

CONSULTATION REPORT

POLICIES ON ERROR TRADES



OICU-IOSCO

**TECHNICAL COMMITTEE
OF THE
INTERNATIONAL ORGANIZATION OF SECURITIES COMMISSIONS**

FEBRUARY 2005

THIS REPORT IS FOR PUBLIC CONSULTATION PURPOSE ONLY. IT HAS NOT BEEN APPROVED FOR ANY OTHER PURPOSE BY THE IOSCO TECHNICAL COMMITTEE OR ANY OF ITS MEMBERS.

How to Submit Comments

Comments may be submitted by one of the four following methods **at the latest on 18 May 2005**. To help us process and review your comments more efficiently, please use only one method.

1. E-mail

- Send comments to mail@oicv.iosco.org.
- The subject line of your message must indicate “Public Comment on *Policies on Error Trades*”.
- If you attach a document, indicate the software used (e.g., WordPerfect, Microsoft WORD, ASCII text, etc.) to create the attachment.
- DO NOT submit attachments as HTML, PDF, GIF, TIFF, PIF, ZIP, or EXE files.

OR

2. Facsimile Transmission

Send by facsimile transmission using the following fax number: 34 (91) 555 93 68.

OR

3. Paper

Send a copy of your paper comment letter to:

Mr. Philippe Richard
IOSCO Secretary General
Oquendo 12
28006 Madrid
Spain

Your comment letter should indicate prominently that it is a “Public Comment on *Policies on Error Trades*”.

I. Introduction

During its 31 January and 1 February 2005 meeting the IOSCO Technical Committee approved the public release for consultation of this report (Consultation Report) prepared by its Standing Committee on the Regulation of Secondary Markets (SC2). The Consultation Report will be revised and finalized after consideration of all the comments received from the international financial community as a result of the present consultation process.

In February 2004, the Technical Committee approved a project specification on error trades submitted by SC2. The Technical Committee instructed SC2, in coordination with the IOSCO SRO Consultative Committee, to examine the policies of organized securities and derivatives exchanges that require regulatory authorization (exchanges or markets), and of their regulators, concerning the resolution of transactions that are executed in error either due to the actions of a market user or through malfunction of a trading system (error trades).

This inquiry was not prompted by concerns about the effectiveness of electronic systems. On the contrary, electronic trading technology offers many advantages to both fully automated trading exchanges as well as to non-automated “open outcry” exchanges that use supporting electronic technology: expediting transactions in securities and derivatives by enhancing the capacity, accuracy and speed of order transmission and execution; facilitating linkages with clearing houses, back-office systems, and automated routing systems, quotation systems and other electronic trading systems; linking traders in remote locations and facilitating the extension of trading hours in different time zones; enhancing the ability of market authorities to conduct surveillance and develop transaction audit trails; facilitating the real-time disclosure of transaction-related information on the system as well as through linked trading and quotation systems; and enhancing opportunities to reduce and monitor risk through the ability to program trading limits.¹

This inquiry was prompted, however, by the recognition that error trade policy, and in particular the process by which trades are cancelled, can affect market integrity and users’ confidence in the markets. In addition, the surveillance of erroneous trades and their resolution is material to detecting and deterring market abuse.

The IOSCO *Objectives and Principles of Securities Regulation* (2003 update) (*Principles*) and the *Methodology for Assessing Implementation of the IOSCO Objectives and Principles of Securities Regulation* (*Methodology*) provide the general framework within which to analyze error trade policies.

The *Principles* state that the three core objectives of securities regulation are: (1) the protection of investors, (2) ensuring that markets are fair, efficient and transparent, and (3) the reduction of systemic risk.² Among other things, the *Principles* make clear that “regulation should also promote market practices that ensure fair treatment of orders and a price formation

¹ See, e.g., *Screen-Based Trading Systems for Derivative Products* (IOSCO 1990).

² *Principles* 4.1 and related discussion of the Objectives at 4.2.1, 4.2.2 and 4.2.3.

process that is reliable.”³ In particular, the *Principles for Secondary Markets* provide that, among other matters:⁴

- The establishment of trading systems including securities exchanges should be subject to regulatory authorization and oversight;
- There should be ongoing regulatory supervision of exchanges and trading systems which should aim to ensure that the integrity of trading is maintained through fair and equitable rules that strike a balance between the demands of different market users;
- Regulation should promote transparency of trading;
- Regulation should be designed to detect and deter manipulation and other unfair trading practices; and
- Regulation should aim to ensure the proper management of ... market disruption.

