



**QIM**  
QUANTITATIVE  
INVESTMENT  
MANAGEMENT

401 East Market Street, Suite 104  
Charlottesville, VA 22902

434.817.4800 Main

434.984.4124 Fax

March 16, 2016

Mr. Christopher J. Kirkpatrick  
Secretary of the Commission  
Commodity Futures Trading Commission  
Three Lafayette Centre  
1155 21st Street, NW  
Washington, DC 20581

**Re: Proposed Rulemaking on Regulation Automated Trading (Regulation AT)**

Dear Mr. Kirkpatrick:

**A. Introduction**

Quantitative Investment Management, LLC (QIM) is a commodity trading advisor (CTA) and commodity pool operator (CPO) located in Charlottesville, Virginia. We currently employ 34 people and have approximately \$2.2 billion in assets under management across three different trading programs. Like many other CTAs and CPOs, our trade execution is always performed through third-party brokers, including futures commission merchants (FCMs) and independent software vendors (ISVs). Therefore, our investment models have no direct electronic access (DEA) to the market. As described in more depth below, the lifecycle of a trade at QIM has clear boundaries between the processes involved in the investment decision, trade sizing and order execution. To minimize operational risk, we have a natural person as a “firewall” between our investment models and our execution operations. Further, with an average holding period of one to four weeks, we are not a high-frequency trading firm. QIM has found great value in leveraging the execution algorithms of ISVs and FCMs. This regulation, as currently drafted, would inflict significant compliance cost on thousands of firms like us who have purposefully avoided direct market exposure by employing third party execution services.

While we applaud the overarching goal of Regulation AT (Reg AT) of controlling market disruptions created through algorithmic trading, we are alarmed by several components that we believe would substantially and unfairly burden firms like ours without adding meaningful new protections against systemic risk. We do feel, however, there are more narrowly-tailored policies that could better protect the public. We suggest several such measures in this letter.

**B. Firm Overview**

QIM was started by our Chairman and CEO, Jaffray Woodriff, in 2003 with two other partners. Operations started in Jaffray’s home but have since expanded to employ 34 people. QIM trades globally, nearly 24 hours a day, from our sole location in Charlottesville, Virginia.

Our products seek to deliver strong risk-adjusted returns by trading futures contracts through proprietary machine learning predictive techniques. The Quantitative Global Program, our flagship product, can trade over 60 distinct futures contracts. The Quantitative Opportunities Fund is a

managed futures offering that trades futures contracts globally. The Quantitative Tactical Aggressive Funds are long/short equity hedge funds that also take positions in stock index futures globally. The typical holding period for all of our programs is between one and four weeks.

The transformation of an investment decision into a trade at an exchange takes several distinct steps for QIM. For all of our programs, Jaffray creates and continues to refine investment models that output statistical predictions about the direction and magnitude of market moves over some period of days. A second process transforms this expectation into an appropriately sized trade, balancing expected moves in other markets, anticipated volume in the market, and other risk measures. In addition to the trade size, this second process proposes a trade duration and trading algorithm for each trade, which for QIM means a third-party execution algorithm managed by a broker or ISV. The trade is then inspected by a natural person, and, if approved, sent to the appropriate third party for execution in the market. QIM does not manage any proprietary trade execution algorithms or DEA.

**i. Existing Pre-Trade Risk Controls**

At all stages of our investment decision-making, we employ robust pre-trade risk controls, including sophisticated risk management procedures that take into account the price, size, volatility, liquidity, and inter-relationships of the markets traded. At several stages in the order life cycle, each potential outbound order is inspected and must pass tests against QIM's mandated maximum position size, trade size, sector concentration limits, and percent of expected daily volume limits.

