

February 11, 2014

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

Re: CFTC Concept Release on Risk Controls and System Safeguards for Automated Trading Environments, RIN 3038-AD52

Dear Ms. Jurgens:

Thank you for the opportunity to present our comments regarding the Commodity Futures Trading Commission's (CFTC) Concept Release on Risk Controls and System Safeguards for Automated Trading Environments.

Our comment address the relationship between the proposed regulation and quality management system standards. Although the Concept Release does not associate "market quality" directly with industry standards for quality management and systems engineering, it does note many operational concerns such as "quality metrics" (e.g. in question 89), "reliability" (e.g. question 90), and "controls" (e.g. question 102), which *are* the subject of quality standards. We would like to bring the work of the X9 D14 working group to your attention in this regard, as the working group is now in the process of developing a quality management system standard for automated trading under the working title AT 9000.

As you may know, the International Organization for Standardization (ISO) publishes industry-defined quality management system standards, such as most notably the generic ISO 9000 standard. ISO standards are globally recognized with over one million ISO 9000 certified firms worldwide. What gives ISO quality management certification so much credibility is its method of internal and external audit. Some industries have adapted ISO 9000 to meet their specific needs, including for example, aerospace (AS 9100), medical devices (ISO 13485), and food safety (ISO 22000). We believe their applications of ISO quality management system standards have (by and large) been successful at increasing the quality and safety of their respective industries, while reducing costs, facilitating international trade, and fostering global regulatory harmonization. We believe this model can provide the same benefits to the financial industry in the new age of automated trading.

AT 9000 will provide an industry-specific quality management system standard for automated

trading, and is being developed in the X9 D14 working group of which we are members. The American National Standards Institute (ANSI) is the U.S. component of ISO. Accredited Standards Committee X9 is the component of ANSI tasked with overseeing development and maintenance of standards for financial services. Presently, X9 operates 4 technical subcommittees and 20 to 30 technical working groups that develop financial industry technical standards and guidelines. X9 is the USA Technical Advisory Group (TAG) to the International Technical Committee on Financial Services (TC68) under ISO. In this role X9 holds the U.S. vote on all ISO standards of TC 68 or its subcommittees SC2, SC4, and SC7. X9 has overseen the development of many technical standards used in the financial industry, and X9 is overseeing the AT 9000 working group, known officially as X9 D14. On December 3, 2012 representatives of the AT 9000 working group appeared before CFTC staff to discuss the nature of the project.

AT 9000 aims to address requirements for systems engineering and operation and control of trading systems, products and services for automated trading industry organizations (ATIOs), including trading firms, exchanges, independent software vendors, clearing members and broker/dealers. AT 9000 aims to serve three separate goals, helping ATIOs with:

- 1.) Satisfying their responsibility for trading safety;
- 2.) Satisfying regulatory requirements; and
- 3.) Achieving improved efficiency and effectiveness of systems, products, or services involved in automated trading.

The attached table lists some of the Concept Release questions that are under consideration for AT 9000 and explains how AT 9000 may address them. Should regulations stemming from the Concept Release go forward, we hope the final language will acknowledge industry-defined standards, such as AT 9000, where appropriate. Such initiatives capture evolving best practices and potentially represent the best way to ensure desired market quality and reliability for systems that are important to the functioning of financial markets.

