SIFMA
Securities Industry and Financial Markets Association

To: **U.S. Options Exchanges:**

American Stock Exchange, Attn: Michael Bickford
Boston Options Exchange, Attn: Will Easley, Alan Grigoletto
Chicago Board Options Exchange, Attn: Edward Provost
International Stock Exchange, Attn: Gary Katz, Boris Ilyevsky
NYSE Arca, Attn: Edward Boyle, Peter Armstrong
Philadelphia Stock Exchange, Attn: Charles Rogers; Melva Demmer
Nasdaq Options Market, Attn: Adam Nunes

From: SIFMA Equity Options Trading Committee

Date: July 17, 2008

RE: Recommendations for Quality of Execution Reports for Options Exchanges

The Securities Industry and Financial Markets Association ("SIFMA")[1] Equity Options Trading Committee ("Committee") is issuing the attached final recommendations for improving quality of execution reports for options exchanges ("Exchanges"). These recommendations are the result of many months of extensive consultation and coordination between the Committee and the Exchanges. SIFMA believes that these recommendations will help to further the goal of devising a consistent methodology, terminology, and data foundation for the monthly quality of execution statistical reports. The Committee is recommending that the Exchanges implement these recommendations by September 30, 2008.

If you have any questions concerning these recommendations, please contact the Best Execution Subcommittee Chair Brenda Hinton at (917) 472-4792, or Vice-Chair Joe Sellitto at (312) 435-4137. You may also contact Melissa MacGregor, SIFMA Staff Adviser, at mmacgregor@sifma.org or (202) 962-7385.

---

1 The Securities Industry and Financial Markets Association brings together the shared interests of more than 650 securities firms, banks and asset managers. SIFMA's mission is to promote policies and practices that work to expand and perfect markets, foster the development of new products and services and create efficiencies for member firms, while preserving and enhancing the public's trust and confidence in the markets and the industry. SIFMA works to represent its members' interests locally and globally. It has offices in New York, Washington D.C. and London and its associated firm, the Asia Securities Industry and Financial Markets Association, is based in Hong Kong.

SIFMA
Securities Industry and Financial Markets Association

QUALITY OF EXECUTION REPORT RECOMMENDATIONS FOR OPTIONS EXCHANGES

General Recommendations

1) Monthly quality of execution statistical reports must be:
- Online and downloadable;
- In Excel format (this makes for easier file storage and sorting/merging processes);
- Publicly available[1]; and
- Rounded and formatted in consistent increments:
  1) Contract and Order Size: whole numbers
  2) Time: HH:MM:SS:MS
  3) Percentages: hundredths
  4) Dollars: $$.¢¢
  5) Averages: hundredths.

2) Monthly Statistical Reports of the Exchange's performance be broken down by class and order size bucket. (Bucket sizes are defined as 1-10, 11-25, 26-50, 51-100, 101-500, 501+)

3) "Firm name" may not be a category on monthly quality of execution statistical reports because the statistics are provided by the Exchanges, not individual firms. Individual firm statistics may be provided to Exchange members separately.

4) "Underlying equity symbol" must be used on monthly quality of execution statistical reports rather than option symbols. Options on ETFs and indexes must use the underlying ETF or index symbol. Exchanges may expand and break out symbols if options have non-standard expiration dates, or European and American features, or are the subject of a spin-off. System should be built with the ability to easily facilitate option symbology by February 2010.

5) "Time of ENTRY" must be the time an order is electronically accepted in a market center's automated order handling system (*e.g.*, the gateway), rounded to the nearest millisecond. Time of entry must be used when calculating the NBBO, but when the NBBO size is exhausted and a marketable balance of the order is left, best execution must be measured against the prevailing NBBO until

[1] Individual firm statistics may be password protected at the discretion of the Exchanges.

the order is filled. Where one of the trades involves outbound linkage, determination of best execution performance must be measured against the time an Exchange receives an execution report back from the away exchange.