**ii. Natural Person "Firewall"**

We strongly believe that a natural person reviewing and confirming trade details is the best way to ensure that trade size and duration are appropriate for each market and that any contribution to systemic risk is minimized. For that reason, a natural person at QIM must approve all orders and has the authority to suspend trading in any contract. That person validates a series of parameters before approval, including the size of the trade in relation to the market or the scheduled pace of execution. The transformation from model output to trade takes place in two independent systems, and the output between the two is then reconciled. Once a trade's details have been confirmed, it is sent to a FCM or ISV algorithm for execution. During trade execution, progress is tracked in real time by a natural person and by automated systems that send alerts if trading system or market abnormalities are detected.

In summary, we firmly believe that, because of how we have designed our investment and trading operations, our investment models and order generation systems do not—and cannot—present any operational risk to the market. Any operational risk associated with our trading will come only from ISV operated execution algorithms which use DEA that is monitored and managed by an FCM with additional risk controls.

**C. Execution Algorithm Users and Providers**

We believe that Reg AT's effort to mandate additional pre-trade risk controls on firms who do not have DEA would be redundant, counterproductive, and unduly expensive to implement and maintain. In fact, these requirements may actually increase risk by adding an additional layer of unnecessary complexity to algorithms that do not directly touch the markets. We feel that the CFTC should tailor the regulation to the organizations that operate trading software that directly interacts

with a DCM. The customers of these software providers should be exempt from Reg AT requirements as they would only access the market through a Reg AT firm.

#### **D. Additional Compliance Costs**

Reg AT also radically underestimates the full compliance costs for our firm. The estimated one-time costs in Reg AT are \$84,810 for risk controls and recordkeeping for an AT person, and \$10,720 in annual compliance, recordkeeping, and approval request costs.

This estimate falls far short of what we estimate would reasonably be required for compliance with the AT Person definition. After completing our own analysis of costs associated with full compliance with Reg AT, we estimate that firms similar to QIM would incur additional expenditures of approximately \$650,000 in one-time costs and approximately \$150,000 to \$250,000 in on-going costs to remain in compliance. We expect to incur these costs in the development of Reg AT-specific risk controls, additional development, testing and monitoring, revised written policies and record keeping, the completion of the annual Reg AT compliance report, and legal counsel expenses. If our investment models are included in the Reg AT framework, the upper bound is three to four times the cost estimates listed above.

#### **E. Suggested Changes**

We firmly believe that CTAs and CPOs similar to QIM should not be defined as an AT Person under Reg AT. We offer here three ways to tailor Reg AT that would maintain the Regulation's purpose of minimizing systemic risk while addressing the foregoing issues by defining and regulating an AT Person.

##### **1) Embrace ESMA distinction between investment and execution algorithms**

As drafted, Reg AT raises, but does not resolve, the European Securities and Market Authority's (ESMA) distinction between investment and order algorithms. Specifically, the Regulation reads, "ESMA's standards provide that pure investment decision algorithms which generate orders that are only to be executed by non-automated means and with human intervention are excluded from ESMA testing requirements (68)." Several Requests for Comments further pertain to the ESMA definition, specifically #1 (whether the definition of AT should be modified), #2 (whether another regulatory organization's definition should be adopted), and #4 (whether the definition should only include execution algorithms).

The failure to embrace the ESMA distinction creates more serious problems in the draft. For instance, Question 7 ventures far beyond ESMA's investment/execution distinction to ask:

**"The Commission, recognizing that natural person traders who manually enter orders also have the potential to cause market disruptions, is considering expanding the definition of Algorithmic Trading to encompass orders that are generated using algorithmic methods (e.g., an algorithm generates a buy or sell signal at a particular time), but are then manually entered into a front-end system by a natural person, who determines all aspects of the routing of the orders. Such order entry would not represent Algorithmic Trading under the currently proposed definition. The Commission requests comment on this proposed expansion of the definition of Algorithmic Trading, which the Commission may implement in the final rulemaking for Regulation AT (70)."**

This contradicts what appears about three hundred pages later in a section about pre-trade risk controls:

“The Commission is also considering expanding the definition of Algorithmic Trading to encompass orders that are generated using algorithmic methods (e.g., an algorithm generates a buy or sell signal at a particular time), but are then manually entered into a front-end system by a natural person, who determines all aspects of the routing of the orders. Such an alternative would increase the number of automated systems captured by Regulation AT relative to the Commission’s proposal and may increase the number of AT Persons subject to the cost of the regulation. **The Commission preliminarily believes that such manually entered orders present less risk than fully automated orders and that the benefits of including them in the definition of Algorithmic Trading would be limited** (358).”

