²⁹ In this latter regard, a carrying broker's ability to

is otherwise rejected, the executing broker must carry the position for some period of time. If the executing broker or, if applicable, its PCM, is not sufficiently capitalized, all customers of the executing broker or PCM may be at risk.

²⁸ The Uniform Give-Up Agreement, developed in coordination with the US Futures Industry Association, the US Managed Funds Association and the UK Futures and Options Association, is an example of an agreement used almost world-wide for this purpose.

²⁹ As discussed above in the Recommendations for Best Practices portion of this section, carrying brokers should have the right to reject a trade only if (1) the trade exceeds trading limits the carrying broker has established for an executing broker with respect to a particular customer, or (2) the trade is an error for which the executing broker is responsible.

reject trades in defined circumstances is an essential element of the checks and balances of the give-up system.

Because an executing broker is financially responsible for its errors, the relevant self-regulatory organizations should adopt capital requirements for executing brokers and, if applicable, their PCMs, that take into account more accurately than is currently the case the risks inherent in this activity. In addition, an executing broker should have in place risk assessment procedures, pursuant to which the broker assesses and monitors the financial risks associated with acting in the capacity of an executing broker. These risk assessment procedures should assure that the broker has sufficient capital appropriate to the size and type of execution business that it conducts. If the executing broker is not a clearing member, the executing broker's PCM also should be required to adopt risk assessment procedures and to maintain sufficient capital appropriate to its business as a PCM. An executing broker's and, if applicable, a PCM's risk assessment procedures should be subject to review by the relevant self-regulatory organization.

Carrying brokers also should have the right, with appropriate notification to the parties, to terminate relationships with a customer's executing brokers at any time. To this end, carrying brokers should have procedures in place to ensure they are aware of the executing brokers with which their customers have relationships. These procedures would facilitate prompt notice in the event relationships change or are terminated.³⁰

Because institutional customers may trade on multiple markets using multiple executing and carrying brokers, it may be impossible for the carrying broker to obtain an accurate understanding of the customer's global exposure intraday. In order to reduce this risk, both the executing broker and the carrying broker should understand a customer's "historical" trading activities and adopt procedures designed to identify and respond appropriately to unexpected trading activity.

³⁰ In this regard, each party should provide the other parties with appropriate contact information, *e.g.*, names of responsible individuals, telephone and fax numbers, e-mail addresses. The parties should assure that all such information remains current. The parties also may wish to consider whether they can simplify notification requirements and minimize paperwork through the use of Internet web pages.

Exchanges and clearing organizations should consider adopting more uniform operating standards governing give-up transactions including, for example, time frames for submission and acceptance of give-up data. Many brokers do not submit data into the give-up system until end of day, potentially exposing both the carrying broker and the executing broker to unnecessary financial risk.

As applicable, exchanges and clearing organizations also may wish to consider whether to revise their procedures requiring executing brokers to submit detailed trade information before a trade may be accepted for clearing. The current requirements often delay the transfer of positions from the executing broker to the carrying broker until late in the day, particularly in circumstances in which an account manager employs a post-execution allocation program to allocate positions in a bunched order among its customers. Finally, in order to facilitate the timely transmission of trade data, exchanges and clearing organizations should improve their order routing and reporting systems, as discussed below in greater detail in the Electronic Order-Routing Systems section of this Report.

INTERMEDIARY COMMUNICATIONS TECHNOLOGY

The transmission of post-execution trade data and related information among customers, account managers and intermediaries through a common communications technology should permit the more efficient and economic execution and confirmation of orders.

Recommendation for Best Practices:

- Futures industry participants should be encouraged to develop a common technology through which customers and account managers would transmit allocation and give-up data to intermediaries and intermediaries would confirm such information to their customers (and account managers).

Discussion:

Current procedures for transmitting and sharing give-up and bunched-order allocation information among market participants following order execution are manually intensive and, consequently, result in frequent transcription errors. To the extent practicable, therefore, this communications process should be automated, a necessary step in moving toward straight through processing, as discussed below in the section on Electronic Order-Routing Systems. A common technology interface would further enhance the economic and practical efficiency of an electronic communications system, potentially providing intermediaries with back-office communications capabilities.

A segment of the securities industry has coalesced around a common technology interface, the FIX protocol. Futures industry participants similarly should undertake to analyze and recommend a viable platform for use in the futures industry, taking into account the technologies that have been adopted in related financial industries. Although issues related to system security, capacity, functionality and integrity would have to be considered in analyzing various technologies, the Internet provides an opportunity to adopt a robust communications system at moderate cost.

REAL-TIME MATCHING

The longer trades remain unmatched, the greater the risk to the parties to the transaction and ultimately to all individuals and entities holding or clearing positions on an exchange.

Recommendations for Best Practices:

- In an open-outcry environment that is supported by an electronic order-routing system or other on-floor technology, transactions should be matched upon execution, and unmatched transactions should be resolved expeditiously after notification to the relevant floor participants.
- In an open-outcry environment that is not supported by an electronic order-routing system, trades should be matched frequently during the day, and unmatched trades should be resolved expeditiously after notification of the relevant floor participants.
- In an electronic trading environment care should be taken to assure that, in the case of system failures, the exchange has the ability to report expeditiously to the customers or intermediaries that have entered trades, which trades have been executed/matched and which remain unexecuted/unmatched.

Discussion:

Customer protection is enhanced when customers and the intermediaries that carry their accounts are able to evaluate their open positions and resting orders at frequent intervals intraday, if not on a real-time basis. In particular, intermediaries and/or clearing organizations should be able to assess the need for intraday margin calls based on accurate, up-to-date matched trade information, rather than on the prior day's or several hours' old information. Real-time matching of executed orders also should facilitate an intermediary's confirmation of trades to its customers and should reduce substantially the number of discrepancies that currently arise.

To this end, open-outcry exchanges should adopt procedures to assure that all trades are matched on a real-time basis and that unmatched trades are resolved expeditiously. Such exchanges should be encouraged to adopt electronic support systems that

permit orders to be matched immediately upon execution. Once immediate matching is implemented, exchange procedures also should require that unmatched trades be resolved as soon as practicable after notification to the relevant floor participants.³¹

Members of the futures industry located in Europe had both praise and criticism for electronic trading systems. When they are functioning properly, such systems match executed orders on a real-time basis. However, when such systems malfunction the status of orders in the pipeline may be uncertain, and the longer the system is down, the greater the risk to those who initiated the unreported transactions. In addition, when an electronic system restarts, resting as well as unexecuted market orders may lose their time priority.

It is therefore important that electronic exchanges develop contingency plans for such occurrences and set out clearly how and when the status of trades in the pipeline will be communicated to the customers and intermediaries that entered the trades. In addition, consideration should be given in an electronic-execution environment to addressing ways to preserve the priority of orders following an exchange failure or shut down. In all cases, electronic exchanges should provide for the fair and orderly resumption of trading following such disruptions.³²

³¹ Clearing organizations that support open-outcry markets currently collect unmatched trade information from clearing members or floor brokers at intervals throughout the trading day. While there are variations among clearing organizations, matching criteria generally include: buy/sell, quantity, put/call, month, year, product, price, strike price, order type, trade type, clearing firm, filling broker, opposite clearing firm and opposite broker. Information may be collected as often as every five minutes or as infrequently as twice each day.

³² See also the section on Electronic Trading Systems below.

TRANSFER OF UNFILLED ORDERS

The prompt and efficient execution of a customer's order is facilitated when the customer is able to transfer an unfilled order easily from one execution forum to another.

Recommendations for Best Practices:

- Exchanges should be encouraged to revise their systems and procedures to allow intermediaries and independent systems vendors to design systems that permit resting orders to pass from one execution forum to a different execution forum, provided the markets are not operating simultaneously.
- The transfer from one execution forum to another should be as seamless as possible, eliminating the need to re-enter orders.
- Intermediaries should offer their customers the opportunity to select how and where their trades are executed.

Discussion:

Exchanges have entered into a number of different arrangements to extend the trading day, including (1) mutual-offset arrangements, (2) the transfer of orders between exchanges that trade fungible products, and (3) the transfer of orders between an open-outcry execution forum and an electronic execution platform operated by the same exchange. Historically, however, orders that are entered but not filled on one execution forum are not transferred to the other forum, unless the customer specifically requests it. The reasons are several. Intermediaries generally have been unable to transfer unfilled orders using the intermediaries' order-routing systems. In addition, certain markets are not as liquid as others. Moreover, the exchange fee structure in each forum may vary substantially.

If a customer nonetheless elects to transfer an order from one execution forum to another, the customer or its intermediary placing the order currently must resubmit all trade information to accomplish this transfer. The process is cumbersome. As important, the customer's order may lose its priority. Consequently, market participants transfer unfilled orders infrequently.

Artificial barriers and limitations should not inhibit the transfer of unfilled orders. Exchanges, therefore, should be encouraged to revise their systems and procedures to allow intermediaries and independent systems vendors to design systems to facilitate the transfer of orders from one execution forum to another. Without the ability to transfer orders seamlessly, the execution of orders on behalf of customers may be needlessly delayed. Resolution of this issue will become increasingly important as the industry moves towards a more complete electronic environment and more far-ranging international alliances.