For example, an exchange receives an order to sell 100 IBM March 115 calls at the market:

- NBBO at time of receipt is 3.30-3.40 (75 x 20) CBOE is bid for 50 and ISE is bid 25
- 50 contracts trade at CBOE @ 3.30, leaving 50 to sell at the market
- 25 contracts are linked to ISE and are executed at 3.30
- The balance of the order now is to sell 25 IBM March 115 call at Market
- NBBO shows 3.20 – 3.30 50 x 50 CBOE is bid for 50
- The 25 contract balance of the order is executed @ 3.20 on the CBOE

Upon receiving a report of the execution of the 25 contract linked portion of the order, the exchange takes a snapshot of the NBBO and executes the balance order. Where multiple executions occur on a single order, best execution should be measured "against the prevailing NBBO." Where one of the trades involves outbound linkage, the trade execution is not reportable however for determination of best execution statistics the time an Exchange receives an execution report back from the away Exchange must be used.

6) "Total electronic orders by options exchange" must only represent customer orders[2] received at an Exchange whether such orders are linked away or not.

7) When calculating best execution statistics, "orders" must *include*:

- All market and marketable limit orders (marketable orders must be defined as any order executable immediately upon receipt by an Exchange aka time of entry);
- All multi-listed classes trading on the Exchanges (including ETFs and indexes);
- Inbound agency and riskless principal[3] linkage orders (on the receiving Exchange); and

---

[2] The term customer shall mean a person or entity that is not a broker or dealer in securities or options. The term customer order shall mean an order for the account of a public customer.

[3] "Riskless principal transaction" means a principal transaction where a member, after having received from a customer an order to buy, purchases the security as principal from another member or customer to satisfy the order to buy or, after having received from a customer an order to sell, sells the security as principal to another member or customer to satisfy the order to sell. Two principal transactions occur at the same price but are only reported once as an agency transaction. This is a principal transaction that synthesizes an agency transaction by removing the risks involved with holding a position.

- Only orders designated customer (non-broker dealer), entered after the opening rotation and prior to the close and considered to be immediately executable against the prevailing NBBO. Report start time must be the later of 5 minutes after the open or time an entire options class is available for trading and report end time must be 2 minutes before the close.

When calculating best execution statistics, “orders” must *exclude*:

- Stop orders;
- Not held orders;
- Orders with special handling instructions;
- Flex option trades;
- Non-marketable orders (including cabinet orders) at time of entry;
- Trades relating to an order that was routed to an away exchange;
- Outbound linkage as well as privately routed orders;
- Singly listed proprietary products of the Exchanges;
- Contingency orders, including all multi-leg orders; and
- Manually-entered “open outcry” orders.

8) If an Exchange receives an order and the market is locked and that Exchange is not on either side, it must link away, as permitted under Exchange rules. Marketability is to be measured against the prevailing NBBO at the time of acceptance. However, if an Exchange receives an order and the market is locked and the Exchange can execute at the NBBO against its order book, it should execute the order and include the execution in its monthly statistics. An Exchange should not hold an executable order simply because the market is locked.

9) Trades – when an inbound order results in multiple executions, each distinct trade must be re-evaluated and treated as a new execution, even if the execution occurs at the same price. To gauge turnaround time the time it takes to effect full execution on the entire order must be used.

10) Unfavorable, Improved, and Effective Spread data is to be calculated based on transparent and accessible market data that all market participants can see and respond to must be distinguished from data which only selective market participants can view, such as PIP, PIM, and AIM. The market participant and system parameter information surrounding data which only select markets can view must be clearly defined and referenced in the columns entitled “Price Improved Selected Market Participants” which we have provided for in the new categorization recommendations section proposed below.

11) An Exchange must give immediate notice to other Exchanges when it should be removed from linkage, or has a stale quote for more than 30 seconds. Notification means an Exchange has removed itself from the NBBO. If one Exchange removes another Exchange from linkage the quote data for the removed Exchange while it was off linkage should be included in the stale quotes category. Whenever an Exchange is off linkage, those statistics must be excluded from the monthly summary report by the Exchange that was off-linkage. The total number of minutes and the number of instances that an Exchange was off linkage must be listed in a footnote at the bottom of the monthly reports.

