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## By Electronic Mail

May 6, 2010

Ms. Elizabeth M. Murphy  
Secretary  
Securities and Exchange Commission  
100 F Street NE  
Washington DC 20549-1090

**Re: Risk Management Controls for Brokers or Dealers with Market Access  
File Number S7-03-10**

Dear Ms. Murphy:

The Futures Industry Association (“FIA”) is pleased to submit the enclosed report, *Market Access Risk Management Recommendations*, for the Securities and Exchange Commission’s (“SEC’s”) consideration in connection with proposed Rule 15c3-5.<sup>1</sup> The report, released in April 2010, is the most recent in a series of studies and reports FIA has issued over the past several years on risk management practices in the futures industry.

FIA is a US-based international trade association that serves as a principal spokesman for the futures and options industry. FIA’s regular membership is comprised of approximately 30 of the largest futures commission merchants (“FCMs”) in the United States, the majority of which are either registered with the Securities and Exchange Commission (“SEC”) as broker-dealers or are affiliates of broker-dealers. Among FIA’s associate members are representatives from virtually all other segments of the futures and options industry, both national and international, including derivatives exchanges from more than 20 countries. Reflecting the scope and diversity of its membership, FIA estimates that its members effect more than eighty percent of all customer transactions executed on United States contract markets.

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<sup>1</sup> 75 Fed.Reg. 4007 (January 26, 2010). Proposed Rule 15c3-5 would require broker-dealers with access to trading directly on an exchange or alternative trading system to implement risk management controls and supervisory procedures reasonably designed to manage the financial, regulatory and other risks of this trading activity.

FIA has been a leader in an industry-wide effort to assure that futures-related risk management practices fully take into account the challenges of the current trading environment, in particular, the increasing demand for direct access. In 2004, FIA published a report on error trade policies at the several exchanges, which included a series of recommended best practices with respect to exchange error trade policies and procedures. In 2007, FIA published *Profile of Exchange and FCM Risk Management Practices for Direct Access Customers*, which identified issues specific to direct market access and described the results of a survey of risk controls at key exchanges. In 2009, the FIA/FOA Clearing Risk Study included recommendations that exchanges implement pre-defined authorizations, position limits, monitoring and intervention capabilities.

The enclosed report was prepared by FIA's Market Access Working Group, comprised of representatives from clearing firms, proprietary trading firms and exchanges. The report sets out recommendations for managing the risks of direct access and attempts to strike an appropriate balance between guiding principles and prescriptive mandates in developing such risk controls. An underlying principle of the report is that risk management of direct access market participants is the shared responsibility of exchanges, clearing firms and the direct access firms themselves. Nonetheless, because risk must be managed in a way that does not disadvantage one direct access firm over another solely because it, or its clearing firm, endeavors to act more responsibly, the report finds that exchanges must take responsibility for providing basic risk management tools and constructing them such that latency is identical to all direct access firms, no matter how clearing firms may utilize such tools.

### **Conclusion**

We trust the SEC will find the attached report helpful in analyzing the issues raised by its proposed rule. If you have any questions concerning the matters discussed in enclosed report, or the earlier reports referenced above, please contact Mary Ann Burns, FIA's Executive Vice President, at (202) 466-5460.

Sincerely,



John M. Damgard  
President



Market Access

Risk Management Recommendations



## Market Access Risk Management Recommendations

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April 2010

On behalf of the Futures Industry Association Market Access Working Group, we are pleased to present recommendations for managing the risk of direct access trading. Recognizing the importance of promoting best practices in this area, the FIA board of directors in January 2010 agreed to assemble a committee to formulate best practices for direct access to exchanges. The group includes representatives from clearing firms, trading firms, and exchanges. The scope of their work includes pre-trade order checks, post-trade checks, co-location policies, conformance testing, and error trade policies.

The study will be shared with futures and options exchanges around the world. Later this year, FIA plans to survey exchanges that offer direct access to determine what types of risk controls are in place and publish the results of the survey.