Thank you and best regards,

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#	Question	AT 9000 Position	Comment
1	In any rulemaking arising from this Concept Release, should the Commission adopt a formal definition of HFT? If so, what should that definition be, and how should it be applied for regulatory purposes?	Definition	AT 9000 views HFT as a subset of automated trading system (ATS). The defining characteristic is not the nature of the strategy, but rather the risk any given system poses to the market in the event it operates outside of specification.
3	The definition of HFT provided above uses “recurring high message rates (orders, quotes or cancellations)” as one of the identifying characteristics of HFT, and lists three objective measures (i) cancel-to-fill ratios; (ii) participant-to-market message ratios; or (iii) participant-to-market trade volume ratios) that could be used to measure message rates. Are these criteria sufficient to reliably distinguish between ATs in general and ATs using HFT strategies? What threshold values are appropriate for each of these measures in order to identify “high message rates?” Should these threshold values vary across exchanges and assets? If so, how?	Non-prescriptive	AT 9000 calls for related risk controls, but leaves the specific strategy up to the ATIO.
21	If you believe that self-trading controls are beneficial, please describe the level of granularity at which such controls should operate (e.g., should the controls limit self-trading at the executing firm level? At the individual trader level?) What levels of granularity are practical or achievable?	Not in scope	AT 9000 calls for a processes to establish, implement and monitor risk controls, but leaves the specific strategy up to the ATIO.
27	Would additional standardization in the capabilities of this technology or more uniform application of this technology to all customers and contracts improve the effectiveness of such controls?	Non-prescriptive	We believe that articulating a consensus about what kind of risk controls are useful can lead to consistent implementation among ATIOs.
48	The Commission’s discussion of kill switches assumes that certain benefits accrue to their use across exchanges, trading and clearing firms, and DCOs. Please comment on whether such redundant use of kill switches is necessary for effective risk control.	Not in scope	A credible answer would require a detailed failure modes and effects analysis based on as-built systems. Speculative answers may provide some insight to the problem but are not adequate for reliability estimation.
51	What objective criteria regarding kill switch triggers, if any, should entities incorporate into their policies and procedures?	Non-prescriptive	AT 9000 calls for processes to establish, implement and monitor this kind of risk control, but leaves the specific strategy up to the ATIO.
52	What benefits or problems could result from standardizing processes, policies, and procedures related to kill switches across exchanges and/or clearing firms?	Non-prescriptive	We believe that articulating a consensus about what kind of risk controls are useful can lead to consistent implementation among ATIOs.

#	Question	AT 9000 Position	Comment
56	Please describe the necessary elements of an effective ATS testing regime, in connection with both the initial deployment and the modification of an ATS.	Prescriptive	AT9000 calls for testing, verification, and validation consistent with generally accepted software and systems engineering standards for critical systems as well as processes to support ATIO-specific quality criteria.
57	With respect to testing of modifications, how should the Commission and market participants distinguish between major modifications and minor modifications? What are the objective criteria that can be used to make such distinctions? Should any testing regime applicable to ATS modifications distinguish between major and minor modifications, and if so, how?	Prescriptive	AT9000 calls for testing, verification, and validation consistent with generally accepted software and systems engineering standards for critical systems as well as processes to support ATIO-specific quality criteria. Owing to the unique sensitivity of software systems to seemingly trivial errors, AT9000 requires that all changes be within the purview of these processes.
58	What challenges or benefits may result from exchanges implementing standardized procedures regarding the development, change management, and testing of exchange systems? Please describe, if any, the types of standardized procedures that would be most effective.	Prescriptive	AT9000 calls for testing, verification, and validation consistent with generally accepted software and systems engineering standards for critical systems as well as processes to support ATIO-specific quality criteria.
59	Should basic crisis management procedures be standardized across market participants? If so, what elements should be addressed in an industry-wide standard?	Non-prescriptive	We believe that articulating a consensus about what kind of risk controls are useful can lead to consistent implementation among ATIOs.
60	Are there specific, core requirements that should be included in any crisis management procedures? Similarly, are there specific types of crisis events that should be addressed in any crisis management procedures? If so, please identify such requirements and/or crisis events and the level of granularity or specificity that the procedures should have with respect to each.	Prescriptive	AT 9000 calls for a process to establish and implement crisis management, following recently published industry recommendations.
61	How often should a market participant certify that their pre-trade risk controls, post-trade reports and other measures, and system safeguards meet the necessary standards?	Non-prescriptive	AT 9000 calls for processes to establish, implement and monitor this kind of risk control, but leaves the specific strategy up to the ATIO.

