NYSE Euronext

Date: February 24, 2009

Audience: NYSE Amex Specialists and Market Makers

Subject: Market Maker Risk Mitigation on NYSE Amex Options

Highlights:

- Risk Mitigation thresholds, functionality, and other protections for MM quotes on NYSE Amex Options.

Summary:
With the introduction of the new NYSE Amex options trading platform, it is critical for all participants to have a clear understanding of its risk mitigation mechanics outlined in this notice.

The NYSE Amex options trading platform has the ability to protect firms actively quoting from excessive executions due to unusually rapid trading activity. NYSE Amex can immediately pull a market maker's quotes from the market after certain user-defined thresholds of trade activity are reached. Risk mitigation is accomplished by tracking the number of trades executed in one second for all series associated with one underlying assigned to a Market Maker (MM). Transaction thresholds can range between 5 and 100 per second. The default threshold is 50 trades per second.

Within this range, MM firms can change assigned thresholds intra-day using the NYSE Amex MM API. MM firms can set a global threshold and specific thresholds by underlying.

Example:

- OTP market maker: ABC:
- Global Threshold = -50 executions per second
- SPY Underlying Threshold = 100 executions per second
- IBM Underlying Threshold = 10 executions per second
- Threshold checking occurs during auctions as well as core trading sessions

When risk mitigation is invoked, the firm receives a Risk Mitigation Alert message indicating that the alarm was triggered and they are out of all quotes in the indicated underlying (e.g. IBM). In order to enter the market again, the MM must re-submit a Risk Mitigation Request message for each underlying in which an alarm was triggered.

NOTE: The Market Maker risk mitigation process behaves differently if the Market Maker is initiating the triggering trade activity or having their resting liquidity removed.

Initiating the Triggering Trade Activity

When initiating, all executions relating to an initiating quote are treated as one trade for risk mitigation purposes. For example:

Example:

1. BBO & NBBO 5.10 x 5.20 300 x 300

2. Twenty (20) participants make up the bid side of the market
3. If a Market Maker moves the quoted offer from *5.20 x 300* to *5.10 x 300* and executes against all 20 participants on the bid side, this is considered <u>one trade</u> towards the Market Maker's risk trigger, because the Market Maker's quote is incoming, (i.e. taking action/moving into a trade).
4. If a Market Maker has set their risk mitigation setting at 5 trades / 1 second and moves 100 quotes in different series of one underlying into the contra side of the market, the Market Maker will be executed <u>up to their displayed quote size on the first 5 quotes that process, regardless of the number of contras involved.</u>
5. Then risk mitigation will kick in and <u>all quotes in that underlying will be pulled.</u>

Resting Quotes

If the MM quote in question is resting (passive, not moving into quotes or orders), then each incoming order or quote that decrements the resting Market Maker quote will count as 1 trade toward risk mitigation.

<u>Example:</u>

1. A Market Maker is quoting 100 up in all series of an underlying
2. In one series or across n series, 100, 10 lot contra orders/quotes arrive within 1 second
3. Each order or quote that hits the resting MM will count toward the resting MMs risk mitigation parameter, e.g. 5 trades / 1 second.
4. Under these conditions, the first 5 transactions will process, and then risk mitigation will cause all quotes for that Market Maker to be pulled from the affected underlying.

NOTE: Universal Timer vs. Individual Timers

The Risk Limitation mechanism is based on a universal timer within the system. The hard value setting that a Market Maker enters as a threshold effectively creates a range of possible transactions during one second of *elapsed time*.

Risk mitigation thresholds are triggered based on a rolling time period; the start time is not based upon the first execution for a Market Maker in an underlying. The risk mitigation timer resets itself every one second, regardless of an execution or not. In some instances, it is possible for a transaction(s) to occur in the middle or towards the end of the one second rolling timer period. As soon as the one second timer period expires, the transaction count is cleared and a new one second timer period begins. Hence, the possibility of additional trades occurring within one second of *elapsed time*.

In the most extreme circumstance, the greatest number of executions a Market Maker will ever have over a one second elapsed time frame will be twice their threshold setting minus one, at which time risk mitigation will kick in and remove their quotes. Also, because the timer within the risk mitigation mechanism is not atomically matched up to the time-clock in NYSE Amex (i.e. it does not begin at the exact second/zero milliseconds), excessive executions may have the appearance of all happening within the same one second time-clock period, because this is not necessarily the same as the "one second period" within the Risk Limitation mechanism.

Formula to calculate risk mitigation range of possible executions within one second of elapsed time:

If a market maker enters "*n*" over 1 second, the range of possible transactions will be *n*/1second to (2*n* – 1)/1 second

For example, if a Market Maker sets risk mitigation settings at 5/1 second, the range of possible transactions will be between 5/1second and 9/1 second. Using this example, it is possible for 4 transactions to occur during the latter part of one rolling timer period, at which point the counter is cleared and the timer is reset. Then during the next one second rolling timer period, it is possible for up to another 5 transactions to occur. There is never the chance that more than a total of 9 transactions will occur before a 5/1 second setting triggers the Risk Limitation mechanism, and as few as 5 may also trigger risk mitigation, depending upon when transactions occur during the mechanism's rolling time periods.

Other Protections

- Market Maker Explicit Quote Withdrawal Market Makers can send a Quote Takedown Request message to pull quotes by series, by underlying, or globally.

Quotes Withdrawn on Session Disconnect

- When a client session disconnects (explicitly or inadvertently), a Market Maker's quotes are cancelled globally.

Disconnects

All quotes associated with a client session are automatically pulled from the market when any type of TCP/IP disconnect occurs. A Quote Takedown Acknowledgement??? message is sent to the market maker as soon as possible to notify them that their quotes have been purged from the system. Maker Makers must send a Risk Mitigation Request to re-enable quoting in an underlying before sending new quotes. NYSE Amex sends a Risk Mitigation Acknowledgement message to indicate that quotes can now be accepted.

This feature is intended to help MM firms in emergency situations. However, firms must not rely upon this automatic cancellation as a normal business practice or to prevent liability of execution. Nor is it a substitute for working with the NYSE Amex Trade Desk to verify that all quotes are indeed cancelled and that all trades have been properly reported.

To help prevent lost execution messages after a disconnection, execution messages from NYSE Amex are assigned a message sequence number. When clients connect to NYSE Amex, the client sends the sequence number of the last execution message processed as part of the Logon message. NYSE Amex will replay any execution messages the client may have missed.

Client messages and acknowledgements from NYSE Amex do not use sequence numbers. These messages are not designed to be recovered after a disconnection.

Market Maker Orders
NYSE Amex does not count orders submitted by a Market Maker towards that Market Maker's risk limitation threshold, either on an incoming or resting basis. The system will not pull (mass cancel) orders associated with Market Makers when their execution threshold has been reached. It is up to Market Makers to manage their orders.

Contact Info:
Any questions regarding connectivity may be directed to the Connectivity Help Desk at (888) 689-7739 option 1 or via email at connectivity@nyx.com. General inquiries may be directed to the Trade Desk at (877) 729-7291.