The *Principles* and *Methodology* also make it clear that “there is often no single correct approach to a regulatory issue.”⁵ Moreover, in drafting the *Principles*, IOSCO concluded that it should avoid being overly prescriptive in its requirements while, at the same time, providing sufficient guidance as to the core elements of an essential regulatory framework for securities activities.⁶

Within this broad framework, SC2 (1) examined areas of difference and similarity in exchanges’ approaches to error trade policy, (2) examined those policies within the context of achieving market integrity, transparency, fairness and adequate supervision as reflected in the *Principles*, and (3) attempted to discern whether there are common approaches that markets and regulators should be encouraged to consider in achieving those broad objectives.

This Report adopts for purposes of discussion the following broad, inclusive definition of “error trades”: “transactions that are executed in error either due to the actions of a market user or through malfunction of a trading system.” This broad definition reflects the Survey results, which disclose that many exchanges consider both user and system errors under error trade policies, while others limit the policy to human errors. Still other exchanges invoke the error trade policy to address situations that cause order imbalances (*e.g.*, cascading stops). Although the implications of a system-wide malfunction could be of greater magnitude than an erroneous trade resulting from user error, this Report makes no recommendations as to the appropriate scope of error trade policies. This is because, in part, error trade rules cannot be viewed in

³ *Principles* 4.2.2.

⁴ *Principles* 25, 26, 27 and 29 at 13.4.

⁵ *Principles* 2.

⁶ *Methodology Introduction*, section B.

isolation from the operation of other exchange policies that are intended to address similar market integrity objectives (e.g., emergency procedures). More fundamentally, the *IOSCO Principles and Assessment Methodology* do not restrict the techniques by which regulatory goals (i.e., market integrity) can be attained.⁷

In order to provide guidance to exchanges and regulators, and allow exchanges to assess and develop their practices, this Report articulates several recommendations with respect to the design of error trade policies. These recommendations have been derived from reviewing the existing practices of exchanges, which disclose much similarity with respect to the broad concerns that their error trade policies are intended to address but also show disparity with regard to the specific approaches to implementation. The Technical Committee hopes that publication of this Report will encourage all exchanges to consider the potential benefits of the various approaches discussed in the Report.

While this Report encourages the adoption of error trade policies, it is not intended to mandate a particular application of trade cancellation policies. The adoption of error trade policies will not necessarily lead to trades being cancelled in every case. For example, some exchanges may favor the approach that trades in the market should ordinarily be allowed to stand, even if they are in error, in the interests of market certainty. Exchanges may also want to encourage appropriate levels of care by market users, by refusing to cancel trades simply because they are error trades. In these cases, the market user is likely to be required to accept the responsibility for and consequences of the error trade. Moreover, different policies may be adopted and appropriate for equity and derivative markets. A variety of approaches is consistent with IOSCO's pragmatic and flexible approach to securities regulation.

Participation of the IOSCO SRO Consultative Committee

This project has been materially assisted by the IOSCO SRO Consultative Committee, which is comprised of fifty-three IOSCO affiliate members representing securities and derivatives markets as well as other self-regulatory organizations. Twenty-seven responses to a survey (Survey) that was prepared by SC2 were submitted by SRO Consultative Committee members⁸ and one response from a non-member of the SRO Consultative Committee.

⁷ See *IOSCO Objectives and Principles of Securities Regulation* and the Methodology for Assessing Implementation of the *IOSCO Objectives and Principles of Securities Regulation*.

