Electronic Comments

- Use the Commission's Internet comment form (*http://www.sec.gov/rules/sro.shtml*); or
- Send an email to *rule-comments@sec.gov.* Please include File Number SR–FINRA–2016–006 on the subject line.

Paper Comments

- Send paper comments in triplicate to Secretary, Securities and Exchange Commission, 100 F Street NE., Washington, DC 20549–1090.

All submissions should refer to File Number SR–FINRA–2016–006. This file number should be included on the subject line if email is used. To help the Commission process and review your comments more efficiently, please use only one method. The Commission will post all comments on the Commission's Internet Web site (*http://www.sec.gov/rules/sro.shtml*). Copies of the submission, all subsequent amendments, all written statements with respect to the proposed rule change that are filed with the Commission, and all written communications relating to the proposed rule change between the Commission and any person, other than those that may be withheld from the public in accordance with the provisions of 5 U.S.C. 552, will be available for Web site viewing and printing in the Commission's Public Reference Room, 100 F Street NE., Washington, DC 20549, on official business days between the hours of 10:00 a.m. and 3:00 p.m. Copies of such filing also will be available for inspection and copying at the principal office of FINRA. All comments received will be posted without change; the Commission does not edit personal identifying information from submissions. You should submit only information that you wish to make available publicly. All submissions should refer to File Number SR–FINRA–2016–006 and should be submitted on or before March 17, 2016.

For the Commission, by the Division of Trading and Markets, pursuant to delegated authority.[31]

Brent J. Fields,

Secretary.

[FR Doc. 2016–03941 Filed 2–24–16; 8:45 am]

BILLING CODE 8011–01–P

[31] 17 CFR 200.30–3(a)(12).

SECURITIES AND EXCHANGE COMMISSION

[Release No. 34–77196; File No. SR–FINRA–2016–005]

Self-Regulatory Organizations; Financial Industry Regulatory Authority, Inc.; Notice of Filing of a Proposed Rule Change To Reduce the Synchronization Tolerance for Computer Clocks That Are Used To Record Events in NMS Securities and OTC Equity Securities

February 19, 2016.

Pursuant to Section 19(b)(1) of the Securities Exchange Act of 1934 (''Act'')[1] and Rule 19b–4 thereunder,[2] notice is hereby given that on February 9, 2016, Financial Industry Regulatory Authority, Inc. (''FINRA'') filed with the Securities and Exchange Commission (''SEC'' or ''Commission'') the proposed rule change as described in Items I, II, and III below, which Items have been prepared by FINRA. The Commission is publishing this notice to solicit comments on the proposed rule change from interested persons.

I. Self-Regulatory Organization's Statement of the Terms of Substance of the Proposed Rule Change

FINRA is proposing to reduce the synchronization tolerance for members' computer clocks that are used to record events in NMS securities, including standardized options, and OTC Equity Securities. This proposal would not change the current clock synchronization requirement for members' mechanical time stamping devices or computer clocks that are used to record events for securities other than NMS securities or OTC Equity Securities.

The text of the proposed rule change is available on FINRA's Web site at *http://www.finra.org*, at the principal office of FINRA, on the Commission's Web site at *http://www.sec.gov*, and at the Commission's Public Reference Room.

II. Self-Regulatory Organization's Statement of the Purpose of, and Statutory Basis for, the Proposed Rule Change

In its filing with the Commission, FINRA included statements concerning the purpose of and basis for the proposed rule change and discussed any comments it received on the proposed rule change. The text of these statements may be examined at the places specified in Item IV below. FINRA has prepared summaries, set forth in sections A, B, and C below, of the most significant aspects of such statements.

A. Self-Regulatory Organization's Statement of the Purpose of, and Statutory Basis for, the Proposed Rule Change

1. Purpose

Current FINRA rules require that firms synchronize their business clocks in conformity with procedures prescribed by FINRA. Specifically, FINRA Rule 7430 requires that firms synchronize their business clocks that are used for purposes of recording the date and time of any event that must be recorded pursuant to the FINRA By-Laws or other FINRA rules (*e.g.*, the time a trade was executed or the time an order was received or routed), with reference to a time source as designated by FINRA. As specified in the current OATS technical specifications, all computer system clocks and mechanical time stamping devices must be synchronized to within one second of the NIST atomic clock.[3] To maintain clock synchronization, clocks should be checked against the NIST atomic clock and re-synchronized, if necessary, at pre-determined intervals throughout the day.[4] FINRA understands that currently, some firms synchronize their clocks continuously throughout the day, while others do so at various times during the day and still others do so only once a day.[5]

Given the increasing speed of trading in today's automated markets, FINRA believes the current one second tolerance is no longer appropriate for computer system clocks recording

[1] 15 U.S.C. 78s(b)(1).