We appreciate the time and resources the members of the Market Access Working Group contributed to the creation of this document. This is not the first group FIA has convened to address risk management practices. In 2004, FIA published a series of recommendations on error trade policies. In 2007, FIA published the results of a survey on risk controls at key exchanges. In 2009, the FIA/FOA Clearing Risk Study included recommendations for pre- and post-trade risk controls.

We expect the need for risk controls to continue to evolve as the industry evolves and FIA is committed to monitoring and supporting practices and procedures that improve the integrity of the markets.

Yours truly,

**Peter Johnson**  
Chairman  
Market Access Working Group

### **FIA Market Access Working Group**

*The following organizations participated in the development of the FIA Market Access Risk Management Recommendations:*

- Bank of America Merrill Lynch
- Barclays Capital
- CME Group
- Credit Suisse
- DRW Trading
- Eurex
- Geneva Trading
- IntercontinentalExchange
- J.P. Morgan Futures
- Newedge Group
- Nico Trading
- NYSE Liffe
- XR Trading

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*The FIA is the U.S.-based international trade association which acts as a principal spokesman for the futures and options industry. Its membership includes the world's largest futures brokers as well as derivatives exchanges from more than 20 countries.*



Managing the risk of providing direct access to an exchange's network is a critically important responsibility of all parties involved in the process—clearing firms, exchanges, and the direct access firms themselves. However, managing such risk must be done in a manner that does not disadvantage one direct access firm over another solely because it, or its clearing firm, endeavors to act more responsibly. This can only be done if exchanges themselves provide basic risk management tools, and construct them in such a manner that latency is identical to all direct access firms, no matter how clearing firms utilize such tools. Indeed, this will encourage the clearing firm to employ such tools in the most responsible fashion, without fear that it will lose business to other clearing firms that do not act so responsibly.

Recognizing the importance of promoting best practices in risk management of direct access trading, the FIA board of directors in January 2010 established a Market Access Working Group to identify risk-specific controls that are already in place at exchanges, clearing and trading firms and recommend controls that should be in place as a matter of best practice before allowing direct access. The MAWG consists of representatives from clearing firms, exchanges, and trading firms. The group has been meeting since January to agree on recommendations for pre- and post-trade risk controls, co-location, conformance testing, and error trade policies.

Latency-sensitive traders, which rely on direct access, can play a vital role in the marketplace, bringing liquidity to the markets, reducing volatility, tightening bid-ask spreads, and contributing to price discovery<sup>1</sup>. The recommendations presented here represent another step in improving the way direct access risk is managed. The industry has been working together for several years to ensure risk management practices reflect the realities of the current trading environment. In 2004, FIA published a series of recommendations with respect to exchange error trade policies and procedures. In 2007, FIA published a "Profile of Exchange and FCM Risk Management Practices for Direct Access Customers," which identified issues with this type of trading and enumerated the results of a survey of risk controls at key exchanges. The FIA/FOA Clearing Risk Study, released in February 2009, included recommendations for exchanges to implement pre-defined authorizations, position limits, and monitoring and intervention capabilities.

The current project establishes principles the industry should consider when allowing direct access to exchanges. Although the guidelines contained in this document are more generally suited to futures and options markets, many of the principles and recommended implementations are applicable to other types of markets. The MAWG recognizes that market structures vary and exchanges need to implement risk controls across multiple product lines. For example, some exchanges offer both equities and futures on the same trading platform. The MAWG also acknowledges that exchanges are in varying stages of permitting direct access and therefore these recommendations may not be immediately achievable. Instead, these recommendations are put forth as agreed-upon principles that the global futures industry needs to work toward implementing. In addition, the MAWG recognizes that these recommendations must be considered in the context of the regulatory structures in which markets operate.