⁸ Submissions were received from the following members of the IOSCO SRO Consultative Committee: Amman Stock Exchange, Australian Stock Exchange Limited, Board of Trade of the City of Chicago, Inc. ("CBOT®"), Bolsa de Mercadorias & Futuros, Borsa Italiana, BOVESPA, Bursa Malaysia Berhad, Chicago Mercantile Exchange, EuroNext Paris (Cash Markets), FWB Frankfurter Wertpapierbörse / Xetra, Hong Kong Exchanges and Clearing Limited (Derivatives Products), Hong Kong Exchanges and Clearing Limited (Cash Products), Istanbul Stock Exchange, J Nasdaq Securities Market Inc., Madrid Securities Exchange, MATIF/MONEP, Mexico Stock Exchange, NASDAQ, New York Stock Exchange, SGX – Derivatives, SGX – Securities, SWX Swiss Exchange, Sydney Futures Exchange, Taiwan Stock Exchange, Tokyo Stock Exchange, Inc., Toronto Stock Exchange, National Futures Association Since NFA does not operate a market, NFA's response was limited to one question addressing the review of error trade policies. Submission was also received by Montreal Exchange

Recommendations for the Design of Error Trade Policies

1. Adoption of Policies

- *Exchanges should evaluate the need for and consider adopting error trade policies.*
- *Exchanges should have, and regulators should take into account, an exchange's need for flexibility in the design of error trade policies.*

2. Comprehensiveness

- *Exchange error trade policies should be comprehensive in order to promote the predictability, fairness and consistency of actions taken under the policy.*

3. Predictability and Timeliness

- *Policies concerning the resolution of error trades should be designed to provide a predictable and timely process.*

4. Transparency

- *Exchange error trade policies should be made transparent to market users.*
- *Cancellation decisions involving material transactions and resulting from the invocation of error trade policies should be made transparent to market users.*
- *Exchanges should be encouraged to develop and adopt measures to specifically identify or "highlight" error trade messages to market users.*

5. Cooperation with other markets

- *Exchanges should be prepared to share information with other markets when possible concerning the cancellation of trades.*

6. Prevention

- *Exchanges should evaluate the need for measures to prevent error trades.*

7. Role of the Market Supervisor

- *Market supervisors⁹ should support the implementation of error trade policies that are consistent with the above recommendations.*
- *Market supervisors should take affirmative steps to help ensure that there is adequate surveillance conducted in the markets they supervise to detect whether error trades are related to problematic market activity.*

⁹ This Report uses the term "market supervisor" broadly to include the market itself as well as the market's regulator.

II. Recommendations for the Design of Error Trade Policies

1. Adoption of Policies

- *Exchanges should evaluate the need for and consider adopting error trade policies.*
- *Exchanges should have, and regulators should take into account an exchange's need for, flexibility in the design of error trade policies.*

Discussion

- *Adoption of error trade policy*

Accurate information in respect of market volumes and prices of completed trades is central to both the fairness and efficiency of a market, and in particular to its liquidity and quality of price-formation. Information in relation to volumes and prices of completed trades enables market users not only to take into account the most recent information, but also to monitor the quality of executions they have obtained compared with other market users. In general, where trading information is comprehensive and widely available, the price discovery process is more efficient and the public's confidence in the market is greater.¹⁰

However, the availability of trading information, particularly when combined with the speed of electronic trading technology and the increased linkages among markets, both within the market's jurisdiction and in other jurisdictions where traders or information providers have access to the market, can also exacerbate the market consequences of transactions that are executed in error either due to the actions of a market user or through malfunction of a trading system. Incidents that involved the application of error trade policies illustrate the degree to which erroneous trades can rapidly affect the market and have widespread consequences for market users.¹¹

¹⁰ See *Transparency and Market Fragmentation* (IOSCO 2001), and *Transparency on Secondary Markets: A Synthesis of the IOSCO Debate* (IOSCO 1992).

¹¹ (a) On July 14, 2003 the Chicago Mercantile Exchange's (CME) E-Mini Standard & Poor's 500 futures contract dropped briefly, but sharply, in afternoon trading, prompting the exchange to void some 600 transactions. The trading problem at the CME was triggered by an "order imbalance" that led to a "cascading effect" when a number of stop orders were executed in the automated trading system. In August 2003 the CME introduced "stop logic enhancement" that was designed to prevent market spikes that can occur due to the continuous triggering, election and trading of stop orders.

(b) On July 3, 2003, at the Chicago Board of Trade (CBOT) the mini-sized Dow futures experienced a sudden major market movement in the September and December contracts, falling from 9058 to 8474, or 584 points, which is approximately 2/3 of the 10% Circuit Breaker Limit for the U.S. equity futures and securities markets. There was also a 506-point disparity between the low prices of the CBOT's \$10 DowSM Futures contract during this time. The CBOT disallowed trades executed at levels below the 40-point range in both the September and December mini-sized Dow contracts. For the time between 9:38:00 a.m. to 9:40:04 a.m., trades below 9018 in the September contract and trades below 8986 in the December contract were deemed invalid.

