Regulatory Notice

16-21

Qualification and Registration of Associated Persons Relating to Algorithmic Trading

SEC Approves Rule to Require Registration of Associated Persons Involved in the Design, Development or Significant Modification of Algorithmic Trading Strategies

Effective Date: January 30, 2017

Executive Summary

The SEC approved an amendment to NASD Rule 1032(f) that expands the scope of persons required to register as a Securities Trader.[1] Specifically, beginning January 30, 2017, each associated person who is primarily responsible for the design, development or significant modification of an algorithmic trading strategy relating to equity, preferred or convertible debt securities, or who is responsible for the day-to-day supervision or direction of such activities, must pass the Series 57 exam and register as a Securities Trader. The rule text is available in the online FINRA Manual.

Questions regarding this *Notice* should be directed to:

▶ Susan Tibbs, Vice President, Quality of Markets, Market Regulation, at (240) 386-5082 or by email at *susan.tibbs@finra.org*;

▶ Joe McDonald, Senior Director, Testing and Continuing Education, at (240) 386-5065 or by email at *joe.mcdonald@finra.org*; or

▶ for legal and interpretive questions, Racquel Russell, Associate General Counsel, Office of General Counsel, at (202) 728-8363 or by email at *racquel.russell@finra.org*.

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Background and Discussion

On April 7, 2016, the SEC approved an amendment to NASD Rule 1032(f) to expand the scope of persons required to register as a Securities Trader. Specifically, the amendment requires each person associated with a member to register as a Securities Trader if such person is: (i) primarily responsible for the design, development or significant modification of an algorithmic trading strategy relating to equity, preferred or convertible debt securities; or (ii) responsible for the day-to-day supervision or direction of such activities. This amendment is part of FINRA's initiatives relating to equity market structure and automated trading activities, including high frequency trading.[2]

Scope of "Algorithmic Trading Strategy"

Under the rule, an "algorithmic trading strategy" is an automated system that generates or routes orders (including sending orders for routing and order-related messages, such as cancellations), but does not include an automated system that solely routes orders, in their entirety, to a market center. Covered systems include those that generate or route orders (or order-related messages) in any equity security (including options), preferred security or convertible debt security, whether sent to an exchange or handled over the counter. Examples of systems that are considered algorithmic trading strategies if they generate or route orders include:

- ▶ an arbitrage strategy, such as index or exchange-traded fund (ETF) arbitrage;
- ▶ a hedging or loss-limit algorithmic strategy that generates orders on an automated basis;
- ▶ a strategy that involves simultaneously trading two or more correlated securities due to the divergence in their prices or other trading attributes;
- ▶ an order generation, routing and execution program used for large-sized orders that involve dividing the order into smaller-sized orders less likely to result in market impact;
- ▶ an order routing strategy used to determine the price or size for routed orders, the use of "parent" or "child" orders, or displayed versus non-displayed trading interest;
- ▶ a trading strategy that becomes more or less aggressive to correlate with trading volume in specified securities;
- ▶ a trading strategy that generates orders based on moving reference prices;
- ▶ a trading strategy that minimizes intra-day slippage in connection with achieving volume-weighted average prices and time-weighted average prices; and
- ▶ a strategy that creates or liquidates baskets of securities, including those that track indexes or ETFs.

The above list is not an exhaustive list of the systems that fall within the scope of an "algorithmic trading strategy" today and, as markets change the systems that will fall within scope in the future will continue to evolve.

Because an automated system that solely routes orders received in their entirety to a market center is not considered an "algorithmic trading strategy" under the rule, a standard order router that routes retail orders in their entirety to a particular market center for handling and execution is not covered. If an order router performs any of the additional functions listed above it would be considered an "algorithmic trading strategy."

Similarly, an algorithm that solely generates trading ideas or investment allocations, including an automated investment service that constructs portfolio recommendations, but that is not equipped to automatically generate orders or order-related messages to effectuate such trading ideas into the market (whether independently or via a linked router), would not constitute an algorithmic trading strategy under the rule. However, if an order router or investment algorithm performs additional functions that include the generation or routing of orders or order-related messages, such system would be considered an "algorithmic trading strategy."

Persons Required to Register

The registration requirement applies to an associated person if such person is (i) primarily responsible for the design, development or significant modification[3] of an algorithmic trading strategy relating to equity, preferred or convertible debt securities; or (ii) responsible for the day-to-day supervision or direction of such activities.