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<sup>1</sup> See *Rise of the Machines: Algorithmic Trading in the Foreign Exchange Market* by Alain Chaboud, Benjamin Chiquoine, Erik Hjalmarsson, Clara Vega, in which the empirical data examined by the authors suggested that, in the spot interdealer foreign exchange market, "the presence of algorithmic trading reduces volatility" and "computers do provide liquidity during periods of market stress." (International Finance Discussion Paper, Board of Governors of the Federal Reserve System, dated October 2009, p. 26.)



This document is designed to serve as a framework for developing risk controls. It attempts to strike the right balance between guiding principles and prescriptive mandates. Accordingly, this document reflects two types of recommendations: principles and implementation recommendations. The first type is a guiding principle that describes the type of control and what should be achieved by implementing the control. The principles, in some cases, are followed by implementation recommendations.

The document includes a section on co-location and proximity hosting. Co-location and proximity hosting have often been included in discussions related to risks associated with high-frequency trading, but the MAWG does not believe this is a risk management issue. Co-location and proximity hosting refer to data centers that offer an alternative method to brokerage and trading firms seeking the fastest possible access to an exchange's network and are not inherently risky. Co-location takes place when the exchange provides connectivity and hosting in its own data center via its own network. Proximity sites are data centers offered by an exchange or a third-party vendor for low-latency access to an exchange's network via a third-party network connection.

## Background

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Direct access firms either join the exchanges as non-clearing members (NCMs) or access the exchanges in the name of their clearing member. While there is no distinction between a direct access firm that becomes a non-clearing member of an exchange and one that does not when it comes to risk and credit controls, NCMs are subject to an exchange membership approval and vetting process. NCMs also are subject to exchange rules such as market manipulation, wash trades and message limit violations. In either case, these firms' transactions must be financially guaranteed by a clearing member before the exchange grants direct access to these firms. The clearing firm guarantees the trades pursuant to an agreement with the trading firm and retains administrative and risk control over orders submitted to the exchange trading engine.

There are three ways a non-clearing firm can access the exchange network directly:

- a. Direct access via a clearing firm (DA-C)—trading firm orders pass through the clearing member's system prior to reaching the exchange trading engine.
- b. Direct access via vendor (DA-V)—trading firm routes orders through a vendor controlled by the clearing firm or other third-party infrastructure to the exchange trading engine.
- c. Direct access to the exchange (DA-E)—trading firm routes orders directly to the exchange trading engine without passing through the clearing member or a third-party infrastructure.

Risk management of direct access market participants is not the exclusive responsibility of exchanges, clearing firms or even the direct access firms themselves. Rather, exchanges, clearing firms, and direct access firms each have a role in ensuring that appropriate risk controls are in place for this type of market access. Clearing firms that frequently manage many exchange interfaces would benefit greatly from standardization of risk management controls across exchanges. The more standardization of risk controls, the more efficiently and effectively clearing firms are able to monitor and manage the risks associated with direct access clients.



Trading firms typically have risk controls in place to monitor and risk-manage their trading systems. These protections operate within their risk model and include pre-trade risk controls e.g. order size limits. Below is a sample of risk controls frequently employed by trading firms. Although these controls represent good practice, they are not uniformly enforceable by exchanges or clearing firms.