Once an error trade is executed, the erroneous trade data will be disseminated and other traders will act on such information.¹² For example, orders for securities or derivatives¹³ that are executed erroneously at prices substantially away from the existing trading range and in large volumes could cause other traders to take actions based on reports of such trades, not only in the same security but also in derivative or cash-related markets. Erroneously executed trades also could automatically trigger the execution of contingent trades (*e.g.*, “stop” or “limit” orders). The longer it takes for a trader to report and the exchange to resolve an allegedly erroneous trade, the longer such “inaccurate” trading information could have an effect on price formation.

Moreover, the extent to which third parties (*e.g.*, program buyers or sellers) are able to receive compensation, or rescind a transaction, as a result of error trades (or cancelled error trades) is unclear. The difficulties in determining potential accountability affect the ability of firms to appropriately price and manage related risks and to assess appropriately the costs of doing business on various exchanges.

There may also be particular concerns with regard to the resolution of errors made in connection with cross-border trades. Traders have an interest in understanding the applicable rules at exchanges outside their jurisdictions before committing to trade on those markets. There may be different and/or conflicting rules, standards and processes for error trade resolution in the various jurisdictions. In this regard, any lack of transparency and certainty concerning the explicit conditions under which a trade may be cancelled and how cancelled trades are treated is a source of operational risk.¹⁴ If the policies concerning trade cancellation are not known with certainty, then traders may act in a manner that adds to volatility during periods when “erroneous

(c) On May 14, 2001, a dealer at a member firm of the London Stock Exchange entered orders in a basket of index stocks with a value approaching £300m when he apparently intended to enter orders totaling approximately £3m. The orders, which resulted in several thousand trades, were entered near to the end of that day's closing auction, during the course of which the FTSE 100 index fell by almost 2.5%.

(d) On December 5, 2003, the NASDAQ Stock Market (NASDAQ) halted trading in Corinthian Colleges Inc. (COCO) from 10:58 a.m. to 11:55 a.m. due to extraordinary market activity that resulted from multiple orders being caught in a systemic loop and routed to multiple market centers and electronic communications networks (ECNs) by a single customer of a market participant. NASDAQ also determined that all trades reported to NASDAQ in COCO that were executed from 10:46 a.m. to 10:58 a.m. would be cancelled as clearly erroneous. Other markets also cancelled trades in COCO that occurred during this period. See NASDAQ Head Trader Alert #2003-164 (December 5, 2003).

¹² Erroneous prices may have wider effects, such as affecting mutual fund pricing, triggering margin calls, etc.

¹³ Certain derivatives (*e.g.*, options) also may be considered securities.

¹⁴ Operational risk is “the risk that deficiencies in information systems or internal controls, human errors or management failures will result in unexpected losses.” *Recommendations for Central Counterparties* (IOSCO/CPSS November 2004). Operational risk is often addressed in part by the adoption of exchange or regulatory rules that are designed to control the execution, clearing and settlement phases of exchange trading and to address the consequences of a deficiency.

trading” is affecting market prices. This could exacerbate instability in electronic markets that are used by globally active traders and intermediaries.

These considerations suggest that the adoption of error trade policies will facilitate a market’s ability to address the effects of error trades and maintain market integrity and enhance the ability of market users to price and manage risks.

- *Need for Flexibility*

The goal of preserving market integrity includes a concern with the need to avoid and correct the transmission of erroneous price information to the market and its effect on the price formation process. However, this goal also includes a sometimes conflicting concern with the need to preserve trade certainty. As a result, the design of error trade policies necessarily involves a *judgment* as to how an exchange philosophically perceives or assigns a “utility” to these two concerns, which in turn will influence the exchange’s *judgment* as to how it will weigh those concerns within its error trade policy. As noted in the Introduction to this Report, these considerations may result in an exchange adopting the approach that trades in a market should ordinarily be allowed to stand.

This Report recognizes that a market’s judgments with respect to its approach to error trades reflects legitimate policy determinations, which in turn will be expressed in different error trade policies.