In a side-by-side trading environment, the customer or the customer's account manager should be responsible for determining the venue to which an order would be directed. Discretion in this regard can be given to the order taker (electronic or human), and/or the customer, in the account agreement, may establish a default venue to govern in the absence of other instructions.

ALTERNATIVE TRADING PROCEDURES

Alternative trading procedures, such as block and cross trades, may provide customers a means of achieving more efficient execution of transactions with respect to time, price and size.

Recommendation for Best Practices:

- Exchanges should continue expanding the use of alternative trading procedures.³³ If an exchange offers one or more alternative trading procedures, such transactions should not be subject to unnecessary restrictions. Specifically, exchange rules should address only: (1) the class of participants that may engage in such transactions; (2) the minimum contract size; (3) the times by which a trade must be presented to the clearing organization for clearing and reported to the market; and (4) the party responsible for making such report to the market and clearing organization.

Discussion:

The End Users Expert Panel, the institutional customers we interviewed and the intermediaries that serve those customers, all expressed strong support for alternative trading procedures, such as block and cross trades, that facilitate the execution of orders away from an exchange-trading forum.

The financial futures, OTC derivatives, and securities (including government securities) markets, in particular, are increasingly integrated. As a result, futures and options on futures transactions on behalf of institutional participants often are only one element of a transaction involving multiple products, including cash market instruments such as equity and fixed income securities and, in some cases, OTC derivatives as well. In order to price properly the cash market and OTC derivatives elements of the overall transac-

³³ Currently in the U.S., the Cantor Exchange's and Chicago Mercantile Exchange's rules provide for block trading; the Cantor Exchange's rules apply to all currently trading futures contracts, while the Chicago Mercantile Exchange's rules limit block trading to certain specified equity index and interest rate futures contracts under a one-year pilot program that began in late November 2000. In August 2000, the Chicago Board of Trade proposed a rule to the CFTC that would permit block trading in products that began trading no earlier than the year 2000.

tion and to manage efficiently the risks associated with the transaction, it is essential that the parties be able to obtain a price certain for the futures element.

Depending on the particular futures market and the size of the transaction, participants frequently are unable to obtain price certainty when an order is submitted for execution, either on the exchange floor or through an exchange electronic-trading system. The prices obtained for these transactions reflect only the liquidity available on the floor or in the trading system at the time the trade is entered and may not reflect actual supply and demand in the market at large. As a result, the market participant may fail to achieve its legitimate economic objectives.

Exchanges should explore expanding the use of alternative trading procedures. An exchange may determine that certain alternative trading procedures should be available only to certain classes of participants, such as institutional and other sophisticated customers that are able to appreciate more fully the risks as well as the benefits of a particular procedure. However, professional account managers should be entitled to act on behalf of their clients without regard to whether the underlying clients meet eligibility requirements. The addition of customers whose accounts are managed by professional account managers is based on the conclusion that, because the manager is a fiduciary to its client, it is appropriate to look only to the sophistication of the advisor rather than to that of the individual participant.

An exchange should establish a minimum contract size for each contract with respect to which the exchange elects to permit block trading procedures, taking into account the liquidity of the particular market, the customary size of transactions in the related cash and OTC derivatives markets, and the needs of market participants. Advisors should be permitted to aggregate the accounts of their clients to meet the minimum contract size.

A trade that is executed away from the applicable trading forum should be reported to the market and presented to the clearing organization. Intermediaries have an obvious interest in assuring that a transaction has been accepted for clearing. Similarly, market transparency is enhanced when the trade is reported promptly.

Nonetheless, a reporting requirement which is too short can make it difficult for a counterparty to execute transactions necessary to manage the risks assumed with the block trade, thereby raising the

cost of the transaction to the ultimate customer. As a result, exchanges and clearing organizations must strike an appropriate balance between these competing interests. Further, to avoid any misunderstanding between clearing members, the clearing member initiating a block or other alternative trade should be responsible for presenting the trade to the clearing organization. The opposite clearing member should be responsible for confirming the trade.

The institutional investors and other commercial end-users who expressed opinions for this Report indicated significant concerns about restricting the price at which the futures component of a multi-market block trade could be accomplished. While mindful of the overarching requirement to safeguard market integrity, market users noted that a futures block trade normally would be undertaken as part of a larger transaction spanning several markets, and, consequently, it would be inappropriate to restrict the price of any one of the component trades.³⁴

³⁴ It should be noted that the existing rules of the Cantor Exchange and the Chicago Mercantile Exchange, as well as the proposed rules of the Chicago Board of Trade, provide for “fair and reasonable” pricing of a block trade but otherwise do not restrict the price at which such trades can be transacted. The Chicago Mercantile Exchange notes that fair and reasonable is assessed “in light of the size of the order, prices in related cash and futures markets and the circumstances of the participants.” See CME Release S-3649, November 10, 2000.

TRADE RECONSTRUCTION

To assure that intermediaries and other market professionals have treated customers fairly in connection with the execution and allocation of trades, intermediaries, regulatory authorities and self-regulatory organizations should have the ability to reconstruct the trading history of all orders received over a period of time.

Recommendations for Best Practices:

- Electronic trading environments should be designed to maintain a complete time history of each order, whether filled, unfilled or cancelled.
- In an open-outcry environment, a record should be developed and maintained of the time an order is first received by an intermediary, when it is received on the floor, when it is executed, and when it is confirmed to the order originator. In addition, whenever there is a change in the order the time of the change should be noted. As electronic and other on-floor processes improve, the actual time of execution rather than the trade bracket should be captured.
- Because intermediaries do not receive opposite firm and opposite trader information automatically in an electronic environment, exchanges and clearing organizations should make available such counterparty data upon request by the intermediary's compliance department.

Discussion:

During industry interviews in the U.S. and Europe, market users and intermediaries both indicated that knowing the exact time of a trade's execution was very important to them. In addition, regulatory and self-regulatory authorities consider the ability to reconstruct the trading history of orders over a period of time as essential to an effective trade practice or market surveillance program. Therefore, electronic systems, because of their superior ability to capture all relevant times, should be the preferred means to record order data and maintain a chronological history of them.

In an electronic-trading environment, a complete time history can and should be maintained. As electronic systems become more prevalent in open-outcry markets, the actual execution time, rather

than time brackets, should be recorded. In addition to the execution time, a record should be made each time an intermediary receives an order, when an order is received on the floor, when an order is confirmed to the order originator and whenever there is a change in the order.

Clearing organizations, exchanges and other self-regulatory organizations responsible for trade practice and market surveillance programs, including computerized trade reconstruction, should be encouraged to adopt uniform trade-data and trade-practice submission requirements. Uniform standards will facilitate the sharing of information among self-regulatory organizations as well as the recordkeeping and reporting requirements with which intermediaries must comply.

Market intermediaries and exchanges also should have internal trade-practice surveillance systems designed to assist in detecting instances in which a customer or an employee may have engaged in unlawful activity, such as trading ahead of a customer or illicit prearranged trading. In order to perform this function, market intermediaries must be able to access as needed the identity of the clearing firm and trader with whom a trade was effected.

In an open-outcry environment, this information is an integral part of the process by which trades are matched and cleared. However, in an electronic environment, intermediaries do not have access to these data. Exchanges and clearing organizations, therefore, should adopt procedures to assure that this information will be available to member firms upon request. For their part, intermediaries should adopt procedures to assure that the data will be used by the intermediary's compliance, audit or other control-oriented department for surveillance purposes only and will not be made available to sales, marketing, trading or other similar areas within the firm.

RECORDS RETENTION

Customer protection is enhanced when records of orders and related information are properly maintained and readily available to customers, their intermediaries, regulatory authorities and self-regulatory organizations. Customer costs can be reduced and customer service enhanced if firms and exchanges are allowed to make optimal use of technology in fulfilling their record-retention responsibilities.

Recommendation for Best Practices:

- Exchanges and intermediaries should be allowed to retain required records in any electronic medium that can be demonstrated to be secure and easily retrievable within 24 hours. Regulatory requirements regarding electronic storage of records should be uniform and should not be unduly prescriptive in terms of the means of achieving security and retrieval standards.

Discussion:

Technological advances in records retention media provide opportunities to reduce storage costs while improving security against alteration and response time in accessing the records retained. Regulatory authorities and self-regulatory organizations, as applicable, should encourage the use of alternative media to create and retain relevant records, provided these media meet certain minimum standards. For example: (1) current records should be retrievable immediately and transferable through electronic transmission or hard copy; (2) all records should be easily retrievable within 24 hours; and (3) records should be difficult, if not impossible, to alter. In this latter regard, all alterations should be easily identified and documented. Intermediaries also should be required to retain duplicate records at a separate site.

*ELECTRONIC ORDER-ROUTING SYSTEMS*³⁵

Electronic order-routing systems (“EORS”) can enhance customer protection by facilitating the transmission of orders for execution and thereafter promptly confirming order execution.

Recommendations for Best Practices:

- In an open-outcry environment, customer orders should be transmitted through an EORS as soon as practicable after the order is received. Open-outcry trading environments should be encouraged to develop, or facilitate the development of, EORS that would be capable of routing orders directly to individual pits and have the ability to route execution reports back to member firm locations. Such systems should be designed to transmit trade data directly into real-time matching and clearing systems. These systems also should work with intermediary order-management systems that permit credit-review and risk-management.
- In direct access electronic markets, *i.e.*, markets in which a customer is permitted to execute an order directly rather than through an intermediary, exchange systems should have risk-management filters comparable to those that intermediaries employ.