[2] 17 CFR 240.19b–4.

[3] Any time provider may be used for synchronization; however, all clocks and time stamping devices must remain accurate within a one-second tolerance of the NIST clock. This tolerance includes (1) the difference between the NIST standard and a time provider's clock, (2) transmission delay from the source and (3) the amount of drift of the member firm's clock. The OATS technical specifications further specify that computer system and mechanical clocks must be synchronized every business day before market open to ensure that recorded order event timestamps are accurate.

[4] The OATS technical specifications also provide that member firms must document and maintain their clock synchronization procedures. In addition, the technical specifications state that member firms should keep a log of the times when they synchronize their clocks and the results of the synchronization process, including notice of any time a member's clock drifts more than the one second standard. The technical specifications further provide that such logs should be maintained for the period of time and accessibility specified in SEC Rule 17a–4(b), and maintained and preserved for the required time period in paper format or in a format permitted under SEC Rule 17a–4(f).

[5] FINRA generally believes that the firms that synchronize once daily are firms that accept manual orders.

events in NMS securities [6] and OTC Equity Securities [7] under FINRA rules. Automated systems have evolved to the point where order placement and trading decisions in these asset classes are made on a millisecond basis, if not finer. Moreover, in many cases firms report events to FINRA's equity trade reporting and audit trail facilities in milliseconds.[8]

Accordingly, FINRA is proposing to tighten the synchronization requirement for computer system clocks that record events in NMS securities and OTC Equity Securities. The proposal would reduce the drift tolerance for computer clocks that record events in these securities from one second to 50 milliseconds. The proposal would not change the current one second standard for securities other than NMS securities or OTC Equity Securities and would not change the current one second standard for events recorded by mechanical clocks or time stamping devices, as opposed to computer clocks.

As a technical matter, the proposal would codify the existing OATS technical specifications cited above, along with the new proposed 50 millisecond standard, in FINRA's Rule 4500 Series (Books, Records and Reports). The purpose of this technical change is to relocate the clock synchronization requirements from OATS rules to a rule set where it is clear the requirements apply to the recording of the date and time of any event that must be recorded under FINRA By-Laws or rules. As noted above, under a combination of Rule 7430 and the OATS technical specifications, the current one second synchronization standard already applies to the recording of the date and time of any event that must be recorded under FINRA By-Laws or rules. Under this proposal, FINRA would consolidate and codify the clock synchronization requirements in new Rule 4590 for clarity and ease of reference. This consolidation would include the current provision in the OATS technical specifications that conveys guidance on recordkeeping to demonstrate compliance with the synchronization standard, which would be codified without material change as Supplementary Material .01 to Rule 4590.

In arriving at this proposal, FINRA solicited and received feedback from its industry advisory committees, as well as through a public request for comment. After thoroughly evaluating all of the feedback received, FINRA has determined that the proposed 50 millisecond standard is the best approach given existing technology and FINRA's regulatory needs. In addition, as described in more detail below, FINRA further determined that it should proceed with the proposal now, rather than wait for approval and implementation of the clock synchronization requirements proposed in the National Market System Plan governing the Consolidated Audit Trail (''CAT NMS Plan'').[9]

As an initial step, FINRA staff solicited industry input from several of its industry advisory committees prior to publishing the proposal for comment in a *Regulatory Notice.* These committees were generally supportive. To the extent the committees raised concerns, they focused on the proposal's potential impact on small firms, particularly firms that do not rely on highly automated systems. In response to these concerns, and similar concerns raised in the comment letters discussed below, FINRA modified the proposal to allow for phased implementation which would grant less automated firms up to 18 months to comply with the proposed 50 millisecond standard. In addition, the proposal retains the current one second standard for events recorded by mechanical clocks or time stamping devices, which FINRA believes are more likely to be used by small firms.