For example, most futures exchanges have established a range of prices above and below the prevailing price within which erroneous trades may not be cancelled under error trade policies (“no-bust” ranges). By establishing such ranges in advance an exchange decides which transaction prices will be considered to have been executed at “valid” prices and provides a measure of predictability and consistency of treatment.¹⁵ Other exchanges have not adopted no-bust ranges. However, both the decision by an exchange to adopt a no-bust range and, if so, the range chosen, may be influenced, in part, by the degree to which a market is committed as a matter of “trading philosophy” or “business doctrine” to maintaining trades, the volatility characteristics of the traded product (*e.g.*, futures versus equity security), the perceived need for such no-bust range or the presence of other measures.¹⁶ These decisions are appropriately within the discretion of the exchange.

¹⁵ There are a variety of methodologies to establish “no-bust” ranges described in the Survey and this Report is not intended to mandate the use of “no bust” ranges or, if used, any particular methodology to construct such ranges.

¹⁶ Error trade rules may be just one component of an exchange’s approach to addressing trade certainty (*e.g.*, price limits, filters programmed into an electronic system’s trading algorithm that limits permissible execution prices). See for example IOSCO’s *Report on Trading Halts and Circuit Breakers* (2002). An exchange could determine that its adoption of price limits and trading halt criteria effectively address erroneous trade scenarios that could have a material affect on the price formation process.

As the above illustrates, there is no one approach to error trade policy. Accordingly, markets should have, and regulators should take into account a market's need for, flexibility in the design of error trade policies.

2. Comprehensiveness

- *Exchange error trade policies should be comprehensive in order to promote the predictability, fairness and consistency of actions taken under the policy.*

Discussion

The *IOSCO Principles* contemplate that exchange rules will be applied consistently and fairly and that no market user should be favored over others.¹⁷ A comprehensive policy that eliminates ambiguities and contemplates in advance the necessary processes and probable consequences of invoking and canceling a trade helps to achieve these goals by allowing market users to understand in advance the circumstances under which a trade may be cancelled, the type of trades that may be cancelled, the parties who may challenge the trade and the scope of all exchange actions once the policy is invoked.

The predictability of actions that results from a comprehensive policy enhances a sense of fairness by allowing market users to understand and evaluate in advance the risks and costs to which they may be exposed should error trade policies be invoked – whether they have caused the error or their trades have been affected by the error -- and to take appropriate actions.

In order to develop a comprehensive error trade policy the designers are encouraged to review the Summary of *Survey Responses* included in this Report and consider the advantages, if any, of the approaches disclosed in the Survey responses.¹⁸ In this regard, a review of the Survey responses discloses that exchanges have adopted rules that address the following general topics.

- **Scope of application, definitions, who may invoke the policy and procedures to invoke the policy** – What constitutes an error trade, the systems to which the policies apply, the specific circumstances under which they may be invoked (*e.g.*, for errors in trade price or quantity or system errors), specifically identified categories of person who may invoke the policy (*e.g.*, exchange participants who are parties to the trade, non-parties to the trade, clearing participants, the exchange unilaterally or other third parties), including the rights of third parties to invoke the rules, the type of trades that may be subject to cancellation (*e.g.*, contingent trades), and the procedure to invoke the policy.

¹⁷ *Principles* 4.2.2.

¹⁸ This suggestion is not intended to prescribe any particular approach.

- **Combination trades and third party contingent trades**¹⁹ – The treatment of combination trades entered into by the parties and the ability of third parties whose trades were affected by an error trade to invoke the policy, either contingent trades or non-contingent trades. The specific identification of the types of trades that can be challenged under the policy allows market users to assess their own use of the market and the need to take protective action (*e.g.*, intermediaries may determine to charge additional fees to address uncertainty as to trade finality).²⁰
- **No-bust ranges** - For exchanges that adopt no-bust ranges, the range, methodology used to determine the range, whether the exchange can cancel a trade within the no-bust range (*e.g.*, to avoid an unfair result such as a trade caused by system errors or where the parties agree), whether the exchange retains the flexibility and discretion not to cancel a trade (*e.g.*, if it has a reasonable basis to conclude that the invocation of the error trade policy was part of a manipulation or otherwise was an attempt to “game” the system.)²¹
- **Process to determine whether to cancel a trade, notification and right to appeal decision** - Which exchange official or office decides, the written criteria for deciding whether to cancel and/or not cancel a trade, whether consent of the parties is required, timeframes, who must be notified of the decision, and rights to appeal the decision.
- **Cancellation and voluntary actions by parties** – Actions taken by the exchange when it decides to cancel a trade, actions taken by an exchange that does not cancel trades but corrects the price, the ability of parties to maintain a busted trade but voluntarily adjust the price, the existence of other remedies if the trade is not cancelled, the ability of parties to reverse the transaction by other techniques (*e.g.*, prearranged offsetting transactions).
- **Notification** – Whether the exchange is required to provide notice that a trade has been submitted, accepted by the exchange for review and cancelled and if so, to whom notice must be provided, the mechanism for doing so, timeframes and special procedures to bring such notice to the attention of recipients.