Discussion:

As discussed in the Introduction to this Report, the benefits of technology, as reflected in electronic order entry and reporting systems, include a superior degree of customer protection. In addition to speed, such systems minimize errors and provide more complete audit trails and more precise trade execution times. Furthermore, the real-time trade matching capabilities offered by such systems and their ability to incorporate risk-management and credit-control filters in the order-flow process create additional customer protections. In addition, such systems provide a high level of customer anonymity and facilitate equal market access for all types of customers and sizes of orders.

³⁵ These recommendations are consistent with the International Organization of Securities Commissions’ (“IOSCO’s”) *Principles for the Oversight of Screen-Based Trading Systems for Derivative Products*, reprinted at Appendix G.

For a number of years, U.S. futures exchanges have sought to merge the benefits of automation with the open-outcry trading environment. Although hand-held trader terminals and tethered devices have been tested successfully in certain futures markets, open-outcry markets generally have not incorporated EORS as successfully as U.S. securities and securities options exchanges. A well-designed EORS, capable of routing orders directly to individual pits for execution and of reporting executed orders back to intermediary member firms, should greatly enhance accuracy, speed and liquidity in open-outcry trading environments.³⁶ Exchanges, members and intermediaries should be encouraged to increase their support of EORS on open-outcry exchanges.

To the extent practicable, EORS should be designed to be an integral part of the order process. In this regard, EORS should be able to work with intermediary credit-review and risk-management systems. In addition, such systems should provide filters, which could be tailored for particular customers, to preclude inadvertent entry of unintended large orders. These filters might also serve to identify unauthorized trading which is far in excess of a customer's usual level of trading. Moreover, EORS should be able to transmit trade data directly into real-time matching and clearing systems. EORS also should be flexible enough, for example, to allow intermediaries to change the screen format to meet their individual needs. Finally, exchange-designed systems should be accessible to all market participants equally.

To assure that intermediary-developed systems, including systems marketed by independent systems vendors, are compatible with exchange-developed systems, exchanges should establish objective licensing and accreditation standards. Processes should be developed to test these systems in terms of the following five major areas:

Functionality. Considerations should include design elements of market selectivity, multi-location access, trade-blotter interface, order-book passing and base currency flexibility. In addition, screen adaptability, variable data input, order-desk management,

³⁶ Flashing, headsets and telephones are techniques currently used to send orders directly into the pits. These methods appear to work satisfactorily in their respective markets. However, each of these customer order-handling techniques presents problems, and none is as efficient or provides the same degree of customer protection as a well-designed EORS.

back-office and clearing organization interfaces, should be reviewed.

Capacity. Standards should include peak load performance testing, system change and testing protocols, restart capabilities, back-up environments and bandwidth parameters.

Security. Components should include unauthorized order flow rejection, flexible filters for intermediary and exchange requirements and customer file confidentiality.

Integrity and Risk-Management. Features should include credit-review and risk-management elements as well as processing capabilities for initial and variation margin. “Fat-finger”³⁷ and price-range protection, user and system documentation as well as third-party audit capability should be evaluated.

Customer Education. Elements of a customer education program should include user training resources, reference materials and help desk support. In addition, customers should be advised whether their access to the market is limited in any way and whether the system’s liability is limited in any way and, if so, in what manner.

³⁷ Fat-finger protection guards against the human error of inputting multiple digits unintentionally, *e.g.*, entering “99” rather than “9.”

ELECTRONIC TRADING SYSTEMS

Well-designed electronic trading systems should facilitate the prompt and efficient transmission and fair execution of customer orders.

Recommendations for Best Practices:

- Sponsors of electronic trading systems should be encouraged to develop and maintain systems that assure equitable treatment of all market participants and, in addition, address issues such as market transparency, system security, failure-recovery procedures, capacity, integrity, supervision and customer education.³⁸
- Sponsors of electronic trading systems should assure that market participants understand the rules pursuant to which transactions are effected.

Discussion:

Customer protection should be an overriding theme of any electronic trading system. In this connection, customer protection is enhanced when customers are fully informed of their rights and obligations as participants in the trading system.³⁹ Therefore, exchanges should be encouraged to develop programs to advise all market participants, either directly or through intermediaries, of any significant risks of trading through the system.⁴⁰ In particular, if the exchange's liability, as set forth in the system's rules or

³⁸ The recommendations with respect to electronic trading systems conform to the International Organization of Securities Commissions' ("IOSCO's") *Principles for the Oversight of Screen-Based Trading Systems for Derivative Products*, reprinted at Appendix G. In developing these principles, IOSCO wisely chose to refrain from setting design standards and, instead, elected to establish meaningful performance standards only, leaving to exchanges the technological decisions necessary to achieve performance. In the decade since they were first published, these principles have proven to be an excellent framework for the development and maintenance of electronic trading systems.

³⁹ In this connection, exchanges should make their rules, standards and procedures available both on the Internet and in hard copy.

⁴⁰ Such disclosure may be particularly important with respect to those systems that provide Internet access and, therefore, could attract relatively unsophisticated customers.

otherwise, is different from what a market participant would anticipate through the operation of law, the exchange should describe clearly, and assure that market participants are aware of, the scope of the exchange's liability.

To achieve these goals, exchanges should be encouraged to develop and make available clear, concise and understandable market education materials. In addition, exchanges should provide training for intermediaries and customers, including on-line mock trading tutorials and proficiency tests that assure knowledgeable market participants.

Customer protection is also advanced when electronic trading systems are designed to assure equitable treatment of all market participants and, in that regard, assure that accurate and timely trade information is available to all participants.⁴¹ If the exchange nonetheless elects to provide different levels of market information to different types of market participants, the sponsor should be certain to advise all participants of these differences.

Electronic trading systems should maintain records of total positions by product and on an exchange-wide basis by large trader as well as monitor credit and margin exposure. These systems also should be able to maintain records of customer, executing firm and carrying firm relationships and, in this connection, should have the ability to trace back all trades and give-ups that have occurred in the matching and clearing process.

In addition, electronic trading systems should be designed to handle access by multiple EORS that have met licensing and accreditation standards set by the system sponsor. In this regard, systems sponsors should develop and publish standards to test and authorize the interconnection of EORS and act promptly to license such system interconnectivity when appropriate. Electronic trading systems and their interfaces to EORS should be available and accessible for third-party audits on a regular basis.

Another overriding goal of any electronic trading system is to assure that the system is able to perform the functions for which it was designed. In this regard, therefore, systems and system interfaces should be subject to an objective risk assessment to identify vulnerabilities that may exist in system design, development or

⁴¹ In this regard, accurate and timely trade information should include information with respect to the size of each bid/ask quote.

implementation, both before implementation and periodically thereafter.⁴² Electronic trading systems should be designed robustly to handle peak volume conditions and preclude market overload and failure on a system-wide basis. In addition, the system should be modularly expandable to handle increasing transaction volume or the introduction of new products.

In the event of system failure, interruption or malfunction, the electronic exchange should be designed to assure that no market or customer data are lost. Backup facilities and restart procedures should be in place to assure minimum downtime as well as fair and orderly market re-openings. Moreover, procedures also should be in place to inform intermediaries, others with direct access to the system and ultimately all market participants of systems problems and expected recovery times. Such procedures should assure that all those that have direct access to the electronic market have simultaneous access to the same pertinent information concerning any failure, interruption, malfunction and re-start of the electronic market. Finally, as mentioned in a previous section of this Report, system sponsors should develop systems that assure the maintenance of order priority when the system re-starts after a failure.

⁴² Such vulnerabilities include the risk of unauthorized access, internal failures, human errors, attacks and natural catastrophes. At a minimum, the system should be designed to deny access to persons that have not been authorized to trade on the system. In addition, the system should protect market participants' privacy and confidentiality by assuring that individual customer and intermediary files are not accessible by unauthorized parties or systems.

APPENDICES

APPENDIX A

Study Administrators

Margaret M. Eisen
Managing Director
North American Equities
General Motors Investment Management Co.

Susan M. Phillips
Dean
School of Business and Public Management
The George Washington University

Robert K. Wilmouth
President and Chief Executive Officer
National Futures Association

**(See biographies of the Study Administrators at the end of
Appendix A.)**

APPENDIX A

Advisory Committee

Bruce L. Cleland
President
Campbell & Company, Inc.

Ronald S. Oppenheimer
First Vice President and
General Counsel,
Futures and Options
Merrill Lynch & Co.

Bryan T. Durkin
Senior Vice President
and Administrator
Chicago Board of Trade

Dr. Todd E. Petzel
President and Chief Investment
Officer
Commonfund Asset Management
Company, Inc.

Arthur W. Hahn
Partner
Katten Muchin & Zavis

Thomas A. Russo
Vice Chairman
Lehman Brothers, Inc.

Thomas A. Kloet
Senior Managing Director
ABN AMRO Incorporated
(at the time of the Study)

A. Carver Wickman
Managing Director
Goldman, Sachs & Co.

Jack H. Lehman, III
Senior Executive Vice President
Salomon Smith Barney, Inc.