- **Conformance Testing.** Trading firms are required to pass conformance testing with the party providing access when implementing a new direct access system or when the exchange deems it necessary because of a fundamental change in functionality on the exchange side. The onus is on the trading firm to determine when it must recertify due to a change in logic within its system.
- **Heartbeating with the Exchange.** Trading systems can monitor “heartbeats” with the exchange to identify when connectivity to the exchange is lost. If connectivity is lost, the system is disabled and working orders are cancelled.
- **Kill Button.** Trading systems can have a manual “kill button” that, when activated, disables the system’s ability to trade and cancels all resting orders.
- **Pre-Trade Risk Limits.** Trading firms can establish and automatically enforce pre-trade risk limits that are appropriate for the firms’ capital base, clearing arrangements, trading style, experience, and risk tolerance. These risk limits can include a variety of hard limits, such as position size and order size. Depending on the trading strategy, these limits may be set at several levels of aggregation. These risk limits can be implemented in multiple independent pre-trade components of a trading system.
- **Post-Trade Risk Limits.** Trading firms can also establish and automatically enforce post-trade risk limits that are appropriate for the firm’s capital base, clearing arrangements, trading style, experience, and risk tolerance. For example, a trading firm can set daily loss-limits by instrument, asset class, and strategy and automatically close out or reduce positions if those limits are breached.
- **Fat-Finger Quantity Limits.** Trading systems can have upper limits on the size of the orders they can send, configurable by product. They can prevent any order for a quantity larger than the fat-finger limit from leaving the system.
- **Repeated Automated Execution Throttle.** Automated trading systems can have functionality in place that monitors the number of times a strategy is filled and then re-enters the market without human intervention. After a configurable number of repeated executions the system will be disabled until a human re-enables it.
- **Near-Time Reconciliation.** Trading systems can have functionality in place that accepts drop-copies from exchanges and clearing firms. Drop copies are duplicate copies of orders that allow a firm to compare the exchange or clearing firm view of trades and positions with the firm’s internal view. This helps to assure that all systems are performing as expected and maintaining accurate and consistent views of trades and positions.
- **Reasonability Checks.** Trading systems can have “reasonability checks” on incoming market data as well as on generated values.



The management of client risk by clearing firms, and of clearing member risk by clearinghouses, has evolved as trading has moved from exchange floors to computer screens. In most respects, risk controls have strengthened.

Clearing firms direct significant resources toward managing and monitoring risk and refining approaches to assessing clients' risk exposure. Clearing firms frequently employ the following risk management controls with direct access clients:

- Most exchanges and self-regulatory organizations (SROs) require the clearing firm to ensure that the trading firm has pre-trade risk controls in place. Clearing firms may require the trading firm to provide network access to the trading firm's pre-trade risk controls to allow a clearing firm to set various risk limits and, if appropriate, stop the trading firm's trading. Network access is technically difficult to achieve, however, and trading firms can override risk controls set by clearing firms.
- The clearing firm will conduct substantial due diligence on prospective direct access clients and will grant direct access rights only to those clients who are deemed sufficiently creditworthy and whose internal controls are deemed sufficiently strong that pre-trade monitoring by the clearing firm is less essential. A clearing firm may also require additional collateral to provide further certainty that the trading firm will be able to meet any obligations that might arise from trading. In addition, the clearing firm will monitor the trading firm's account to determine whether margin requirements are being met.
- Trading firms are judged on their willingness to share information with their clearing firm. The more transparent a client is willing to be, the more likely the clearing firm is to grant direct access.
- Clearing firms have risk controls built into order entry systems they offer trading firms. These risk controls include many of the controls described later in this document.
- Increasingly, clearing firms are depending on the exchanges to provide pre-trade risk controls. Often, limits on the exchange systems can be configured and monitored by the clearing firms. This ensures that risk controls do not become a source of competition between clearing firms.
- Finally, clearing firms have agreements with trading firms that require the trading firms to have specified risk controls in place, restrict access to authorized personnel, and comply with relevant rules. Clearing firms monitor and enforce compliance with these agreements on an ongoing basis.



The primary business and function of exchanges is matching and clearing trades, regulating their market, and ensuring that the market operates safely with minimal systemic risk in order to sustain the overall viability of the market. The default or failure of the client of a clearing member has no immediate risk consequences for the clearinghouse unless it causes losses that lead to the default or failure of the clearing member. However, the provision of controls to help avoid such events must be regarded as a priority of any exchange in order to protect the overall integrity of its marketplace, and in recognition and support of the risk management role undertaken by clearing members.

Exchanges have in place well-defined policies and procedures describing the responsibilities of clearing firms and direct access firms.