¹⁹ Combination trades pair orders - for example, the purchase of a security and the sale of an option on a security; contingent trades are submitted subject to certain defined criteria such as a minimum sale price or maximum purchasing price.

²⁰ The speed of electronic reporting systems means that the execution of an erroneous trade can result in the instantaneous broadcast of erroneous price information to the market. Such price information may in turn immediately trigger various contingency orders and therefore could affect a large universe of market participants. For practical reasons, markets generally limit the universe of participants who may invoke the error trade policy.

²¹ Market supervisors’ surveillance and investigations should take into account such “gaming” of the system. *See* the discussion below regarding “role of the market supervisor.”

- **Fees or penalties** – The existence of any fees or penalties for canceling a trade.
- **Dispute resolution mechanisms** – The existence of dispute resolution mechanisms, obligations to resolve disputes, allocation of losses, ability of parties to agree to financial adjustments to cover losses.
- **Prevention** – Measures that are intended to minimize the possibility of error trades, such as price limits or functions programmed into the trading system algorithm that automatically limit the range of permissible buying or selling prices.

3. Predictability and Timeliness

- *Policies concerning the resolution of error trades should be designed to provide a predictable and timely process.*

Discussion

As previously noted, the predictable and timely application of error trade policy is an essential component of “fairness” and builds trust and confidence in a market. The establishment of explicit time frames for procedures to be invoked or decisions to be made under error trade policies fosters predictability and consistency of treatment. Such time frames are particularly justified to promote market integrity and fairness given that an erroneous trade, as well as any subsequent cancellation of such trade, can have an almost instantaneous effect on other traders (either directly or by triggering contingency trades). Similarly, the decision to cancel a trade will have implications for other market users. Fairness to all parties will also be enhanced through the adoption of timeframes that govern the error trade processes and thereby permit market users to understand and take action should the error trade policy be invoked.

Accordingly, designers of error trade policies should consider adopting explicit timeframes for all procedural requirements of their error trade rules. In establishing timeframes, designers of error trade policies should take into consideration the need for trade certainty and procedural fairness, which would suggest a timeframe that allows for expeditious decision making and the finality of decisions. Consistent with the transparency considerations, timeframes should be made readily accessible to all market users.

4. Transparency²²

- *Exchange error trade policies should be made transparent to market users.*

²² As used in this *Report*, the term “transparency” is used broadly to include the availability of a market’s rules and procedures, as well as the availability of transaction-related information.

- *Cancellation decisions involving material transactions and resulting from the invocation of error trade policies should be made transparent to market users.*
- *Exchanges should be encouraged to develop and adopt measures to specifically identify or “highlight” error trade messages to market users.*

Discussion

Transparency of Policy - IOSCO views transparency as a core principle in market regulation, stating in its *Objectives and Principles of Securities Regulation* that regulation should promote transparency of trading.²³ Transparency of a market’s rules, procedures and important decisions is central to both fairness and efficiency of a market.²⁴ Accordingly, exchange error trade policies should be transparent and made readily accessible to market users. Ideally, markets should endeavor to make their error trade rules available through the Internet. In addition, any revision to these policies should be made readily accessible as soon as possible.