#	Question	AT 9000 Position	Comment
65	Do commenters believe that risk event notifications would help to better understand and ultimately reduce sources of risk in automated trading environments? What information should be contained in a risk event notification to maximize its value?	Non-prescriptive	AT 9000 is based on proactive establishment of a quality management system whose processes are intended to minimize many kinds of operational risks, monitor and track compliance with operational definitions of quality, and institutionalize corrective actions for adverse events. This "plan-do-check-act" approach has proven to be effective in many industries and organizations, with or without external reporting of risk events.
66	What types of risk events should trigger reporting requirements, and what entities should receive risk event notifications from market participants operating ATSS?	Non-prescriptive	AT 9000 calls for a processes to establish, implement and monitor this kind of risk control, but leaves the specific strategy up to the ATIO.
69	What are the existing practices within trading firms for internally identifying ATSS or algorithms and for tracking their performance, including profit and loss? What elements of existing practices could be leveraged in any ATS or algorithm identification system proposed by the Commission in the future?	Non-prescriptive	AT9000 calls for ATS configuration management consistent with generally accepted software and systems engineering standards for critical systems. This requires establishing uniquely identifiable configuration items, tracking the exact status of every version of each configuration item, and exactly which configuration items are in development or deployment. It also requires traceability from antecedents such as requirement statements, change requests, or bug reports to configuration items as well as to test cases for each configuration item. We believe this is a necessary condition for effective management of components and systems and can provide the basis for their identification.

#	Question	AT 9000 Position	Comment
70	The Commission understands that an ATS may consist of numerous algorithms, each of which contributes to a trading decision. If an algorithm-based identification system is proposed, which of the potentially multiple algorithms that constitute an ATS should carry the ID? In addition, what degree of change to an algorithm should necessitate the use of a new ID, and how often does this change typically occur? What is the appropriate definition of “algorithm” for purposes of an algorithm identification system?	Definition	In the context of trading industry, the term "algorithm" is ambiguous jargon. Although this term is well-defined in computer science and systems engineering, that sense is different than its meaning as jargon. We therefore do not use this term in the standard and instead refer to automated trading systems and/or automated trading system components. The requirements for unique identification of network elements (URN) are defined in RFC 3986 and this could provide basis for such a designation, for any kind of component or system.
71	If the identification system resides at the ATS level, how should such IDs be structured to ensure that they are nonetheless sufficiently granular to	Not in scope	The requirements for unique identification of network elements (URN) are defined in RFC 3986 and this could provide basis for such a designation.
86	Considering the broad deployment of automated trading systems across both equities and derivatives markets, the Commission seeks to understand the appropriate level of coordination between itself and the SEC in defining and applying possible standards to the ATS and HFT trading space. How closely should the CFTC and SEC coordinate on possible rules and requirements for trading firms? The Commission also seeks public comment on the appropriate level of coordinated oversight between itself and relevant Self-Regulatory Organizations such as National Futures Association and FINRA.	Non-prescriptive	AT 9000 provides a standard for a quality management system that is applicable to ATs for all kinds of financial instruments.
112	Are there risk controls that should be implemented across multiple entity types? If so, which controls and for which types of entities should they apply? Also, please comment generally on the factors the Commission should consider when determining the appropriate entity(ies) upon which to place a risk control requirement that could pertain to more than one entity.	Non-prescriptive	AT 9000 recognizes that some risk controls are only appropriate for certain types of ATIOs, and that some are relevant for all.

#	Question	AT 9000 Position	Comment
115	To the extent that there is any need to standardize or provide greater specificity regarding any measures discussed in this Concept Release, including those that reflect industry best practices, please describe the best approach to achieve such standardization (i.e., through Commission regulation, Commission-sponsored committee or working group, or some other method).	Our Mission	The establishment of an effective quality management system will enable ATIOs to address many of the concerns raised in this Concept Release. AT 9000 brings proven best practices from many regulated industries whose critical systems can have broad impact to the development and operation of ATSS. We believe it provides a consensus framework that all ATIOs can adopt and adapt, while leaving technical details to firms and regulatory and legal concerns to appropriate institutions.
116	How should risk control monitoring be implemented? Should compliance be audited by internal and external parties? For each control, please identify the appropriate entity(ies) to monitor compliance with the control. Also, please describe what an acceptable compliance audit would entail for each control.	Non-prescriptive	AT 9000 calls for a processes to establish, implement and monitor this kind of risk control, but leaves the specific strategy up to the ATIO.