- Exchange rules may require that clearing firms implement specified risk management standards with regard to direct access clients. The exchange's requirements and onboarding processes for clearing firms and their direct access customers encompass and support the risk management standards. The exchange processes may include: legal paperwork, system certifications, and permissioning security.
- Clearing firms for directly connected entities must follow recommended exchange guidelines for direct access, including in many cases requirements that clearing firms configure and monitor automatic risk limits and that they maintain the ability to halt a client's trading system, if appropriate.
- Exchanges have the ability to establish an error trade policy that provides a uniform set of policies and procedures that are followed in the event of an error.
- Exchanges have the ability to enable or restrict access per established rules.
- Exchanges establish rules surrounding processes to ensure that direct connections are guaranteed by clearing firms.
- Exchanges make non-clearing entities and system providers aware of exchange rules and responsibilities in the processes surrounding connectivity and electronic trading and ask them to certify to the exchange and clearing firm their capabilities to provide risk management functionality.



## **1. Execution Risk Tools**

Pre-trade order checks are risk controls put in place to prevent execution of a trade because of error or “fat-finger” problems, or a client trading beyond authorized trading limits. Pre-trade risk controls can be put in place at the trading firm, clearing firm, or exchange level. Pre-trade risk controls have become a point of negotiation between trading firms and clearing members because they can add latency to a trade. To avoid such negotiations, the MAWG believes that certain risk controls should reside at the exchange level and be required for all trading to ensure a level playing field. The right to set and manage, or authorize a trading firm to set and manage, any pre- or post-trade order checks at the exchange’s matching engine, however, should reside with the clearing firm.

### ***Recommended Implementation:***

- To reduce the inevitable errors that occur with manual data entry, exchanges should work towards providing a standard communication protocol that would allow firms to automate setting and updating risk parameters for individual trading entities. This would also give clearing firm risk managers the ability to more efficiently disable a client from multiple exchanges simultaneously. An API based on an agreed standard protocol such as FIX would be the preferred method for entering and updating limits.
- Unless otherwise indicated, exchange risk control systems should provide clearing firms with the ability to define risk controls by product. All limits should be set by positive permissioning. The auto-default should be set to zero (i.e. clearing firm will set limits only for the products that they are allowing the trading firm to trade).

### **a. Order Size**

Quantity-per-order limits are the most basic types of pre-trade risk management tools to help prevent accidental “fat-finger” incidents. This type of limit sets a maximum number of contracts that can be bought or sold per order.

#### ***Principle:***

Quantity-per-order limits should be mandatory:

- (a) The clearing firm should establish limits with the trading firm to avoid generating and sending erroneously-sized orders to the market. Occasionally, larger-sized orders are legitimate. In such cases, the trading firm needs to contact the clearing firm to adjust their limits.
- (b) The exchange should provide default limits to protect the integrity of its market.

### ***Recommended Implementation:***

A clearing firm providing direct access to a market should have visibility to the limits and the ability to set appropriate limits for the trading firm’s activity, regardless of whether the trading firm accesses the market directly (DA-E), through the clearing member system (DA-C) or through a third-party system (DA-V).

- Risk controls need to be sophisticated enough to allow the clearing firm to set pre-trade limits per product for each client and prevent trading beyond established limits. Different sized limits are required for more liquid versus less liquid instruments (e.g., front month versus back month futures or options, in-the-money versus out-of-the-money options).
- Trading firm access to products should be blocked until limits are established by the clearing firm. Default limits should not allow “unlimited” trading. In addition, the clearing firm would like to have the ability to set controls for multiple products at one time.



### **b. Intraday Position Limits**

Intraday position limits give the clearing firm the ability to block a trading firm from increasing its positions beyond a set threshold. Limits placed at the exchange level, rather than the order-entry system, allow centralization and standardization of risk controls. Position limits, however, are intended as “speed bumps on trading” and not as actual credit controls. These limits include start-of-day positions, cash in account, and cross-asset margining. Position limits provide the ability to automatically halt errant algorithms before credit limits are exceeded. Once a trader is blocked, the risk department has time to perform a risk evaluation before allowing further trading.

#### *Principle:*

The exchange should make available the ability to set pre-trade intraday position limits. Once the trading entity has reached these limits, only risk-reducing trades would be allowed.