FINRA understands that workflows, structures and roles vary across firms. However, in identifying persons required to register as Securities Traders under the amendments to NASD Rule 1032(f), firms should keep in mind that, in adopting this requirement, FINRA's goal is to ensure that firms identify and register one or more associated persons who possess knowledge of, and responsibility for, both the design of the intended trading strategy (*e.g.*, the arbitrage strategy) and the technological implementation of such strategy (*e.g.*, coding), sufficient to evaluate whether the resultant product is designed not only to achieve business objectives, but also regulatory compliance.

FINRA does not intend that the registration requirement apply to every associated person who touches or otherwise is involved in the design or development of a trading algorithm. However, each associated person who is primarily responsible for the design, development, or significant modification of an algorithmic trading strategy or the day-to-day supervision or direction of these activities must register. For example, if a sole associated person determines the design of the trading strategy employed by an algorithm, writes the code to effectuate such strategy, and executes or directs the significant modification of such code going forward, then that person alone would be required to register as a Securities Trader under the rule with respect to that algorithm.[4]

In addition, if, for example, a lead developer liaises with a head trader (and the head trader, a Securities Trader, is primarily responsible for the "design" of the trading strategy employed by the algorithm), but the lead developer is the associated person primarily responsible for the supervision of the development of the algorithm to meet such head trader's objectives, such lead developer also must be a Securities Trader because the developer is the associated person "primarily responsible for the development of the algorithmic trading strategy" and the day-to-day "supervision or direction" of the team of developers. Individuals under the lead developer's supervision would not be required to register if they are not primarily responsible for any covered activities with regard to an algorithmic trading strategy or are not responsible for the day-to-day supervision or direction of others on the team with regard to the design, development or significant modification of an algorithmic trading strategy. Thus, for example, a junior developer on the lead developer's team presumably is not "primarily" responsible for the design, development or significant modification of an algorithmic trading strategy and, therefore, would not be required to register as a Securities Trader.[5]

FINRA notes that FINRA Rule 3110(a)(2) generally requires that all registered persons be designated to an appropriately registered principal or principals with authority to carry out the supervisory responsibilities of the member for each type of business in which it engages for which registration as a broker-dealer is required. In addition, FINRA Rule 3110(a)(5) requires the assignment of each registered person to an appropriately registered representative or principal who will be responsible for supervising that person's activities. With the addition of this new activity to the Securities Trader registration category, firms will be required to designate developers to registered persons for Rule 3110(a) purposes. In practice, these developers may not currently report to a registered person. In such instances, FINRA believes it is acceptable for firms to "assign" a lead algorithm developer (or other non-trading personnel) engaging in covered activities to one or more other registered persons of the firm that supervise trading activities outside such developer's or other non-trader's usual reporting line.

While the adequacy of a firm's supervisory structure must be evaluated on a firm-by-firm basis, firms are afforded a degree of flexibility in arranging for the appropriate supervision of a lead developer (or other non-trading personnel) registered as a Securities Trader, such as by assigning such person to:

▶ a Securities Trader Principal in the firm's trading business line (*e.g.*, the Securities Trader Principal in the reporting line of a Securities Trader primarily responsible for the design of any algorithmic trading strategy); or

▶ a Securities Trader in the firm's trading business line (*e.g.*, a Securities Trader primarily responsible for the design of an algorithmic trading strategy, including the strategy developed by the lead developer); or

▶ more than one registered person, provided that the supervisor responsible for the lead algorithm developer's activities requiring registration as a Securities Trader is registered as a Securities Trader or Securities Trader Principal.[6]

As such, depending upon a firm's structure, a lead developer's "business line" supervisor may not necessarily be required to register as a Securities Trader or Securities Trader Principal if that person is not involved in the day-to-day supervision or direction of the development process with regard to an algorithmic trading strategy or otherwise engaged in activities requiring registration as a Securities Trader. However, in all cases, the firm must ensure that it has designated an appropriately registered person to be responsible for supervising algorithmic trading strategy activities under the rule.

