



December 11, 2013

Via Electronic Submission: <http://comments.cftc.gov>

Ms. Melissa Jurgens
Secretary of the Commission
Commodity Futures Trading Commission
Three Lafayette Centre
1155 21st Street NW
Washington, DC 20581

Re: Concept Release on Risk Controls and System Safeguards for Automated Trading Environments (RIN 3038–AD52)

Dear Ms. Jurgens:

Citadel LLC¹ (“Citadel”) appreciates the opportunity to provide comments to the Commodity Futures Trading Commission (the “Commission”) on its *Concept Release on Risk Controls and System Safeguards for Automated Trading Environments* (the “Concept Release”).²

I. Executive Summary

The introduction of computerized trading systems has markedly improved conditions for investors, who now benefit from dramatically lower trading costs, improved market transparency and liquidity, and increased market competition. Because technological innovation will continue to drive growth and efficiencies in our markets, we must not only embrace this transformation, but also modernize our regulatory framework in light of the extensive automation of the markets.

Before widespread computerized trading, markets were notoriously opaque and errors and control breakdowns were the norm. In that environment, intermediaries captured profits that were many multiples of what is available today. Participants in manual markets, including Citadel, would routinely encounter workflow control issues, trade breaks, and delays in receiving fills and trade confirmations. Although some choose to reminisce fondly about the past, the reality was much different. The costs of such issues were enormous and investors paid the price. While

¹ Established in 1990, Citadel is a leading global financial institution that provides asset management and capital markets services. With over 1,100 employees globally, Citadel serves a diversified client base through its offices in the world’s major financial centers including Chicago, New York, London, Hong Kong, San Francisco and Boston.

² Available at: <http://www.cftc.gov/ucm/groups/public/@lrfederalregister/documents/file/2013-22185a.pdf>

computerized trading has raised new challenges, it is undisputed that today's markets are more competitive and liquid – with lower overall transaction costs – than ever before.

Thus, the challenge for the industry today is to enhance risk controls so that they are sufficiently robust to match improvements in market quality. The benefits of automation aside, if trading systems operate without effective controls, they can cause unintended damage if they malfunction. All market participants, intermediaries and trading platforms³ must have effective controls to protect themselves, their clients, and the markets against the malfunction of their systems. The Concept Release provides a welcome first step to discuss such risk controls. In this letter, we would like to provide our recommendations with respect to three key topics raised in the Concept Release. Specifically, we believe:

- Trading platforms must have clear authority and responsibility to use **kill switches** to immediately block and stop activity that appears erroneous and likely to materially impact members or the market.
- Trading platforms' **trade cancellation or adjustment policies** should be triggered only in extremely limited circumstances, must be objective and predictable, should favor adjustment over cancellation, and should not benefit the firm that caused the error or harm innocent market participants.
- **Minimum resting periods** for orders would inhibit efficient price discovery and harm liquidity by exposing liquidity providers to greater risks, thereby discouraging liquidity provision and leading to wider bid-ask spreads and less market depth.

II. Kill Switches

Each trading platform must play an important gatekeeper role by having effective controls to minimize the impact that the malfunction of a member's trading system may have on the member itself, other members interacting with the trading platform, and the market as a whole. The Concept Release discusses⁴ and asks a number of questions⁵ with respect to the use of such

³ We use the term "trading platforms" to refer to designated contract markets (DCMs) and swap execution facilities (SEFs).

⁴ Concept Release at 56549: "For example, an order "kill switch" enables a market participant to immediately cancel all working orders generated by one or more of its ATs, and prevents the submission of additional orders until the appropriate natural persons allow order placement to resume. Such a kill switch could be operated by the market participant generating orders, the clearing firm guaranteeing its trades, or the trading platform on which its orders would be executed."

“kill switches.” As noted, such kill switches can operate at a number of levels – at the market participant, at the clearing firm, or at the trading platform. While all are advisable, their use at the trading platform level is of paramount importance. Trading platforms sit at the center of trading and are therefore best positioned to efficiently and consistently monitor activity across a very large number of market participants.