Eric S. Wolff
Managing Director
Regulatory Affairs
Chicago Mercantile Exchange

Barry J. Lind
Chairman
Lind-Waldock & Company

Neal L. Wolkoff
Executive Vice President
New York Mercantile Exchange

Joanne T. Medero
Managing Director and
Chief Counsel
Barclays Global Investors, N.A.

Robert E. Zellner
Private Investor

APPENDIX A

Senior Support Group

Paula A. Tosini
Executive Vice President
and Director
Futures Industry Institute

Daniel J. Roth
Executive Vice President and
Chief Operating Officer
National Futures Association

Daniel A. Driscoll
Executive Vice President and
Chief Compliance Officer
National Futures Association

Barbara Wierzynski
Executive Vice President and
General Counsel
Futures Industry Association

Yvonne J. Downs
Senior Vice President, Compliance
National Futures Association

Study Team Members

Anthony G. Ward
Project Manager
International Trading Places, Inc.

Kevin M. Foley
Quincy Law Group

Debra L. Gruetzmacher
Operations Specialist

Catherine C. Munn
Compliance Specialist

Thomas F. Thrall
Technology Specialist

George Steinbeck
Operations Specialist

Carol A. Wooding
Assistant General Counsel
National Futures Association

Christine K. Makino
Support Services Administrator
National Futures Association

Margaret M. Eisen

**Managing Director, North American Equities
General Motors Investment Management Corporation
New York, New York**

Margaret (Peggy) Eisen joined General Motors Investment Management Corporation (GMIMCo) in 1995 as Managing Director, North American Equities. She is responsible for GMIMCo's internally managed publicly traded equity. Ms. Eisen also oversees GMIMCo's external managers of publicly traded securities. She is a member of GMIMCo's Management Council and Asset Allocation Committee.

Before joining GMIMCo, Ms. Eisen was Director of Worldwide Pension Investments for DuPont Pension Fund Investment. Her previous experience includes serving as Vice President of Loomis Sayles & Company and Assistant Vice President at Cowen & Company, following technology as an analyst for both organizations. Ms. Eisen began her career as a teacher, moving to private industry as a Program Manager and Contributing Editor for International Data Corporation, a market research and consulting firm on the computer industry.

Ms. Eisen currently serves as Chair of the Futures Industry Institute and is a Director of the Global Financial Group, a venture capital fund of funds. Ms. Eisen is also a member of the Investment Committee of The Board of Trustees of Smith College. Previously, Ms. Eisen sat on the Board of Directors and was Chair of the Audit Committee of Travel Centers of America.

Ms. Eisen received her AB degree from Smith College, an M.Ed. from Lesley College and earned an MBA with Distinction at Babson College. She is a Chartered Financial Analyst.

Susan M. Phillips

**Dean
School of Business and Public Management
The George Washington University
Washington, D.C.**

EDUCATION

- 1973 Ph.D. (Finance; minors: Economics, Management); Louisiana State University (Dissertation: "The Portability Concept: Development, Growth, and Future Direction"; State Farm Companies Foundation Dissertation Grant)
- 1971 M.S. (Finance, Economics); Louisiana State University
- 1967 B.A. (Mathematics, Chemistry); Agnes Scott College

EMPLOYMENT

- July 1998-
To Present Dean and Professor of Finance, School of Business and Public Management;
The George Washington University; Washington D.C.
- Dec. 1991-
June 1998 Member, Board of Governors of the Federal Reserve System,
Washington, D.C.
- Aug. 1987-
Nov. 1991 Vice President for Finance and University Services, University of Iowa,
and Professor of Finance, College of Business
Administration, University of Iowa; Iowa City, Iowa
- Nov. 1981-
July 1987 Commodity Futures Trading Commission, Washington, DC:
Commissioner, Nov. 1981 - July 1987
Acting Chairman, May 1983 - Nov. 1983
Chairman, Nov. 1983 - July 1987
(Reappointed 1985)
- 1974-1984 The University of Iowa:
- 1974-1978 Assistant Professor of Finance, Department of Business
Administration (on leave from June 1976 to July 1978)
- 1978-1984 Associate Professor, Department of Finance
(on leave from November 1981 to 1984)
- Feb. 1979-
June 1980 Interim Assistant Vice President for Finance and
University Services

June 1980- Associate Vice President for Finance and
Nov. 1981 University Services

July 1976- Brookings Economic Policy Fellow (1976-77) and SEC Economic
July 1978 Fellow (1977-78), Directorate of Economic and Policy Research,
Securities and Exchange Commission, Washington, D.C.

1973-1974 Assistant Professor, Finance Department, Louisiana State
University, Baton Rouge, Louisiana

1967-69, Research Assistant, later Research Technician in Group Pension
Summer 1970, Actuarial and Research Department, John Hancock Mutual Life
Jan. 1971 Insurance Co., Boston, Massachusetts

PROFESSIONAL AFFILIATIONS AND ACTIVITIES

Board of Trustees, State Street Research Funds (Member, 1998-present)

Board of Directors, Cantor Exchange (Public Member, 1998-present)

Board of Directors, National Association of College and University Business
Officers (NACUBO) (Member, 1989-1991)

Board of Trustees, Futures Industry Institute (Member, 1989-1991)

Board of Governors, Chicago Mercantile Exchange (Public Member, 1988-1991)

Board of Directors, State Farm Mutual Automobile Insurance Company
(Member, 1988-1991, 1999-present)

Subsidiary Board, State Farm General Insurance Company (Member, 1991)

Subsidiary Board, State Farm Fire & Casualty Company (Member, 1991)

Subsidiary Board, State Farm Companies Foundation (Member, 1991, 1998-present)

Subsidiary Board, State Farm Life Insurance Company (1998—present)

Board of Trustees, Johnson County Youth Services Foundation (Member, 1988-1991)

Board of Directors, Futures Industry Association (Member, 1988-1990)

Board of Trustees, Agnes Scott College (Member, 1983-1991; Vice Chairman, 1987-1989)

Board of Directors, Midwest Resources, Inc. (formerly Iowa Resources, Inc.)
(Member, 1987-1991)

Board of Directors, Musser-Davis Land Co. (Member, 1987-1991)

Board of Directors, Neurotron, Inc. (Member and Secretary, 1987-1991)

Board of Directors, Iowa Measurement Research Foundation (Member and Treasurer, 1987-
1991)

Reviewer, The Journal of Futures Markets (1987-1991)

Southern Risk and Insurance Association (Secretary/Treasurer, 1975-76; Second
Vice President - Program Chairman, 1976-77; First Vice President, 1977-78; President, 1978-
79)

PUBLIC TESTIMONY AND SERVICE (other than job-related):

Testimony before the Senate Committee on Agriculture, Nutrition and Forestry on Over-The-Counter Derivatives and Hodge Funds, December 16, 1998.

Administrator, Best Practices Study of Order Transmission and Entry Procedures, with Futures Industry Institute and National Futures Association for the Commodity Futures Trading Commission, 1999-present.

Senate Delegate, National Summit on Retirement Savings, Washington, D.C., June 4-5, 1998.

Member, Board of Visitors, College of Business of the University of Iowa, 1992 to present.

Member, Regulatory Coordination Advisory Committee, Commodity Futures Trading Commission, 1991.

Co-Vice Chairman, Special Panel to Review Trading Practices, Chicago Mercantile Exchange, 1989.

Member, U.S. Congress Office of Technology Assessment Advisory Panel, Assessment of Securities Markets and Information Technology, 1988-90.

Member, Comptroller General's Advisory Panel, Review of Events Relating to the Recent Decline in the Securities and Futures Market, General Accounting Office, 1987-88.

Member, Vice President's Task Group on Regulation of Financial Services, 1983-84.

Expert Witness on Private Pension Portability Before the Subcommittee on Retirement Income and Employment of the Select Committee on Aging, U.S. House of Representatives, April 6, 1978.

HONORS AND AWARDS

Phi Beta Kappa, Agnes Scott College

Beta Gamma Sigma, Louisiana State University

Chicago Board Options Exchange Pomerance Prize Award (Outstanding Research in Options), December 1980

Outstanding Alumna Award, Agnes Scott College, April 1982

Hall of Distinction, College of Business Administration, Louisiana State University, May 1996

Biography Fame International (1995)

Who's Who in America, 45th-53rd Editions (1991-1999)

Who's Who in American Education, 5th Edition (1995)

Who's Who of American Women, 16th - 21st Editions (1992-1998)

Who's Who in Finance and Industry, 26th-30th Editions (1992-1996)

Who's Who in Science and Engineering, 3rd Edition (1996)

Who's Who in the World, 9th -13th Editions (1991 - 1995)

Two Thousand Notable American Women, Sixth Edition (1994)
Who's Who Registry, 1994-95 Edition
International Who's Who of Professional Business Women, Fourth Edition (1995)
The World Who's Who of Women, Twelfth Edition (1992-1993)
International Who's Who of Women, 2nd Edition (1997)

RESEARCH AND PUBLICATIONS

Publications:

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“Technology and Risk Management.” Proceedings of the 33rd Annual Conference on Bank Structure and Competition, Federal Reserve Bank of Chicago, May, 1997.

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“Derivatives and Trading; No Quarantine Necessary.” Banking Strategies, September-October, 1996.

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“New Approaches Aid Risk Measurement, Management” Financial Update, Federal Reserve Bank of Atlanta, October - December, 1995.