Third-Party Algorithms

In some cases, a firm may use an algorithmic trading strategy that did not originate in-house and, therefore, was not designed or built by the firm's associated persons. In such cases where the design and development of an algorithmic trading strategy was performed solely by a third-party, the registration requirement would not be triggered with respect to the firm's activities relating to the design or development of such algorithm. However, to the extent associated persons are able to significantly modify the algorithmic trading strategy in-house, such significant modifications must be performed by a Securities Trader.

In other cases, a firm may engage a third-party to custom-build an algorithmic trading strategy for the firm. In such cases, the associated person responsible for directing the third-party in the design or development of the algorithmic trading strategy must be a Securities Trader.[7] If the firm directs a third-party to significantly modify an algorithmic trading strategy, such direction also must be by a Securities Trader. Similarly, after the firm has launched the externally built algorithm, the associated person primarily responsible for any significant modifications made in-house by the firm must be a Securities Trader.

As is the case today, associated persons responsible for monitoring or reviewing the performance of an algorithmic trading strategy must be registered pursuant to NASD Rule 1032(f); a firm's trading activity must always be supervised by an appropriately registered person. Therefore, even where a firm purchases an algorithm off-the-shelf and does not significantly modify the algorithm, the associated person responsible for monitoring or reviewing the performance of the algorithm must be a Securities Trader.

Effective Date

An associated person who is (i) primarily responsible for the design, development or significant modification of an algorithmic trading strategy relating to equity, preferred or convertible debt securities; or (ii) responsible for the day-to-day supervision or direction of such activities, may register voluntarily as a Securities Trader beginning on the date of this *Notice* and must be registered as a Securities Trader beginning on January 30, 2017.

Endnotes

1. *See* Securities Exchange Act Release No. 77551 (April 7, 2016), 81 FR 21914 (April 13, 2016) (Order Approving File No. SR-FINRA-2016-007).

2. *See* FINRA news release "FINRA Board Approves Series of Equity Trading and Fixed Income Rulemaking Items" dated September 19, 2014.

3. A "significant modification" to an algorithmic trading strategy generally would be any change to the code of the algorithm that impacts the logic and functioning of the trading strategy employed by the algorithm. Therefore, for example, a data feed/data vendor change generally would not be considered a "significant modification," whereas a change to a benchmark (such as an index) used by the strategy generally would be considered a "significant modification."

    FINRA notes that, even in cases where a modification is not significant and, therefore, would not be required to be performed by a Securities Trader, as stated in *Regulatory Notice 15-09*, firms should also focus efforts on the development of algorithmic strategies and on how those strategies are tested and implemented, including, among other things, implementing a change management process that tracks the development of new trading code or material changes to existing code. An effective process should include a review of test results and a set of approval protocols that are appropriate given the scope of the code or any change(s) to the code. *See Regulatory Notice 15-09* (Guidance on Effective Supervision and Control Practices for Firms Engaging in Algorithmic Trading Strategies) (March 2015).

4. It is understood that various technology and other firm personnel are involved in additional tasks necessary to launch an algorithmic trading strategy into production—such as integrating the algorithm into the firm's technological infrastructure and testing linkages. However, because these activities generally would not be considered to be design, development or significant modification activities with respect to the algorithm itself, such activities would not be required to be performed by a Securities Trader.

5. By limiting the registration requirements to those persons primarily responsible for the design, development or significant modification of algorithmic trading strategies (or responsible for the day-to-day supervision or direction of such activities), FINRA aims to ensure that the member has identified the individuals primarily responsible for the design, development, significant modification and day-to-day supervisory activities described in the rule and has equipped such persons with a basic level of familiarity with the regulatory obligations of the firm employing the algorithm by requiring them to register as Securities Traders. FINRA expects that the competency of these registered persons will inform the behaviors of those acting under their supervision or at their direction.

6. Another registered person—*e.g.*, a General Securities Representative—may be assigned to supervise the lead algorithm developer with regard to other general areas applicable to registered representatives, such as outside business activities. As always, if the activities of a registered representative are assigned to be supervised by more than one registered representative or principal, the member must clearly document which activities are assigned to be supervised by each responsible party.

7. FINRA notes that, irrespective of whether an algorithm is designed or developed in-house or by a third-party, the firm employing the algorithm continues to be responsible for the algorithm's activities. Thus, in all cases, robust supervisory procedures, both prior to and after deployment of an algorithmic trading strategy, are a key component in protecting against problematic behavior stemming from algorithmic trading.