#### *Recommended Implementation for Futures:*

The position limit capability should have the following characteristics:

- Set by trader, account, or firm and with the ability to set by groups of traders or accounts.
- Set maximum cumulative long positions and maximum cumulative short positions.
- Include working orders in maximum long/maximum short position calculations.
- Set by product level.
- Provide the ability to raise or lower limits intraday.
- Be configurable by open API, preferably FIX API.
- Be mandatory for all participants so that latency is the same for all.

#### *Recommended Implementation for Options:*

- Recognizing that options have a lower delta than futures, position limit capability must include the ability to differentiate limits by product type.

### **c. Cancel-On-Disconnect**

When a system unintentionally disconnects from the exchange network, it creates uncertainty about the status of working orders. Automatic cancellation of orders upon disconnect provides certainty to the trading firm and risk manager whether orders have been filled or cancelled. Some users, however, may not want to have their orders automatically pulled from a market as the working order may be part of a hedged position or a cross-exchange strategy trade.

#### *Principle:*

Exchanges should implement a flexible system that allows a user to determine whether their orders should be left in the market upon disconnection. This should only be implemented if the clearing firm’s risk manager has the ability to cancel working orders for the trader if the trading system is disconnected. The exchange should establish a policy whether the default setting for all market participants should be to maintain or cancel all working orders.

### **d. Kill Button**

A “kill” button provides clearing firms with a fast and efficient way to halt trading activity at the exchange level when a trading firm breaches its obligations vis-a-vis the clearer (e.g. by exceeding credit limits due to erroneous activity of an automated trading application). The trading firm will be excluded from trading until the clearing firm explicitly reinstates it.



**Principle:**

Exchanges should provide clearing firms with the ability to: 1) delete all open orders and quotes and 2) reject entry of new orders and quotes.

**Recommended Implementation:**

- The exchange should have a registration system that requires firms to specify which staff members are authorized to use the kill button.
- The system itself should have explicit warnings informing authorized users of the consequences of activating the kill button.
- Similar functionality could be implemented to allow a trading firm to halt trading activity on a firm-wide, trading group or individual trader basis.

**e. Order Cancel Capabilities**

**Principle:**

Exchanges should provide to clearing members an order management tool that allows real-time access to information on working and filled electronic orders. The tool should provide risk mitigation functionality in the event of an electronic trading system failure.

**Recommended Implementation:**

The clearing member and trading firm should have the ability to view and cancel orders via this tool. Clearing members should be able to delegate and permission the tool for individual traders or firms at granular levels.

The tool should provide view capabilities for:

- current order status
- fill information, including partial fills
- cancel and replace history
- order timestamps

The tool should provide cancel capabilities for:

- individual orders
- groups of orders
- all working orders via a single command

**f. Price Banding/Dynamic Price Limits**

Price banding or dynamic price limits are an automated order-entry screening process designed to prevent entry of buy or sell orders priced substantially through the contra side of the market. It reduces the number of error trades that take place in the market by preventing bids from being entered too far above current market prices and offers from being entered too far below current market prices.

**Principle:**

The exchange should have the ability to set price limits on a dynamic basis, continuously adjusting throughout the day to account for current market conditions.



*Recommended Implementation:*

Exchanges should have the ability to widen price bands throughout the trading day when necessary to account for additional volatility in the market. The width of the price limits should be determined by product. Price banding occasionally can be too strict for less liquid markets and may need manual intervention to facilitate trading if the current range is deemed unsuitable.

Price banding for options requires a different approach because options are more dynamic. Price banding may be too restrictive for less liquid options contracts because of wider bid-ask spreads.

**g. Market Maker/Sweep Protections**

Sweep protections are designed for firms with specific market-marketing obligations to quote options en masse. Although these protections are most frequently used in options markets, they can be applied to other markets. Market-maker protections are parameters set by market makers and implemented by the exchange to provide a degree of risk protection by limiting the market maker's quote execution exposure.