Transparency of Results - The availability and integrity of information on bids and offers is a central factor in ensuring price discovery and in strengthening users’ confidence that they will be able to trade at fair prices. Similarly, the availability of information in respect to the volumes and prices of completed trades enables market users to take into account the most recent information and to monitor the quality of execution they have obtained.²⁵

Because error trades can have an immediate effect on price formation (*e.g.*, through reliance by traders on such information or the triggering of contingency trades), knowledge that a trade has been *challenged* by a party and *taken under review* by an exchange and/or subsequently deemed to be a valid error trade and in fact *cancelled* could be, depending upon the circumstances, highly material to the accuracy of the price formation process and to the trading decisions of market users.

A review of the Survey responses reveals a variety of approaches concerning the timing and scope of providing notice to the market with respect to requests to invoke the error trade policy, the decision by the exchange to take the challenged trade under consideration and the decision to cancel the trade.

In general, the principle of transparency disfavors situations of asymmetric access to information. However, as the Technical Committee previously has noted, “establishing market transparency standards is not straightforward” and that “regulators therefore need to assess the appropriate level of transparency in any particular product with considerable care.”

²³ *Transparency and Market Fragmentation* (IOSCO 2001) at p. 4.

²⁴ See, *e.g.* Key Question 6 of the Secondary Market’s section in IOSCO’s *Assessment Methodology*, which asks whether “similarly situated market participants have equitable access to market rules and operating procedures.”

²⁵ *Transparency and Market Fragmentation* (IOSCO 2001) at p. 4.

In this regard, the Technical Committee recognizes that a market's approach to transparency and the degree of timeliness is a policy decision that must weigh competing interests.²⁶ For example, markets may choose not to provide notice to the market that a trade has been challenged out of a concern that such notice would prematurely interrupt the price discovery process or contribute to added volatility and have secondary consequences on contingent trades (*e.g.*, set off stop orders). Similarly, the market could determine that the trade in question, even if cancelled, would have a *de minimis* effect on trading, and determine that it would provide neither notice of the challenge nor the cancellation. Alternatively, depending upon the magnitude of the trade in question, another market may determine that the potential effect of canceling the trade in question requires that traders be provided notice of both the challenge and the cancellation in order to protect their interests.

Because the decision whether to provide notice under an exchange's error trade policies is a policy decision that must take into account competing interests, the Technical Committee does not believe that it is appropriate to mandate a particular approach. Accordingly, subject to the general considerations on transparency reflected in the Technical Committee's reports, *it is appropriate that exchanges should retain the flexibility to determine the circumstances under which and at what time they would provide notice to the market of actions taken under their error trade policies.*²⁷ In making their determinations, exchanges should take into account the likely impact of the disclosure of a possible cancellation, as potential cancellations of a certain magnitude will influence market users to take steps to protect their interests. This *notification* decision however in no way affects the need to ensure that all *trade reports* fully and accurately reflect any cancelled trades.

Highlighting of messages

Many markets have adopted procedures that are intended to help ensure that notices that a trade is subject to error trade procedures or notices of the decision whether to cancel a trade will be specifically highlighted or otherwise brought to the attention of the persons entitled to receive such notice. *Given the large volume of messages that may be transmitted by markets, some of which may be considered "noise" by the users, markets should be encouraged to develop and adopt measures to specifically identify or "highlight" error trade messages to markets and to market users.*

5. Cooperation with other markets

- *Exchanges should be prepared to share information with other markets when possible concerning the cancellation of trades.*

²⁶ See the Secondary Markets section in the *Assessment Methodology for the IOSCO Principles and Objectives of Securities Regulation*.

²⁷ Such decisions could benefit from data showing what effect providing notice of a challenged trade to the market as a whole has on subsequent prices and price volatility (*e.g.*, whether providing notice of challenged trade increases volatility and, if so, what is the time period of such effects and whether the market reacts or appears to recognize that the trade "must" be in error.)

Discussion

The cancellation of a large trade in a security or security index product could affect prices in related products, such as options on the security that trade in another market. Because the price effects may be just as material to the price formation process in the related market, exchanges should be encouraged to take into account, when possible, the potential effect of cancelled trades (*i.e.*, of a certain magnitude) on related markets known to the exchange and be prepared to share information regarding the cancelled trade with the other markets. It is recognized, however, that there may be circumstances where this is difficult, impractical or in fact impossible. The important point is that the scope of information that potentially can be shared should be considered in advance of a request from another regulator.