Our belief is that the second section accurately frames the potential problem the Commission should be addressing through this Regulation, while the first section is deeply mistaken and highly concerning.

We believe the Commission should establish in Reg AT a clear policy premise that systemic risk arises from automated execution processes with DEA, as opposed to investment algorithms overseen by natural persons. The Commission should firmly establish the ESMA distinction in Reg AT’s definition of algorithmic trading and AT Person.

## **2) Change Algorithmic Trading definition from entering to confirming trade.**

A second option would address the proposed definition of Algorithmic Trading in IV(D)(1)(b), which exempts “an order, modification, or order cancellation whose every parameter or attribute is manually entered into a front-end system (63).”

The scope of this definition could be appropriately narrowed by changing the words “**entered into**” to “**confirmed through**.” When a natural person confirms orders at QIM, they do so because we believe that the involvement of a human is necessary to ensure the final quality of a trade. However, the alternative contemplated in the rule as drafted—for “every parameter and attribute of a trade to be manually entered into a front-end system”—would, we believe, dramatically *increase* the potential for errors. Leveraging technology to generate an order and then utilizing a human to verify its intention improves accuracy in the transfer from investment process to execution process. We believe the Commission, through Reg AT, should be agnostic regarding the origin of the order in a front-end system. It should be the order’s execution via DEA, where it may lack appropriate risk controls that should concern a regulator. Our suggested change would capture the key difference in our practice, and in firms like QIM, while enhancing the systemic risk prevention already in place.

## **3) Require that an AT Person have Direct Electronic Access**

Another option would be simply to limit the definition of AT Person to those persons with DEA. Any entity with DEA, including FCMs and DCMs, will already have a layer of pre-trade risk controls that suffice to meet the Commission’s overarching purpose in Reg AT—to prevent market disruptions through electronic trading. We strongly support defining the brokers who execute our orders as AT Persons, and are glad to have our orders processed through these entities be the subject of additional regulations and compliance under Reg AT.

## **F. Intellectual Property Concerns**

We also share the concerns of many market participants about producing source code without a subpoena, no matter where it is held. We share the deep concern of others about our intellectual property falling into legislative and/or political hands through the regulatory process.

## **G. The Consequence of Consolidation**

A final concern is that Reg AT could lead to industry concentration. If investment models are indeed included in the definition of AT Person, it will create a slippery slope toward consolidating compliance among a handful of firms with infrastructure necessary to help the very wide range of firms who have been swept into an extremely broad definition. Smaller firms could be pushed to outsource compliance. Worse, the barrier to entry for start-up trading companies may be prohibitively high.

Not only would this be impractical and unfair in application, it could have broader systemic risk implications by concentrating compliance in firms which more easily bear the regulatory burdens and compliance costs. But those firms will in turn have more leverage over the regulatory and legislative process, which could lead them to seek to unduly influence the regulatory and legislative process, even including regulatory capture, while excluding smaller competitors from the conversation.

## **H. Conclusion**

We believe that the more narrowly-tailored designs described above would better achieve Reg AT's goals. These changes would avoid confusion between investment modelling and execution algorithms, inappropriately high compliance costs, and unnatural consolidation of industry participants. Adoption of these rule changes would help clarify the differences between firms that create the highest levels of systemic risk and the many firms who do not, like QIM.

Thank you for your time and attention to this comment letter. We thank you for your public service and your interest in protecting the public from market disruption and systemic risk. Please let us know if we can answer any questions or be helpful in any way.

Sincerely,



Michael Geismar  
President



Jaffray Woodruff  
Chairman & CEO



Greyson Williams  
Co-Founder