12) "Price Improvement" shall be defined as:

> An execution at a price better than the current NBBO prices by 1 or more trading increment(s) (e.g., this could be a penny improvement in a nickel name), and as compared to the NBBO at the time the order was accepted. For market orders and marketable limit orders this would be any price better than the NBBO at time an order is electronically accepted, but when the NBBO size is exhausted and a marketable balance of the order is left, the execution must be measured against the prevailing NBBO until the order is filled. Once a limit order is displayed, it must no longer be included in the disseminated price improvement statistics.
>
> Note: Executing a trade at the currently displayed NBBO, even if the executing Exchange is not responsible for the NBBO, or is responsible for creating the NBBO, is *not* price improvement.

13) A trade must be deemed an unfavorable trade when all or any part of a trade, regardless of size, trades through the current NBBO.

Current Categorization Recommendations

Total Orders – Self-explanatory.

Market and Marketable Orders % – Percent of total orders that were market or marketable orders.

% of Total Orders Received and Filled by Exchange – Self explanatory

Total Trades – Trades reported to the OCC for clearing by class for the month. Except trades for those orders excluded above.

Total Trades Executed at NBBO – Self-explanatory.

% of Trades Executed at NBBO – Percent of total trades executed at NBBO.

Total Trades Unfavorable – Number of trades that traded through NBBO.

% of Trades Unfavorable – Percent of trades that traded through NBBO (Total Trades Unfavorable/Total Trades).

Total Trades Improved – Number of trades that were executed where the order's executed price is better than NBBO. This column would be used by Exchanges only if price improvement could have accrued to any market participant. For example price improvement was not initiated at the sole discretion of a market maker to whom the order is directed.

% of Trades Improved – Percent of trades that were executed where order's executed price is better than NBBO. (# Trades Improved/Total Trades) This column would be used by Exchanges only if price improvement could have accrued to any market participant. For example, if price improvement was not initiated at the sole discretion of a market maker to whom the order is directed.

Total Contracts – Contracts executed in that class for the month. Total contracts must take into account the subsequent trade executions where an order was executed in multiple executions if a marketable order.

Total Contracts Executed at NBBO – Self-explanatory.

% of Total Contracts Executed at NBBO – Percent of total contracts executed at NBBO.

Total Contracts Unfavorable – Number of contracts traded through NBBO.

% of Contracts Unfavorable – Percent of contracts that traded through NBBO (Total Contracts Unfavorable/Total Contracts).

Total Contracts Improved – Number of contracts that were executed where order's executed price is better than NBBO. This column would be used by Exchanges only if price improvement could have accrued to any market participant. For example price improvement was not initiated at the sole discretion of a market maker to whom the order is directed.

% of Contracts Improved – Percent of contracts that were executed where order's executed price is better than NBBO as compared to total contracts. This column would be used by Exchanges only if price improvement could have accrued to any market participant. For example price improvement was not initiated at the sole discretion of a market maker to whom the order is directed.

Average Improvement for Contracts Improved – Average contract weighted price improvement vis à vis NBBO, defined at the contract level, expressed in dollars, rather than the premium level. A price improvement of $0.03 is equivalent to $3 per contract. The calculation would be: (improved amount x number of improved contracts), multiplied by 100, then divided by number of contracts improved, e.g. an execution on a sell of 10 @ 2.03 and a sell of 10 @ 2.01 while the NBBO is 2- 2.10 would yield an average improvement of $2.00. (10 x .03) + (10 x .01) x 100/20 = $2.00.

Average Improvement for Total Contracts – Average contract weighted price improvement vis à vis NBBO, defined at the contract level, expressed in dollars, rather than the premium level. A price improvement of $0.03 is equivalent to $3 per contract. The calculation would be: The sum of the gross amt of improvement divided by the total contracts. The gross amount of improvement is: the sum of all improvement (imp amt x # of imp contracts) x 100 divided by the total number of contracts.