6. Prevention

- *Exchanges should evaluate the need for measures to prevent error trades.*

Discussion

Nearly all markets that provided survey responses have adopted measures that are intended to reduce the possibility of error trades, for example, by including price limits²⁸ or technological modifications in the trading algorithm. Price limits can reduce error trades by automatically rejecting a submitted trade that falls outside of the price limit. Algorithm modifications include quantity and price filters, algorithms designed to detect conditions where the consecutive triggering of stop orders would result in trades in excess of the predetermined no-bust range, order quantity limitations, and various “alert” type messages that are triggered by unusual orders. A majority of markets have similarly adopted measures that require their participants to implement “technology or procedures” that are intended to avoid erroneous trades, such as filters, order confirmation alerts, credit controls, pre-execution checks, and error trade prevention alerts.

As exchange participants with direct access to the trading system are the first line of defense in preventing error trades, exchanges should, when designing rules applicable to their members, also take into account the role that intermediaries can play in preventing error trades (*e.g.*, by addressing the adequacy of capacity, training and oversight of persons with direct access to the exchange’s trading system).²⁹

²⁸ Exchanges adopt price limits for purposes other than limiting erroneous trades. For example, price limits constitute a mechanism for automatic trading interruptions and are set at levels generally intended to address large fluctuations in a security’s price that are considered to jeopardize an orderly marketplace. The triggering of a price limit following any sharp price change limits the immediate extent of any price move and provides investors with the opportunity to evaluate and act on the information. See IOSCO’s *Report on Trading Halts and Circuit Breakers* (2002), p. 12.

²⁹ The role of intermediaries is beyond the scope of this Report. However, exchanges should, in imposing requirements on their system participants, examine what actions the exchange could take to lessen the possibility of error trades that are submitted to the exchange by participants having direct access to the exchange.

The various measures described above are consistent with the approach contemplated by IOSCO's *Principles for Screen-Based Trading Systems for Derivative Products – Review and Additions* (October 2000) (Screen Based Principles). In this regard, Screen Based Principle No. 5, which addresses security and system vulnerability, capacity, access controls, and internal controls³⁰ and Screen Based Principle No. 6, which addresses competency, integrity and authority of system users, are particularly relevant.³¹ Accordingly, exchanges are encouraged to apply the broad range of considerations suggested in the *Screen-Based Principles* when developing their error trade policies. Designers of error trade policies are also encouraged to evaluate and adopt where appropriate market mechanisms and participant trade supervision requirements to prevent the submission of error trades.

7. Role of the Market Supervisor

- *Market supervisors*³² *should support the implementation of error trade policies that are consistent with the above recommendations.*
- *Market supervisors should take affirmative steps to help ensure that the markets they supervise conduct adequate surveillance to detect whether error trades are related to problematic market activity.*

Discussion

The *IOSCO Principles* contemplate that market supervisors will take an active role to ensure that markets meet the criteria for authorization and that such requirements will continue to be met after authorization.³³ The *IOSCO Principles* make clear that issues of fair access, capacity and competency, fair treatment of orders, transparency of market rules and transaction information, and the reliability of the price formation process are matters that must be considered by a regulator. These broad objectives are relevant in the context of error trade policies. As discussed above, the *Screen-Based Principles* have particular relevancy to the supervisory considerations affecting error trade policies.

³⁰ Screen-Based Principle 5 states that: “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.”

³¹ Screen-Based principle 6 states that: “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.”

³² This Report uses the term “market supervisor” broadly to include the market itself as well as the market’s regulator.

³³ See *Principles* 25 and 26.

The *IOSCO Principles* require that there be ongoing regulatory supervision of exchanges and trading systems and that regulation should be designed to detect and deter manipulation and other unfair trading practices.³⁴ In the context of error trades, surveillance programs should recognize that a repeated pattern of error trades could be indicative of problematic market activity (*i.e.*, attempted manipulative or other abusive market activity), system inadequacies at the user or market level (*e.g.*, a defect in the trading system's algorithm or hardware) or oversight inadequacies at the user or market level (*e.g.*, lack of supervision that fails to detect the intentional overriding of trading limits or the use of error trades to hide otherwise improper trades).

For all these reasons, market supervisors should take affirmative steps to help ensure that the markets they supervise conduct adequate surveillance to detect whether error trades are related to problematic market activity.

³⁴ See *Principles* 26 and 28.