"International Competition in Financial Services: Should We Harmonize National Regulatory Systems?" The World of Banking, June-July 1995.

"Regulatory Harmonization in Financial Services." Derivatives Quarterly. Winter 1995.

"Derivatives and Risk Management -- Supervision Issues." Proceedings of the 31st Annual Conference on Bank Structure and Competition, Federal Reserve Bank of Chicago, May 1995.

"Derivatives and Risk Management: Challenges and Opportunities." Northwestern Journal of International Law and Business, Winter 1994.

"Survey Data on U.S. Retail Fees and Services." The World of Banking, September-October, 1994.

"The Future of Banking; A Look Ahead." Northwestern Financial Review, June, 1994.

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"Capital Market Innovations: A Regulatory Perspective." The World of Banking, March-April 1994.

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"A Changing Social Landscape." Speech Excerpts before the American Bankers Association's Graduate School of Banking. Partners In Community and Economic Development, Federal Reserve Bank of Atlanta, Summer 1993.

"Clearance and Settlement of Derivative Products." The World of Banking, July-August 1993.

"Remarks on Credit Crunch." Proceedings of Conference on The Credit Crunch: Myth or Reality? The University of New Mexico, March 8, 1993.

"Prospects for the Economy," Financial Leadership Speaks, March-April, 1992.

"Examining the Equity Markets." Book review of Equity Markets: Structure, Trading, and Performance by Robert A. Schwartz. NYU Business, Winter 1989, 43.

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"The New Financial Markets." Policy Forum on Financial Futures, American Enterprise Institute for Public Policy Research, July 9, 1987.

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"Viable and Safe Markets - The Role of the Commodity Futures Trading Commission." National Journal, September 3, 1983. (Also in the National Journal's Issues Book entitled The Futures Markets and National Policy: An Agenda for the 1980's, 1983.)

"CFTC's View of Financial Futures." World Financial Futures Conference Proceedings, Financial Times, London, September, 1982.

"A Comparison of Margin Requirements for Options and Futures" with Paula A. Tosini. Financial Analysts Journal, November-December 1982.

"Exchange Listing and the Cost of Equity Capital" with J. Richard Zecher. U.S. Securities and Exchange Commission Capital Market Working Papers, No. 8, March 1982.

"A Comparison of Options and Futures in the Management of Portfolio Risk" with Eugene Moriarity and Paula Tosini. Financial Analysts Journal, January-February 1981.

"Trading Costs for Listed Options; The Implications for Market Efficiency" with Clifford W. Smith. Journal of Financial Economics, 8, 1980. Reprinted in Empirical Research in Capital Markets, G. W. Schwert & C. W. Smith (Eds.), (McGraw-Hill Book Company, 1991).

"The Supreme Court's Decision on The Daniels' Case: Implications for Pension Regulation." Journal of Risk and Insurance, December 1979.

"The Cost of Funding Benefits Under the ERISA: A Statistical Survey - Comment: Authors' Reply," with Linda Pickthorne Fletcher. Journal of Risk and Insurance, March 1978; Second Reply, December 1979.

"The Future of the Portable Pension Concept," with Linda Pickthorne Fletcher. Industrial and Labor Relations Review, January 1977.

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"Potential Effects of Recent Pension Legislation." Best's Review, Life and Health Edition, March 1975.

"The Token Woman," with Linda Pickthorne Fletcher, Intercollegiate Case Clearing House (Harvard University), Case LCCH-#9475729. Reprinted in the following case texts:

- (1) Business and Society, Hay, Gray, and Gates (Eds.)
- (2) Cases in Organizational Behavior, White and Vroman (Eds.)
- (3) Principles of Management in Organizational Behavior, Justin G. Longenecker
- (4) Personnel and Human Resources Administration, Leon Megginson
- (5) Management, Justin G. Longenecker and Charles D. Pringle
- (6) Management, Jon L. Pierce and Randall B. Dunham
- (7) Essentials of Management, Jon L. Pierce and Randall B. Dunham.

"The Finance Course: An Industry View - Comment." Journal of Financial Education, Fall 1974.

Books and Book Contributions:

"International Competition: Should We Harmonize Our National Regulatory Systems?" Banking Soundness and Monetary Policy: Issues and Experiences in the Global Economy. Edited by Charles Enoch and John N. Green (International Monetary Fund, 1997).

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"The Securities Exchange Commission: Where From, Where to?" Second Thoughts. Myths and Morals of U.S. Economic History. Edited by Donald N. McCloskey (Published for the Manhattan Institute by Oxford University Press, Inc., 1993).

"The Increasing Impact of Computer Technology." The Challenge of Information Technology for the Securities Markets: Liquidity, Volatility, and Global Trading, edited by Henry C. Lucas, Jr. and Robert A. Schwartz (Dow-Jones Irwin Publishers, 1989).

"Regulation and the Futures Markets." Market Making and the Changing Structure of the Securities Industry, edited by Robert A. Schwartz, Yakov Amihud, and Thomas S. Y. Ho (Lexington Books, March 1985).

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"Opening Remarks," Risk Measurement and Systems Risk; Proceedings of a Joint Central Bank Research Conference (Board of Governors of the Federal Reserve System, November 1995).

Research Results and Paper Presentations: (Note: Other Presentations and Speeches 1981-present in separate index.)

Northwestern University Graduate Colloquium on Securitization, Evanston, IL, May 10, 1994.

"Derivatives and Risk Management: Challenges and Opportunities," Conference on Financial Markets, Federal Reserve Bank of Atlanta, Miami, FL, February 25, 1994.

"Derivatives Regulatory Issues," OECD/DAF--Workshop with the Dynamic Asian Economies; Organization for Economic Co-operation and Development, Paris, France, December 2, 1993.

"Banking in a Changing World," American Banker's Association Stonier Graduate School of Banking, University of Delaware, Newark, Delaware, June 23, 1993.

"The Outlook for Bank Structure and Financial Consolidation," The Washington Bankers Assn., Whistler, British Columbia, June 18, 1993.

"The Bank Regulatory Environment--Burdens and Opportunities," New York Bankers Association, Washington, D.C., January 28, 1993.

"Challenges Posed by OTC Derivatives," National Futures and Options Society, New York City, December 3, 1992.

"Structural Shifts in the U.S. Economy in an International Setting," Widener University, Chester, PA, October 30, 1992.

"Changing Financial Markets -- Regulatory Implications." American Society of Corporate Secretaries, Colorado Springs, CO, June 28, 1988.

"Information Technology and Market Volatility." Panel participation at the Conference on Information Technology and Securities Markets Under Stress, New York University's Graduate School of Business Administration, New York, May 17, 1988.

"The Crash of '87 -- Causes, Consequences, and Implications. Possible Reforms." University of Iowa College of Business Administration Seminar, Des Moines and Cedar Rapids, Iowa, March 15, 1988.

"Options and Futures Markets: Guilty or Innocent in the Stock Market Crash?" Undergraduate Economics Forum, University of Iowa, February 24, 1988.

"Stock Index Futures Trading: Regulatory and Legislative Issues." Proceedings of Conference on the Impact of Stock Index Futures Trading; Columbia University Center for the Study of Futures Markets, June 8, 1987.

"U.S. Futures Market Regulation -- Variations on a Traditional Theme." Futures Markets and Welfare Scientific Joint Program, International Futures & Commodities Institute/Columbia Center for Study of Futures Markets, June 20, 1985, Geneva, Switzerland.

"An Analysis of the Market Structure for Dually Traded Options," with Dan Roberts. Midwest Finance Association, April 1979, Chicago, Illinois.

Comment on paper entitled "Put-Call Parity and Market Efficiency," by Robert C. Klemkosky and Bruce G. Resnick. Southern Finance Association, November 1978, Washington DC.

"The Delta Factor - Implications for Risk Management, Market Making, and the Monitoring of Credit Usage and Financial Stability," with J. Richard Zecher. U.S. Securities and Exchange Commission, June 1978, Washington, DC.

"Effects on the Financial Structure of Assuming the Unfunded Accrued Liability as Imposed by the Employee Retirement Income Security Act of 1974 -- The Case of Major U.S. Firms," with Linda Pickthorne Fletcher. Financial Management Association, October 1977, Seattle, Washington.

"Analysis of Financial Data of Specialists' Operations," with J. Richard Zecher, Roger W. Spencer, Le Manh Tri, James P. Burgess, and Jeffrey L. Davis. National Market Advisory Board, Securities and Exchange Commission, November 15, 1976, Washington, DC.

Comment on a paper entitled "The Effects of Taxes on the Cost of Equity Capital," by Timothy Nantell and Robert Carson. Midwest Finance Association, April 1976, St. Louis, Missouri.

"Long Term Structure of the Secondary Equity Market." Financial Management Association, October 1975, Kansas City, Kansas.

"Affirmative Action in Recruiting Finance Faculty: Comments on the Supply Side." Colloquium Session on Affirmative Action in Recruiting at the Financial Management Association meeting, October 1974, San Diego, California.

FEDERAL RESERVE BOARD COMMITTEE ASSIGNMENTS:

Budget Committee, Member: March 17, 1997 - December 15, 1997.