Next, in November 2014, FINRA published *Regulatory Notice* 14–47 to request written comments on the proposal. FINRA received eight comment letters in response.[10] In general, five of the eight commenters supported tightening current clock synchronization requirements, at least to some extent.[11] Two of the eight commenters opposed the proposal to some extent, questioning either the proposed 50 millisecond standard or the need for FINRA to amend its clock synchronization requirement at this time, before the CAT NMS Plan is approved and implemented.[12]

Of the five commenters that supported tightening clock synchronization requirements at least to some extent, all agreed that a millisecond standard is necessary given the speed of trading in today's markets. For example, according to FSMLabs, FINRA's proposal is ''timely and necessary'' because ''[w]ide use of electronic trading systems and proliferation of trading venues make it impossible to understand market operation or to manage risks without precise and reliable time information.'' [13] Similarly, IEX stated its belief that ''the proposal represents an important and beneficial advance over the current [one second] standard.'' [14]

The commenters that supported the proposal generally took the view that the proposed 50 millisecond standard would not be overly burdensome to adopt, even for smaller firms. FSMLabs stated that a 50 millisecond standard ''can be met with low cost off-the-shelf software only.'' [15] According to KOR, ''the technology to perform such high-resolution synchronization is low-cost and has been available for years.'' [16] Sync-n-Scale took the view that the proposed 50 millisecond standard ''is highly likely not an onerous imposition on market participants in any of the relevant dimensions: financially, technologically and operationally.'' [17]

Several of these commenters proposed tightening the clock synchronization standard even further, to below 50

[6] The term ''NMS security'' is defined in Rule 600 of Regulation NMS to mean ''any security or class of securities for which transaction reports are collected, processed and made available pursuant to an effective transaction reporting plan, or an effective national market system plan for reporting transactions in listed options. 17 CFR 242.600(b)(46). As Commission staff has noted, the term NMS security generally ''refers to exchange-listed equity securities and standardized options, but does not include exchange-listed debt securities, securities futures, or open-end mutual funds, which are not currently reported pursuant to an effective transaction reporting plan.'' *See* Division of Trading and Markets Staff's Responses to Frequently Asked Questions Concerning Large Trader Reporting, question 1.1, available at *https://www.sec.gov/divisions/marketreg/large-trader-faqs.htm.*

[7] The term ''OTC Equity Security'' is defined in FINRA Rule 6420(f) to mean ''any equity security that is not an 'NMS stock' as that term is defined in Rule 600(b)(47) of Regulation NMS; provided, however, that the term 'OTC Equity Security' shall not include any Restricted Equity Security.''

[8] *See* Securities Exchange Act Release No. 71623 (February 27, 2014), 79 FR 12558 (March 4, 2014) (order approving SR–FINRA–2014–050, FINRA's proposal to require firms to report order and trade information to the FINRA TRFs, ADF, ORF, and OATS in milliseconds, if the firms' systems capture time in milliseconds). *See also Regulatory Notice 14–21* (May 2014) (announcing the effective date of millisecond reporting changes); *Regulatory Notice 14–47* (November 2014) at page 7, n. 7 (describing the extended implementation schedule for millisecond reporting changes).

[9] The CAT NMS Plan, which was submitted by the national securities exchanges and FINRA on February 27, 2015, is available at *catnmsplan.com.*

[10] *See* Letters from Crews & Associates, January 5, 2015 (''Crews Letter''); FSMLabs, dated January 7, 2015 (''FSMLabs Letter''); Quincy Data, LLC, dated January 9, 2015 (''Quincy Data Letter''); Wiley Bros. Aintree Capital, dated January 9, 2015 (''Wiley Bros. Aintree Capital Letter''); IEX Services LLC, February 12, 2015 (''IEX Letter''); Financial Information Forum, dated February 20, 2015 (''FIF Letter''); Sync-n-Scale, dated February 20, 2015 (''Sync-n-Scale Letter''); and KOR Group LLC, dated February 20, 2015 (''KOR Letter'').

[11] *See* FSMLabs Letter, Quincy Data Letter, IEX Letter, Sync-n-Scale Letter, and KOR Letter.

[12] *See* Crews Letter and FIF Letter.

[13] *See* FSMLabs Letter at 6–7.

[14] *See* IEX Letter at 2.

[15] *See* FSMLabs Letter at 1.

[16] *See* KOR Letter at 2.

[17] *See* Sync-n-Scale Letter at 1.

milliseconds. For example, FSMLabs said that a one millisecond standard would not impose significant additional costs, while even a one microsecond standard could be practical with low-cost off-the-shelf technology.[18] KOR agreed that reducing the standard to one millisecond ''would not impose significant additional costs to market participants over a 50 millisecond requirement.'' [19] And according to IEX, ''the permitted variance could be further reduced consistent with the systems capabilities of most member firms.'' [20]

Two commenters took different views and opposed the proposal. Crews & Associates stated that any standard less than 200 milliseconds is not feasible at any cost, based on the time it takes to receive data packets with updated time information from NIST servers.[21] The Financial Information Forum (''FIF''), which conducted an industry survey on current synchronization practices and the anticipated costs of tighter synchronization standards, did not take issue with the proposed 50 millisecond standard itself. In fact, FIF supported a 50 millisecond standard; however, FIF suggested that FINRA ''work through the CAT NMS Plan process to achieve [its] clock synchronization objectives and avoid redundant, and potentially conflicting, rule-making.'' [22]