Average Disimprovement for Disimproved Contracts – Average contract weighted price disimprovement vis à vis NBBO, defined at the contract level, expressed in dollars, rather than the premium level. A price disimprovement of $0.03 is equivalent to $3 per contract. The calculation would be: (disimproved amount x number of disimproved contracts), multiplied by 100, then divided by the number of contracts disimproved.

Average Disimprovement for Total Contracts – Average contract weighted price disimprovement vis à vis NBBO, defined at the contract level, expressed in dollars, rather than the premium level. A price disimprovement of $0.03 is equivalent to $3 per contract. The calculation would be: The sum of the gross amt of disimprovement divided by the total contracts. The gross amount of disimprovement is: the sum of all disimprovement dis(imp amt x # of disimp contracts) x 100 divided by the total number of contracts.

Average Effective Spread – Average Effective Spread is the sum of the gross effective spreads divided by the total number of contracts. The gross effective spread is the effective spread (double the difference between the execution price and the midpoint of the quote) of each trade x the number of contracts in that trade.

Effective Spread for Buy Orders:
2 X (exec. px. – midpoint of consolidated best bid and offer at time of order receipt)

Effective Spread for Sell Orders:
2 X (midpoint of consolidated best bid and offer at time of order receipt – exec. px.)

Turnaround Time – Average for all customer order flow regardless of size (average turnaround time for all marketable orders. To gauge turnaround time the time it takes to effect full execution on the marketable portion of the entire order must be used. The breakdown must be by contract size.

Turnaround Time(1-10)- Contracts	Turnaround time broken down by order size
Turnaround Time(11-25)- Contracts	Turnaround time broken down by order size
Turnaround Time(26-50)- Contracts	Turnaround time broken down by order size
Turnaround Time(51-100)- Contracts	Turnaround time broken down by order size
Turnaround Time(101-500)- Contracts	Turnaround time broken down by order size
Turnaround Time(501+)- Contracts	Turnaround time broken down by order size

New Categorization Recommendations

Note: The Committee understands that significant lead time may be needed by some Exchanges to incorporate these new categories into the monthly statistical report and proposes that these new categories be introduced six months after the adoption of the proposed recommendations for current report categories.

% of Orders Linked Away – % of total marketable orders that are linked away as compared to total orders.

Locked Away Orders – Limit orders resting on the Exchange's books that became marketable and are not executed for more than 3 seconds, despite the Exchange's quoted market or an away market place bid/offered at the limit price (*i.e.,* we want to know who locked a market and why).

Stale NBBO/ Outsized Orders – Orders that were linked away, unfilled (orders sent through linkage but were not filled due to market or size), and subsequently executed outside the original NBBO from the time the order was shipped. Statistics should reflect information concerning the Exchange that locks another. Also stale quotes where a market has returned an order unfilled, but not updated their quote should be included.

Price Improved Selected Market Participants % – Exchanges that employ a price improvement mechanism and plan to show the percentage of trades, and contracts price improved via such a mechanism relative to total trades, and contracts, include a description of how its improvement mechanism works. The Exchange may describe what it sees as its benefits (provided that all such representations are factually accurate, and that the way it calculates its statistics are disclosed.) The description may be in the form of an asterisk or footnote, and the Exchange must include disclosures of possible downsides to the price improvement system. As an example, we would want an Exchange's disclaimer to include language indicating that price improvement auctions may be initiated at the sole discretion of a market maker to whom the order is directed. Non-directed orders may not be eligible for price improvement auctions. While orders are stopped at the NBBO while a price improvement auction is taking place, it is possible for an order to trade at worse price than the NBBO at the time the order was received if the market moves against the client in the period prior to when the market maker determines whether or not to initiate a price improvement. The customer's broker, or a market maker with whom the broker has an agreement, must be willing to guarantee improvement for the customer order to be entered into the price improvement auction process. Using this mechanism could result in disimprovement of all or part of the customer order in which case these statistics will be included in the monthly data in the far right columns.