Committee on Economic Affairs, Member: December 15, 1997 - June 30, 1998 (formerly Committee on Research and Statistics, Chairman: January 15, 1992 - September 16, 1994; Member: September 16, 1994 - February 21, 1996).

Committee on International Finance, Member: January 25, 1992 - September 16, 1994.

Committee on Consumer & Community Affairs, Member: January 15, 1992 - September 16, 1994.

Committee on Federal Reserve Bank Affairs, Member: February 10, 1994 - June 30, 1998.

Committee on Supervisory and Regulatory Affairs, Chairman: August 19, 1996 - June 30, 1998 (formerly Committee on Banking Supervision and Regulation or Committee on Banking Supervision, Member: October 19, 1995 - August 19, 1996; Committee on Market and Supervisory Affairs, Chairman: February 21, 1996 - August 19, 1996).

Committee on Derivatives Instruments, Chairman: November 18, 1992 - February 21, 1996.

Administrative Officer, Principal: February 10, 1994 - August 19, 1996;
Alternate: January 15, 1992 - February 10, 1994 and August 19, 1996 - June 30, 1998.

Legal Division, Administrator: January 15, 1992 - September 16, 1994.

Office of the Secretary, Administrator: February 5, 1997 - December 15, 1997.

Thrift Institutions Advisory Council, Alternate: January 15, 1992 - September 16, 1994.

Working Party Three, Alternate: January 15, 1992 - September 16, 1994.

Eastern Europe Coordinating Council, Principal: January 15, 1992 - September 16, 1994.

Governors of Central Banks of the American Continent; Center for Latin American Studies, Alternate: January 15, 1992 - April 25, 1995; Principal: April 25, 1995 - June 30, 1998.

Committee on Employee Benefits, Member: January 15, 1992 - June 30, 1998.

Federal Reserve Board Labor Relations Panel, January 15, 1992 - September 16, 1994; February 5, 1997 - December 15, 1997.

Freedom of Information & Privacy Act Matters, Alternate: January 15, 1992 - February 1994; February 5, 1997 - December 15, 1997; Administrator: February 14, 1994 - August 19, 1996.

Equal Employment Opportunity Council, Chairman: January 15, 1992 - February 21, 1996.

Payment System Policy Advisory Committee, Member: September 16, 1994 - June 30, 1998.

RTC Oversight Board, Alternate: April 25, 1995 - December 15, 1997.

Division of Monetary Affairs, Administrator: April 25, 1995 - February 21, 1996.

Federal Financial Institutions Examinations Council: February 21, 1996 - June 30, 1998.

Council of Independent Regulatory Agencies, Alternate: August 19, 1996 - December 15, 1997.

OTHER BOARD ASSIGNMENTS:

Board Liaison to President Bush's Initiative to Review and Reduce Regulatory Burden: February - September, 1992.

Coordinator, Regulatory Review, Pursuant to Section 303(c) of the Community Development and Regulatory Improvement Act of 1994: September, 1994 - September, 1996.

Board Representative to National Women's Business Council and Successor Group: August 1993 - June 30, 1998 (Intermittent).

Robert K. Wilmouth

**President and Chief Executive Officer
National Futures Association
Chicago, Illinois**

Robert K. Wilmouth is President and Chief Executive Officer of National Futures Association (NFA). NFA, the industry-wide, self regulatory organization for the futures industry, is comprised of over 3,000 Members and 50,000 Associate Members. The primary purpose of the association is to assure, through self-regulation, high standards of professional conduct and financial responsibility on the part of its Members.

As President and Chief Executive Officer, Mr. Wilmouth also is a member of NFA's Executive and Finance Committees. He has served as NFA's President since the organization commenced operations in 1982.

Prior to joining NFA in 1982, he served for approximately five years as President and Chief Executive Officer of the Chicago Board of Trade (CBOT), the nation's oldest and largest commodity futures exchange.

Mr. Wilmouth's professional life began in the banking industry in 1950 and he has maintained a strong association with banking ever since. Although he joined the futures industry in late 1977, he continued to serve the banking industry in various capacities at LaSalle National Bank and its parent company, LaSalle National Corporation, and is former Chairman of LaSalle National Corporation. He served on several LaSalle Bank Board of Directors' Committees, including the Community Reinvestment Act Committee.

Prior to his association with the futures industry, Mr. Wilmouth had a distinguished 27-year banking career. Beginning in 1975 he served for two-and-one-half years as President, Chief Administrative Officer, and Director of Crocker National Bank in San Francisco and also held similar positions with Crocker National Corporation, the parent company. At that time Crocker had one of the largest branch banking networks in the country and Mr. Wilmouth was actively involved in all retail banking functions.

His banking career began in 1950 when he joined the First National Bank of Chicago. After an intervening tour of duty as an Air Force officer, Mr. Wilmouth returned to the bank and held positions in a number of departments before being elected Vice President in charge of Operations in 1961.

In 1966, Mr. Wilmouth was elected a Senior Vice President and assigned responsibility for construction of the bank's new headquarters building at First National Plaza in downtown Chicago.

In 1968, he moved into international banking as Manager of First National Bank of Chicago's branch in Milan, Italy.

Following transfers to London and then to the post of General Manager of all European operations, he returned to the United States as head of the international banking department. He was elected Executive Vice President in 1972 and named to the bank's Board of Directors in 1973. In early 1975, he resigned to join Crocker National Bank.

Mr. Wilmouth is a member of The Economic Club of Chicago. He is a Lifetime Trustee of the University of Notre Dame, and the former Chairman of its Investment Committee. He also serves on the advisory council of Northwestern University's Graduate School of Management.

Mr. Wilmouth is a native of Worcester, Massachusetts. He is a graduate of Holy Cross College and holds a Masters degree from the University of Notre Dame. He is married to the former Ellen Boyle. They have five children and four grandchildren.

APPENDIX B

Compliance/ Legal Expert Panel

Bonnie S. Litt (Panel Chairwoman)
Managing Director and Associate
General Counsel
Goldman, Sachs & Co.

Robert F. Klein
Director and Counsel
Salomon Smith Barney, Inc.

Gary Alan DeWaal
Executive Vice President and
General Counsel
Fimat USA, Inc.

Pamela M. Klein-Kurland
Senior Vice President and
General Counsel
E.D. & F. Man International, Inc.
(at the time of the Study)

Ronald H. Filler
Senior Vice President
Lehman Brothers, Inc.

Stephen F. Selig
Counsel
Baer Marks & Upham, LLP

Edward D. Fogle
Compliance Officer
Greenwich Capital Markets, Inc
.

David C. Sturm
Vice President and
Assistant General Counsel
J.P. Morgan Futures, Inc.

Audrey R. Hirschfeld
Senior Vice President and
General Counsel
Board of Trade of the
City of New York, Inc.

APPENDIX B

End-User Expert Panel

Phillip G. Hubbard (Panel Chairman)

James Russell

Director, Central Hedging
ConAgra, Inc.

Jay Abbott

Financial Analyst
Conoco, Inc.

Verne O. Sedlacek

President
Westport Capital Management Corp.
c/o John W. Henry & Company, Inc.

Peter F. Borish

President
Computer Trading Corporation

Jeff Shankman

Managing Director
Enron Global Risk Management

Don Galante

Executive Vice President
Fuji Securities Inc.

Bryan Singer

Managing Director
UBS Brinson

Stuart McCrary

Chicago Partners

Robert Sturtz

United Airlines

Rich Puma

Vice President, Operations
Tudor Investment Corporation

APPENDIX B

Operations Expert Panel

John P. Davidson (Panel Chairman)
Managing Director of Equity Operations
Morgan Stanley Dean Witter & Co., Inc.

George Henderson
Vice President
New York Mercantile Exchange

Michael T. Burke
Chief Operating Officer,
Introducing Broker Division
R.J. O'Brien Associates, Inc.

Thomas McCabe
Managing Director of OIA
Chicago Board of Trade

Louis T. Caiafa
Senior Vice President
Paribas Futures, Inc.

William Metzger
Manager
Lind-Waldock & Company

Jerry M. Crowley
Vice President
E.D. & F. Man International, Inc.

Dennis M. Murray
Vice President
J.P. Morgan Futures, Inc.

Michael A. DiBenedetto
Senior Vice President
Banc of America Futures, Inc.

Donald Serpico
Managing Director
Chicago Mercantile Exchange

Patrick Gambaro
Executive Vice President
Board of Trade of the
City of New York, Inc

Christine Show
Senior Vice President
ABN AMRO Incorporated

Loren Spenler
Chicago Operations Manager
Cargill Investor Services

APPENDIX B

Technology Expert Panel

Laurence E. Mollner (Panel Chairman)
President
Mariah Trading Company LLC

James P. Amaral
Senior Vice President and
Chief Information Officer
Chicago Board of Trade

Larry Arnowitz
Managing Director and
Chief Executive Officer
GNI, Inc.

David M. Battan
Vice President and General Counsel
Interactive Brokers, LLC

Ann-Marie Birns
Vice President
Morgan Stanley Dean Witter & Co., Inc.

Debbie Bonsignore
Vice President—Front Office Technology
eSpeed, Inc.

Joseph Campagna
Senior Vice President
ABN AMRO Incorporated

David Cox
Director of MIS
Lind-Waldock & Company

Gerald Tellefsen
Senior Vice President
Tellefsen Consulting Group Inc.