Finally, several of the commenters argued that FINRA should consider different standards for different types of market participants. KOR suggested that highly automated firms—*i.e.*, firms that co-locate their equipment at an exchange datacenter or in a data center with modern clock synchronization technology—should be held to a one millisecond standard, while all other firms should be subject to a 50 millisecond standard.[23] Crews & Associates said that there should be a separate rule for firms that engage in high frequency trading, although this commenter did not offer a detailed recommendation on how the standards should differ for firms that do and do not engage in HFT.[24]

FINRA carefully considered the committee views and written comments. After analyzing this feedback, FINRA believes it is necessary and appropriate to proceed with the proposed 50 millisecond standard for NMS securities and OTC Equity Securities, with a phased implementation that allows less automated firms more time to adjust their systems. FINRA believes that 50 milliseconds is the right standard at this time, given prevailing technology for trading systems and clock synchronization, because it strikes an acceptable balance between audit trail integrity and the costs of compliance. FINRA also believes it is important to apply the same standard to all computer-recorded events, regardless of firm size or activity type. Audit trail integrity relies on the ability to accurately sequence events for a given period of time, including events generated by firms that do not engage in HFT.[25]

FINRA's decision to pursue the proposed 50 millisecond standard is informed in part by the CAT NMS Plan filed in February, 2015. The CAT NMS Plan was required by SEC Rule 613, which directed FINRA and the national securities exchanges to submit a national market system plan to govern the creation, implementation, and maintenance of a consolidated audit trail and central repository.[26] Rule 613 further contains specific provisions that require the CAT NMS Plan to adopt a clock synchronization standard ''consistent with industry standards.'' [27] Guided by these provisions, the CAT NMS Plan contains detailed discussion of current clock synchronization practices, as well as the potential costs that broker-dealers would incur under various synchronization standards ranging from 1 second to 100 microseconds.[28] As part of its cost analysis, the CAT NMS Plan refers to the same FIF survey that accompanied the FIF's comment letter to FINRA on this proposal.[29]

Ultimately, the CAT NMS Plan concluded ''that a clock offset of 50ms represents an aggressive, but achievable, industry standard.'' [30] FINRA agrees that, at present, while a 50 millisecond standard may impose some costs on firms, it is nevertheless achievable with existing technology, and that it would allow FINRA significantly greater regulatory and surveillance capabilities. Moreover, FINRA recognizes that proposing a standard different from the CAT NMS Plan could create additional and potentially burdensome costs for firms.[31]

But while FINRA believes it is appropriate to propose the same 50 millisecond clock synchronization standard advanced by the CAT NMS Plan, FINRA does not agree with the comment that FINRA should forego this proposal and wait for the CAT NMS Plan to become effective. It may be some time before the clock synchronization requirements of the CAT NMS Plan take effect.[32] Meanwhile, as the Commission has recognized, a sub-one second clock synchronization standard is an important element of market data reliability.[33] And FINRA, as a national securities association, relies on the accuracy of market data to fulfill its regulatory obligations. Accordingly, FINRA believes it has a current need to tighten the clock synchronization standard for events that must be recorded pursuant to the FINRA By-Laws or other FINRA rules.

FINRA acknowledges that a tightened clock synchronization standard could impose costs, particularly on small or

[18] *See* FSMLabs Letter at 1.

[19] *See* KOR Letter at 2.

[20] *See* IEX Letter at 2. Additionally, another commenter submitted its own proposal, which it said could ''replace CAT requirements.'' Under this commenter's proposal, all matching engines would be time synchronized to an accuracy that is within 10 microseconds of the global time standard, and manual trades would be time stamped within an accuracy of 1 minute. *See* Quincy Data Letter at 1.

[21] *See* Crews & Associates Letter at 1.

[22] *See* FIF Letter at 3. As noted elsewhere in this filing, FIF cautioned that its survey did not necessarily reflect small firms, which it thought would be more likely to have trouble meeting the proposed clock synchronization standard.

[23] *See* KOR Letter at 2.

[24] *See* Crews & Associates Letter at 2.

[25] While FINRA does not believe it is practicable to adopt different standards for firms that engage in HFT and those that do not, as some commenters suggested, it is proposing to provide less automated firms with more time to adjust their systems to the new proposed standard, as discussed more below.

[26] 17 C.F.R § 242.613(a).