Kill switches at the trading platform level are not a replacement for the controls that each member firm must implement. To be sure, member firms should have effective controls in place. However, controls at the trading platform level are a necessary back-stop to limit the damage from problems that are not caught by member firm controls. There is no assurance that all member firms will have effective monitoring and controls in place and/or dedicate sufficient resources to their technology development, testing, release and quality assurance. Therefore, one member firm can still put the entire market at risk, unless trading platforms can cut off such a member’s trading activity when warranted. Additionally, no matter how diligent market participants are, technology glitches are inevitable. While effective monitoring and controls at the member firm level can minimize the incidence and impact of such glitches, kill switches at the trading platform level are a necessary last resort in order to contain any market-wide impact. Thus, trading platforms must both have the clear authority, and bear the responsibility, to immediately block and stop activity that appears erroneous and likely to materially impact members or the market.

As we stated at the SEC’s Technology and Trading Roundtable in October 2012, the market disruptions related to Knight Capital on August 1, 2012 could have been better contained through the use of kill switches.⁶ Specifically, “... the first five minutes of that trading was really a software problem. The next 35 minutes where the software was not shut off was really a risk management and control and management processes problem.” Therefore, “kill switches at the exchange are very, very important” because notwithstanding improvements market participants and intermediaries can make, exchanges are “the final stop where the trading happens [and] are really in a position to be able to shut off this aberrant trading activity if they see it ... so that a problem at an individual firm doesn't become so large that it threatens the stability and integrity of the overall market.”

We therefore recommend that trading platforms employ robust and reliable systems that automatically identify potentially erroneous activity (for example, by member, mnemonic, symbol, and/or session). Flagged activity could, for example, trigger one or more of an escalating series of actions such as:

1. Automatic notifications to the member responsible for the activity;

⁵ Concept Release at 56557, including Questions 48-54.

⁶ See statements of Mr. Jamil Nazarali of Citadel on pages 27 and 37 of the roundtable transcript, available at <http://www.sec.gov/news/otherwebcasts/2012/ttr100212-transcript.pdf>.

2. Review by trading platform staff who could contact the member and/or decide to block further activity;
3. Automatic blocks of further activity; and/or
4. Under appropriate circumstances, sending a confidential notification to other trading platforms indicating that a firm's trading is halted.

If further activity of a firm is halted, the activity in question could be resumed only if the relevant member confirms to the trading platform (electronically or otherwise) that the activity is not erroneous, the relevant member confirms that the cause of such activity has been corrected, the member's clearing firm confirms it will accept further trades, and/or trading platform staff confirm after further inquiry that the activity does not appear to be erroneous.

III. Trade Cancellation / Adjustment Policies

We believe that trading platforms' trade cancellation or adjustment policies should be triggered only in extremely limited circumstances, must be objective and predictable, and should favor adjustment over cancellation. The Concept Release discusses and asks a number of questions with respect to the triggering criteria, timeframes, discretion and uniformity for trade cancellations or adjustments.⁷

The criteria that must be met in order for a trading platform to cancel or adjust trades should be clear, objective, and very narrow. In general, we believe that market participants should be held accountable for any trading "mistakes", and that failure to do so creates moral hazard and externalizes the losses that such a market participant would have otherwise incurred. Trade cancellation or adjustment policies represent a trade-off between market certainty – that is, the ability for all market participants to rely on validity of all quotes and the binding nature of all trade executions – and a desire to not impose strict liability on a single market participant for a mistake. In weighing these two objectives, we believe that market certainty should prevail. This not only protects innocent market participants who did not make trading mistakes from having their trades subsequently altered, but also appropriately imposes economic liability on those market participants who make trading mistakes. This potential for liability provides an important incentive for market participants to maintain diligent risk controls.

The prospects for trade cancellations or adjustments appear highest during periods of market disruption or stress. However, these happen to be the same times when liquidity provision is most crucial in order to mitigate market dislocation and restore its equilibrium. However, the threat of trade cancellations or adjustments acts as a strong deterrent to liquidity provision in such

⁷ Concept Release at 56556, including Questions 44-47.

instances. Thus, the threshold for triggering trade cancellations or adjustments must be higher than merely a market disruption or period of market stress, and needs to be objective and predictable so as not to discourage liquidity provision.

Finally, in those rare instances where trade cancellations or adjustments are invoked, adjustments are far preferable to cancellations, since at a minimum it leaves market participants with the same positions they presumed they had. This is particularly important in the context of subsequent hedging activity. If a market participant has entered into hedging activity related to an original position that is subsequently canceled, the cost of unwinding the hedge positions further exacerbates the economic consequences of the trade cancellation. This makes trade adjustments, while also undesirable, the lesser of two evils.