David Dugan
Senior Vice President
Chicago Mercantile Exchange

Eric Jansen

Michael Kelly
Senior Vice President and
Chief Information Officer
First Options of Chicago, Inc.

Steve Monieson
Trading Technologies, Inc.

John Munro
Senior Vice President,
Regulation and Compliance
Rolfe & Nolan

Michael B. Nielsen
Vice President
J.P. Morgan Futures, Inc.

Karen E. Segal
First Vice President
Salomon Smith Barney, Inc.

Michael E. Smith
First Vice President -
Information Systems and
Communications
Prudential Securities, Inc.

APPENDIX C

Governmental and Regulatory Agencies Interviewed

United States Agencies

- Commodity Futures Trading Commission
- U.S. Department of the Treasury
- U.S. Department of Justice/U.S. Attorney's Office

European Agencies

- Bundesaufsichtsamt Für Den Wertpapierhandel
- Conseil Des Marches Financiers
- Financial Services Authority

APPENDIX D

Derivatives Exchanges Interviewed

United States Exchanges

- Chicago Board of Trade
- Chicago Board Options Exchange
- Chicago Mercantile Exchange
- Board of Trade of the City of New York
- New York Mercantile Exchange

European Exchanges

- Eurex Frankfurt AG
- International Petroleum Exchange
- The London International Financial Futures
and Options Exchange (LIFFE)
- The London Metals Exchange Limited
- Parisbourse SA

APPENDIX E

Intermediaries, End-Users and Service Providers Interviewed

United States Firms

- ABN AMRO Incorporated
- Archipelago
- Brinson Partners, Inc.
- Commonfund Asset Management Company, Inc.
- General Motors Investment Management Corporation
- GL Trade
- Goldman Sachs & Company
- Interactive Brokers, LLC
- Iowa Grain Company
- Lind-Waldock & Company
- E.D. & F. Man International, Inc.
- Micro Design Services, LLC
- The Millburn Corporation
- Morgan Stanley Dean Witter
- Prudential Securities, Incorporated
- RTS Realtime Systems, Inc.
- Salomon Smith Barney, Inc.
- Trading Technologies, Inc.
- Tudor Investment Corporation

European Firms

- Barclays Capital
- Citibank, N.A.
- Credit Lyonnais Rouse Limited
- E.D. & F. Man International
- Fimat International Banque, SA
- The Futures Industry Association (London)
- The Futures & Options Association (London)
- Goldman Sachs, International
- Lehman Brothers, Inc.
- Mees Pierson
- Merrill Lynch, Pierce, Fenner & Smith Limited
- J.P. Morgan Securities, Ltd.
- Trinitech

APPENDIX F

Introduction

This Report is a result of the settlement of a series of CFTC enforcement actions involving the fraudulent allocation of trades culminating in the case entitled In re Capital Insight Brokerage, Inc., CFTC Docket SD 00-01 (February 16, 2000). Though the Capital Insight case was one of the more recent and more prominent allocation cases brought by the Commission, it is certainly not the only one. The fraudulent allocation of trades has been a recurring problem over the years, and the CFTC has resolved at least 11 enforcement actions alleging this type of scheme.⁴³ These cases fall into several distinct patterns, as discussed below, but generally involve certain common themes:

- In every instance, one party controlled the trading activity in multiple accounts. In some instances an employee of the customer traded for both his employer and his personal trading account. In other cases, employees of an FCM or IB exercised trading discretion.
- Virtually all of the trades that were allocated fraudulently were day trades.
- The order originator failed to identify the account for which the trade was being placed at the time the order was entered.
- After the results of the trade were known, the order originator directed profitable trades to favored accounts.

Though all 11 cases are instructive, the opinions in the three fully adjudicated cases offer the clearest picture of both the underlying scheme and the Commission's analysis of the issues.

Fully Adjudicated Cases

The Commission's first allocation case, and in many ways its most unusual one, was In re Lincolnwood Commodities, Inc., of California, [1982-1984 Transfer Binder] Comm. Fut. L. Rep. (CCH) P 21,986 (CFTC Jan. 31, 1984). Unlike subsequent allocation cases, Lincolnwood did not involve a situation in which the

⁴³ Two additional CFTC enforcement actions involving alleged fraudulent allocation of trades are currently pending. In addition, NFA and the exchanges have brought a number of disciplinary actions involving trade allocation schemes.

carrying FCM failed to detect an allocation scheme, but, rather, one in which the FCM itself was the perpetrator of the scheme. The principals of Lincolnwood established fictitious customer accounts which they, in fact, owned. Lincolnwood was not a member of an exchange and therefore placed all of its trades through an omnibus account at a clearing FCM. When Lincolnwood placed customer trades, the only account number it was required to provide to the clearing FCM was the one for the customer omnibus account. Lincolnwood was therefore in a position to place day trades and allocate those trades to specific accounts after it knew the results of the trade.

The Commission's finding of a fraudulent allocation scheme did not rely on a detailed examination of Lincolnwood's order tickets but on a comparative analysis of the day trading results in the fictitious accounts. The Commission compared the results in the fictitious accounts to both Lincolnwood's real customers, who received the unfavorable allocations, and to the principals' accounts before the allocation scheme began. Both comparisons showed a dramatic contrast which supported the inference of a fraudulent allocation scheme. The Commission revoked the registrations of both Lincolnwood and its principals and imposed significant fines.

In the Commission's second fully adjudicated allocation case, In re GNP Commodities Inc., [1990-1992 Transfer Binder] Comm. Fut. L. Rep. (CCH) P25,360 (CFTC Aug. 11, 1992), the FCM itself did not perpetrate the allocation scheme but had actual notice of the fraud and failed to take remedial action. The allocation scheme was carried out by two APs of the FCM, one of whom was a close friend of the principal of the FCM. The two APs each had trading accounts in their own names and controlled the trading in a number of retail customer accounts. The APs placed orders directly to the floor of several exchanges without providing account identifiers, liquidated the trades later in the day and allocated the profitable trades to their own accounts. After the FCM's compliance officer prohibited the firm's floor personnel from accepting any orders without account identifiers, the APs resorted to using EFP transactions to accomplish their fraudulent allocations.

The Commission found that the firm's principal had actual notice of the scheme based on evidence that several employees had reported the fraudulent activity directly to him. The Commission revoked the registration of the firm, its principal and the APs and imposed significant fines on each.

The Commission's most recent fully adjudicated allocation case is the only one involving the allocation of bunched orders. In re Shahrokh Nikkah, CFTC Docket No. 95-13 (CFTC May 12, 2000), was also distinctive in that the AP who carried out the scheme did not allocate profitable trades to his own account or to the account of a confederate. Rather, the Commission found that the AP favored some customers by allocating a disproportionate share of losing trades to another.

Nikkah was an AP of Prudential Securities, Inc. who had discretionary authority over a number of customer accounts that he claimed to trade pursuant to the same strategy. Nikkah therefore bunched orders for these accounts. When he called these bunched orders to the floor, Nikkah did not identify the accounts that were included in the order. Nikkah testified that he prepared separate records, his "white sheets," before placing orders, and that these records reflected the allocation each account was to receive. Nikkah could not produce the white sheets, and the Commission found that the record did not support his claims.

Although Nikkah did not have a direct stake in the favored accounts, the Commission noted that by favoring certain customers Nikkah could induce them to continue trading, generating more commission revenue for himself. Moreover, the Commission confirmed that an allocation process for bunched orders must be based on a predetermined and impartial methodology, such that no customer or group of customers receives consistently favorable or unfavorable treatment. Thus, regardless of Nikkah's motive for his allocations, the facts that the allocations were not predetermined and that they consistently favored certain customers were each sufficient to support a finding of fraud. Nikkah was fined and subject to a ten-year trading ban.

Unlike the GNP case, Prudential did not have actual notice of his fraud. The Commission alleged, though, that Prudential had, among other things, failed to supervise Nikkah adequately. With respect to supervision, the Commission alleged that the employer had failed to monitor unusual trading activity, as described in the Unusual Account Activity section of this Report. Specifically, the firm failed to conduct active account reviews, daily review of office order tickets for discretionary accounts and trade allocations, monthly review of discretionary accounts and reviews of customer complaints and correspondence, even though the firm's compliance manual called for each of those activities. The FCM settled

the case against it by agreeing to pay a fine and enhancing its supervisory procedures.

Settled Enforcement Cases

In addition to these adjudicated cases, the Commission also has resolved a number of fraudulent allocation cases through settlement. Though these settled cases do not have the same persuasive authority, they still shed light on the common patterns found in fraudulent allocation schemes. In each of the cases discussed above, for example, the prime actor in the allocation scheme was an employee of the registered firm. The same is true in a number of the settled cases as well.

The first of these settled cases was In re Charles Dennis Scott, CFTC Docket 88-13 (CFTC March 22, 1988). According to the Complaint, Scott placed orders without account numbers and, after receiving the fills, allocated profitable trades to his own account and less favorable trades to customer accounts. Scott was also charged with including his own account in bunched orders he placed for customers and, in some cases, allocating better fill prices to his own account. Scott was fined, suspended from registration for fifteen business days and prohibited from trading for his own account.