*Principle:*

Exchanges should allow a level of protection for market makers who quote simultaneously on both sides of the market.

*Recommended Implementation:*

Protection parameters should be optional and should allow values to be set by each market maker or market-making entity. When market maker-defined protection values are met or exceeded within certain time intervals, the protections should be triggered. When triggered, the electronic trading system would initiate the market-maker protection functionality, which rejects new messages and/or cancels resting quotes associated with the market maker.

**h. Internal Trade Crossing**

It is common for multiple independent trading strategies to be active at the same time within a single firm. The strategies may interact on the market by taking opposite sides, occasionally generating inadvertent wash trades. This is a common situation with direct access and the increasing use of broker execution algorithms that may stretch orders over a period of time, micro-manage slices that may interact with another order placed by the same legal entity, or run as an auto-hedging facility with no intention upfront to create a wash trade.

The MAWG considered whether technology could assist risk managers in identifying wash trades. The group concluded that it is impossible for exchanges to implement such risk controls because account ownership information is not available at the matching engine. While clearing members have the ownership information and can confirm whether a client resides in the same profit center of the firm, algorithms may be producing orders that interact with accounts within the same legal entity. Further, customers can use multiple systems within a legal entity that don't necessarily interact with each other on a pre-trade basis. The MAWG concluded that there was no way to design a rule that would prevent wash trades without preventing legitimate trades.



**Principle:**

Wash trades are prohibited to prevent manipulating the market by artificially distorting market price or volume. Inadvertent crosses do not have the intent to mislead the public. Exchanges, working within the framework provided by their respective regulators, should set guidelines for vendors, customers, and clearing members, defining what would be acceptable reasons for inadvertent cross trades. Existing rules should be re-examined in the context of today's trading environment.

## 2. Post-Trade Checks

In addition to pre-trade risk controls, post-trade checks allow clearing and trading firm risk managers to track all working/open orders and all executed and cleared orders. "Drop copy" functionality gives clearing firms the ability to monitor orders on a near real-time basis without adding latency to the order flow. Drop-copy functionality allows clearing members to receive duplicate copies of client working/executed orders as they enter the exchange network and/or are matched at the clearinghouse.

**Principle:**

Exchanges should make drop copies available to clearing and trading firms.

- Trade capture drop copy: Exchanges should provide clearing firms with drop copies of orders and executed trades. This allows clearing firms to get their current set of trades and positions from a secondary channel independent of the primary trading system.
- Post-clearing drop copy: Exchanges should provide clearing firms net position per maturity per contract as soon as the trade is matched at the clearinghouse. This functionality needs to be as close to real-time as possible.
- Exchange drop-copy functionality should allow clearing firms to enable trading firms to receive trade capture and post-clearing drop copies.

**Recommended Implementation:**

The post-clearing drop copy feed should contain all messages including acknowledgements, fills, amendments and cancellations. Exchanges need to work toward an industry standard of delivering cleared information in a maximum of two-three minutes after a trade is executed. This data needs to be delivered via a standard protocol, preferably via FIX API.

## 3. Co-Location Policies

When considering co-location, exchanges should recognize that one of the main benefits of such a service is that it creates a level playing field for firms that want low-latency access to the exchange. It provides firms, both large and small, with low-latency connectivity for a reasonable cost made possible by the exchange sharing the costs of the required technical infrastructure with interested participants. When co-location and proximity sites are not available, it encourages firms to seek confidential knowledge about matching engine locations and compete for building space closest to those engines so they can build their own private data centers. This exacerbates the differences in the ability of market participants to obtain market access.

**Principle:**

Steps should be taken to ensure that access to co-location is available to every firm that is interested in such a service and that the terms of the co-location service remain transparent to all market participants.