IV. Minimum Resting Periods for Orders

We believe that minimum resting periods for orders will harm market quality by exposing liquidity providers to greater risks, thereby discouraging liquidity provision and leading to wider bid-ask spreads and less market depth. At the same time, we question whether problems actually exist with respect to current resting periods, or “quote life”. The Concept Release asks “[s]hould exchanges impose a minimum time period for which orders must remain on the order book before they can be withdrawn?”⁸ The Concept Release couches this as one of several recommendations that “have been advanced to promote the benefits of HFT while simultaneously disincentivizing trading strategies that do not contribute to efficient price discovery.” However, the preponderance of evidence points to the opposite conclusion – that minimum resting periods would provide no tangible benefits but rather would inhibit efficient price discovery and harm liquidity.

We agree with the conclusion reached by UK Foresight Project (“Foresight”) on this topic, which stated that “[t]he independent academic authors who have submitted studies are unanimously doubtful that minimum resting times would be a step in the right direction...”⁹ In its accompanying analysis, Foresight explains the economic costs and benefit of liquidity provision, and demonstrates that artificially forcing a limit order to be in place longer will raise costs for liquidity providers and lead to either increased bid-offer spreads or decrease market depth. Foresight reaches a number of additional important conclusions, including that minimum resting periods are likely to (i) inhibit liquidity provision most during time of high market volatility, when liquidity provision is needed most, (ii) reduce competition among market makers, (iii) drive up transaction costs for end users, and (iv) diminish the efficiency of the price determination process.

⁸ Concept Release at 56562, Question 96.

⁹ See pages 111-112 of the Final Project Report on *The Future of Computer Trading in Financial Markets*, published by the Foresight Programme sponsored by the UK Government Office for Science, available at <http://www.bis.gov.uk/assets/foresight/docs/computer-trading/12-1086-future-of-computer-trading-in-financial-markets-report.pdf>.

Professors Angel, Harris and Spatt reach similar conclusions with respect to minimum resting periods in their recent report *Equity Trading in the 21st Century: An Update*,¹⁰ where they state that they “do not support such policies” as they would cause “spreads to widen and depths to fall.” They further point out that minimum resting periods would likely exacerbate the problems they purport to remedy, as traders would “race to pick off liquidity providers who are trapped by a minimum resting time.” In his paper *What do we know about high-frequency trading?*,¹¹ Professor Jones likewise concludes that the “economic rationale” for minimum resting periods is “particularly suspect”, that they appear “to be a particularly blunt, poorly considered tool,” and that they “could severely discourage liquidity provision.”

We question meanwhile whether the problems that a minimum resting period purports to address actually exist in the first place. We are not aware that any empirical data has been collected or research conducted on this issue in the futures markets. To be sure, the first step in devising effective policy must be to identify the problem that must be addressed. For instruction, we looked to a recent empirical analysis of quote life in the equity markets conducted by staff from the Securities and Exchange Commission (“SEC”).¹² We would welcome and encourage a similar analysis specific to the futures market, but for the time being, believe this analogous evidence from the securities markets merits consideration. SEC staff concluded that the majority of quotes that are cancelled have been in force more than a half second. The debate around minimum resting periods centers largely on whether quotes can be placed but subsequently canceled before a market participant can access them. However, SEC staff concluded “that the vast majority of quotes can be accessed by at least some market participants before they are canceled” and that “[t]he data does not show a market that is currently dominated by quotes that are canceled so fast that they cannot be accessed.” Against this backdrop, SEC staff went on to state that “[s]lowing the ability of liquidity-providers to cancel their quotes without similarly slowing the ability of liquidity-takers to access those quotes would not necessarily slow the market itself, but could disadvantage those who provide liquidity compared to those who take liquidity.” It is this very disadvantaging of liquidity providers that we believe will harm market quality, in the name of addressing a problem that may not even exist.

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¹⁰ Available at <http://www.knight.com/newsroom/pdfs/researchCommentary06272013.pdf>. See discussion at page 31.

¹¹ Available at <http://ssrn.com/abstract=2236201>. See discussion at pages 47-48. For reference, this research was supported by a grant from Citadel.

¹² See <http://www.sec.gov/marketstructure/research/highlight-2013-05.html>.



We appreciate the opportunity to provide comments on the Concept Release. Please feel free to call the undersigned at (312) 395-3100 with any questions regarding these comments.

Respectfully,

/s/ Adam C. Cooper
Senior Managing Director and Chief Legal Officer