In In re Lovell Braxton Northern III, CFTC Docket No. 93-13 (CFTC July 19, 1994), the respondent was an AP of an FCM who traded for both the joint account he owned with his wife and for certain customer accounts. According to the complaint, the respondent, with the firm's permission, phoned orders directly to the floor without providing account identifiers and subsequently allocated the profitable trades to his own account. Not surprisingly, 98 percent of all of the trades allocated to the AP's account were profitable. The AP's account had total profits during the relevant period of over \$50,000 while his customer accounts lost almost \$700,000 during the same period. The AP was permanently barred from registration and subject to a seven-year trading ban. The FCM was charged with failure to supervise and settled the matter by agreeing to pay a fine and performing certain undertakings. Though the decision accepting the FCM's settlement offer does not discuss the facts of the case in any detail, the stark contrast between the trading results of the AP and his customers is precisely the sort of information referred to in the Unusual Account Activity section of this Report.

In re Timothy M. Bengson, CFTC Docket 00-21 (CFTC June 28, 2000) presented a pattern similar to Northern. Bengson was an AP with trading authority over an account owned by his girlfriend and other customer accounts. As in Northern, over 90 percent of the trades allocated to the favored account were profitable, with profits totaling over \$50,000. One difference between the two cases, though, is the manner in which the allocations were performed. At the time Bengson placed orders, the office or floor order tickets did, in fact, identify the account for which the trade was placed. Bengson, however, changed the account identifier before the trade was placed in a customer account. In other instances, he instructed the firm's back office to transfer positions from one account to another. Another difference is that the FCM was not charged with any violations. The FCM in this case detected the suspicious activity, conducted an internal investigation and reported the results to NFA, all steps that are recommendations for best practices in this Report.⁴⁴

The remaining settled cases involve situations in which the primary person conducting the fraudulent allocation was not an employee of the carrying FCM. In re FSI Futures, Inc., et. al., CFTC Docket 95-9 (CFTC January 8, 1998), presented an unusual twist in fraudulent allocation schemes. In this case, a German brokerage firm with a large discretionary customer base opened a number of trading accounts identified as proprietary with a non-exchange member FCM. The accounts were serviced by an IB that entered virtually identical matching long and short trades for the foreign firm by phoning the buys to one desk of the clearing FCM and the sells to another desk of the clearing firm. In other instances, the IB would phone one side of the order to the clearing firm and the other side to another FCM, with instructions that the trade be given up to the clearing firm. Although the trades were offsetting, they were reported to the foreign firm as open positions because, at the firm's direction, the buys were placed in certain accounts and the sells in other accounts. The net result is that the German firm reported over \$10 million in trading losses to its discretionary account customers, though the firm had actually suf-

⁴⁴ See also, In the Matter of Gary Hanson, NFA Case No. 95-BCC-013. Hanson was an AP of an FCM who was found after a hearing to have allocated profitable trades to members of his family and unprofitable trades to customers. Hanson was expelled from NFA membership. As in the Bengson case, the FCM detected the allocation scheme, conducted an internal investigation, reported the results to NFA, made restitution to the customers and, as a result, was not charged with an NFA rule violation.

ferred trading losses of only \$1.5 million. The difference was wired by the FCM to the German firm's Swiss banking accounts.

The Commission found that FSI and the IB were far more than passive participants in the scheme and that the IB aided and abetted the fraudulent allocation of trades and that the FCM failed to supervise. The Commission cited a number of factors that established that the FCM and IB were aware that the accounts in question were, in fact, customer omnibus accounts, that there were numerous trading irregularities in the trading of the accounts and that the money flow in and out of the accounts was suspicious. The Commission revoked the IB's registration, and the FCM was required to withdraw its FCM registration.

The cases that gave rise to this Report, In re Capital Insight, *supra*, also involved allocations among accounts introduced by an IB. In Capital Insight, an IB introduced approximately 70 discretionary accounts to Refco, Inc. The IB routinely placed orders for thousands of T-Bond futures and options contracts each day through Refco's floor desk, in many instances without providing account identifiers. Once the orders were executed, the IB allocated the trades among the customer accounts and, at times, moved trades between customer accounts after they had been assigned and, in some cases, after they had cleared. In its order accepting Refco's settlement offer, the Commission cited a number of factors that should have alerted Refco to the improper allocations. Repeated warning letters from the CBOT regarding late submission of trade data for these accounts, complaints from former customers that identified suspicious trading activity, warnings from supervisory personnel based on internal reports of trading profits and losses, actual knowledge by senior staff that the IB was placing trades without identifiers, acceptance of the IB's orders to transfer positions among accounts without taking any steps to confirm the propriety of those transfers—all of these were bases for the Commission's finding that Refco had properly failed to supervise the allocation process. Refco paid a significant fine and agreed to certain remedial actions. The IB agreed to the issuance of a permanent injunction and the disgorgement of profits.

In re Kemper Financial Services, Inc., CFTC Docket No. 94-1 (CFTC October 20, 1993), did not involve an IB but is another case in which the fraudulent allocation scheme was engineered by someone who was not employed by the FCM carrying the affected accounts. In Kemper, the respondent was both a registered CTA and a registered Investment Advisor. One of Kemper's APs had

responsibility for trading stock index futures for two mutual funds and for Kemper's employee profit sharing plan. The AP would place trades without providing account identification and subsequently allocated profitable trades to the employee profit sharing account and losing trades to the mutual funds. The Commission found that Kemper failed to supervise the AP and the allocation process. Kemper was required to make restitution and to pay a significant fine.

In two other CFTC enforcement actions, customers of FCMs had employees who controlled trading in both their employers' accounts and their own personal accounts. The customers' employees used their positions to allocate profitable trades to their personal accounts, in each instance with the assistance of employees of the FCM.⁴⁵ In In re Woodstock, Inc., et. al., CFTC Docket 87-4 (CFTC December 17, 1986), an officer of a savings and loan association at times instructed the firm to move positions from the savings and loan's account to his personal account. These transfers were accomplished either by altering floor order tickets or by instructions to the FCM's back office, passed on by the FCM's AP at the officer's instructions. The net result was that the account of the savings and loan's employee had gains of \$6,500 while the savings and loan's account lost over \$9 million. The FCM paid a significant fine to settle allegations of improper supervision.

In re Prudential Securities, Inc., et. al., CFTC Docket 92-99 (CFTC September 29, 1992), was quite similar to the Woodstock fact pattern. In Prudential, a bank officer was the only individual allowed to open a personal trading account through the firm's Institutional Financial Futures Department. Several month's later, the bank officer also opened an account on behalf of the bank. The officer had trading authority over both accounts. With the knowledge of the firm's supervisory personnel, the bank officer would place trades through an AP but not identify the account for which the trade was placed until later in the day. In other instances, the firm followed the bank officer's instructions to transfer trades from the bank's account to his personal trading account. In the six months before the bank opened an account, the bank officer had suffered losses of over \$30,000 in his personal account. In the 18 months after the bank opened its account, the bank officer had over \$2

⁴⁵ See also, In the Matter of Deborah Dean, NFA Case No. 93-BCC-006, and In the Matter of Leslie Peterson, NFA Case No. 89-REG-049, for two additional cases in which APs of FCMs facilitated allocation frauds engineered by employees of the FCM's customers. Both respondents were barred from the industry.

million in profits in his personal account. Prudential settled allegations of improper supervision by paying a significant fine and agreeing to certain enhancements to its supervisory procedures.

APPENDIX G

IOSCO Principles for the Oversight of Screen-Based Trading Systems for Derivative Products

1. The system sponsor should be able to demonstrate to the relevant regulatory authorities that the system meets and continues to meet applicable legal standards, regulatory policies, and/or market custom or practice where relevant.
2. The system should be designed to ensure the equitable availability of accurate and timely trade and quotation information to all system participants, and the system sponsor should be able to describe to the relevant regulatory authorities the processing, prioritization, and display of quotations within the system.
3. The system sponsor should be able to describe to the relevant regulatory authorities the order execution algorithm used by the system, *i.e.*, the set rules of governing the processing, including prioritization, and execution of orders.
4. From a technical perspective, the system should be designed to operate in a manner which is equitable to all market participants, and any differences in treatment among classes of participants should be identified.
5. Before implementation, and on a periodic basis thereafter, the system and system interfaces should be subject to an objective risk assessment to identify vulnerabilities (*e.g.*, the risk of unauthorized access, internal failures, human errors, attacks, and natural catastrophes) which may exist in the system design, development, or implementation.
6. Procedures should be established to ensure the competence, integrity, and authority of system users, to ensure that system users are adequately supervised, and that access to the system is not arbitrarily or discriminatorily denied.
7. The relevant regulatory authorities and the system sponsor should consider any additional risk-management exposures pertinent to the system, including those arising from interaction with related financial systems.

8. Mechanisms should be in place to ensure that the information necessary to conduct adequate surveillance of the system for supervisory and enforcement purposes is available to the system sponsor and the relevant regulatory authorities on a timely basis.
9. The relevant regulatory authorities and/or the system sponsor should ensure that the system users and system customers are adequately informed of the significant risks particular to trading through the system. The liability of the system sponsor, and/or the system providers to system users and system customers should be described, especially any agreements that seek to vary allocation of losses that otherwise would result by operation of law.
10. Procedures should be developed to ensure that the system sponsor, system providers, and system users are aware of and will be responsive to the directives and concerns of the relevant regulatory authorities.

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