## 4. Conformance/Certification Testing

### *Principle:*

- All trading firms that wish to write directly to the order entry or market data interfaces of an exchange should be required to pass an initial set of conformance tests for execution and market data that highlight basic functionality of the trading system that will be making the direct connection. All ISVs and proprietary systems should be required to pass the same conformance tests, so the proprietary system client using the ISV should not be required to pass conformance.
- The exchange should be required to provide a conformance environment on-demand for re-certification requirements.

### *Recommended Implementation:*

A representative of the exchange should interview the proprietary system client to determine which functionality should be tested. Exchanges should test the ability of a direct access firm to:

- Send a request for and process the exchange's response for the following: Log On, Log Off, New Order, Cancel, Order Modify, Sequence Reset, Instrument Definition Requests, and Market Snapshot requests.
- Process the following exchange messages: Business Reject, Session Reject, Complete Fills, Partial Fills, Exchange Open/Close, Market Data Updates, Trade Updates.
- Properly handle the exchange recovery mechanism provided when messages are sent from the exchange to a proprietary system participant, but the client isn't actively connected.
- Recertification should be required whenever core functionality has changed at the exchange. It should be up to the exchange to decide what functionality needs to be recertified as well as to notify each proprietary system participant of the need to recertify.
- Recertification should be required whenever a participant's core functionality has changed. It is up to the proprietary system participant to notify the exchange when this happens as well as to schedule the conformance test.



## 5. Error Trade Policy

The potential for trading errors by direct access traders causing significant market disruptions is of utmost concern to all market participants and regulators. Although traders and trading system engineers have an incentive to build robust systems and safeguards to avoid potential error trade situations and the substantial costs associated with them, the potential for error trades still exists. Robust pre-trade risk controls such as price banding significantly reduce the potential for erroneous trades but exchanges still need to enforce a strict error trade policy.

A robust error trade policy minimizes systemic risk by affording market participants confidence that when an error trade occurs, it will be evaluated and resolved according to a uniform set of policies and procedures. Conversely, subjectivity or ambiguity in an error trade policy amplifies risk through uncertainty. The objective of an error trade policy should be to remove the uncertainty of open-ended market exposure and allow traders to expeditiously resume normal trading activity. This is critical for maintaining market confidence and continuity.

### a. Trade Certainty

An important aspect of market integrity is the confidence that, once executed, transactions will stand and will not be subject to arbitrary cancellation.

*Principle:*

Exchanges should adopt a “Preferred Adjust-Only Policy” to ensure absolute trade certainty to all parties to an error trade. In a Preferred Adjust-Only Policy all trades inside of a product-specific “no-adjust” range are ineligible for adjustment. All trades outside of the no-adjust range potentially could be adjusted to the edge of the no-adjust range from the prevailing market at the time of execution. The Preferred Adjust-Only Policy would not eliminate the authority of an exchange to cancel or correct trades under extreme circumstances.

### b. Contingency Orders

The most challenging aspect of an error trade policy is the appropriate way to handle a contingency or stop order triggered by an erroneous transaction. The MAWG recognizes that a clearing firm could incur losses on contingency orders their customers placed which were filled as the result of an erroneous trade but cannot be passed on to the customer since the adjusted price does not indicate that the order should have been filled.

*Principle:*

In keeping with the objective of the Preferred Adjust-Only Policy, contingent or stop orders executed as a result of an error trade should be eligible for compensation from the party that made the error. An exchange's authority to cancel orders under extreme circumstances should not be invoked merely because an order is a contingent order.



**c. Notification**

Markets continue to trade while the parties to a trade and the exchange determine whether a trade is erroneous. The identification of a possibly erroneous trade well after it has been executed and its later cancellation can create even more uncertainty in the market. Market integrity, therefore, demands that exchange policies and procedures establish strict, narrow time frames in which a request to cancel a trade is made.

***Principle:***

The exchange should establish a minimal reporting time of less than five minutes for firms to notify the exchange that an error has occurred.

The exchange should announce a potential adjust-or-bust situation immediately upon notification and the adjust decision should be disseminated to the marketplace within a reasonable timeframe via a specific market data message, email and/or other established mode of communication on a best efforts basis.

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