[27] 17 CFR § 242.613(d)(1).

[28] *See* CAT NMS Plan, available at catnmsplan.com, at Appendix C–125.

[29] *See* CAT NMS Plan at Appendix C–125 to C–126 (citing the FIF Clock Offset Survey, which FIF also attached to its comment letter on this proposal).

[30] *See id.*

[31] The FIF comment letter supported the view that FINRA should not adopt a standard that is different from what was proposed in the CAT NMS Plan, even if that standard were more lenient and less costly to implement now than the CAT NMS Plan standard. *See* FIF Letter at 2 (noting that respondents to the FIF Clock Offset Survey ''questioned the benefits of an interim tolerance citing that any changes to the current clock offset would require modifications to systems and processes'').

[32] The CAT NMS Plan was filed pursuant to Rule 608 of Regulation NMS, which provides the general procedure for national market system plans. Under Rule 608(b)(2), the Commission has 120 days from the date it publishes a national market system plan, or up to 180 days of such date if it finds such longer period to be appropriate and publishes its reasons for so finding or as to which the sponsors of the plan consent, to approve the plan, with such changes or subject to such conditions as the Commission may deem necessary or appropriate. As proposed, the CAT NMS Plan would become effective upon approval by the Commission and execution by all of the participants that submitted the plan (*see* CAT NMS Plan, Section 2.1), and the clock synchronization requirements would apply within four months of the effective date (*see* CAT NMS Plan, Section 6.7(a)(ii)).

[33] *See* Securities Exchange Act Release No. 67457 (July 17, 2012), 77 FR 45722, 45774 (August 1, 2012) (''Consolidated Audit Trail Adopting Release'') (''The Commission believes that the current industry standard for conducting securities business is more rigorous than one second.'').

less automated firms. As a result, FINRA has revised the proposal in response to comments in two ways, in order to minimize the burden associated with the proposed rule and ease implementation. First, FINRA has narrowed the scope of the proposal so that the 50 millisecond standard proposed in this filing would apply only to NMS securities and OTC Equity Securities, and not to fixed income securities. FINRA believes this modification is warranted because fixed income products generally are not traded with the same level of automation as equity or option securities. Moreover, the revised scope would parallel the current scope of the CAT NMS Plan, which, as filed, would apply to NMS securities and OTC Equity Securities, but not debt securities.[34] FINRA notes that the CAT NMS Plan contemplates whether debt securities may become subject to CAT reporting in the future, and FINRA will continue to consider the appropriate clock synchronization standard for systems that record events in debt securities.

FINRA proposes to adopt a phased implementation for the proposed 50 millisecond standard. If the Commission approves the filing, FINRA will announce the effective date of the proposed rule change in a *Regulatory Notice* to be published no later than 90 days following Commission approval. FINRA would then require firms with systems that capture time in milliseconds to comply with the new 50 millisecond standard within six months of the effective date; remaining firms that do not have systems which capture time in milliseconds would have 18 months from the effective date to comply with the 50 millisecond standard.[35]

2. Statutory Basis

FINRA believes that the proposed rule change is consistent with the provisions of Section 15A(b)(6) of the Act,[36] which requires, among other things, that FINRA rules must be designed to prevent fraudulent and manipulative acts and practices, to promote just and equitable principles of trade, and, in general, to protect investors and the public interest. FINRA believes that the proposed rule change will bolster FINRA's ability to meet its regulatory obligations as a national securities association. As the Commission has noted, time drift away from a universal, synchronized standard is an important issue to address to enhance the integrity of audit trail data.[37] FINRA therefore believes it is important to pursue a 50 millisecond standard at this time, for the reasons explained above, so that it can compile more accurate audit trail data and conduct surveillance with more precise time-sequenced data. By doing so, the proposal would facilitate FINRA's efforts to detect and prevent fraudulent and manipulative acts and practices, to promote just and equitable principles of trade, and, in general, to protect investors and the public interest.

B. Self-Regulatory Organization's Statement on Burden on Competition

FINRA does not believe that the proposed rule change will result in any burden on competition that is not necessary or appropriate in furtherance of the purposes of the Act. FINRA has undertaken an economic impact assessment, as set forth below, to analyze the regulatory need for the proposed rule change, its potential economic impacts, including anticipated costs and benefits, and the alternatives FINRA considered in assessing how to best meet its regulatory objectives.

Economic Impact Assessment

A. Regulatory Need

FINRA's current rules require members to synchronize their business clocks to within one second of the NIST atomic clock. Considering the speed of trading in today's automated equity and options markets, FINRA believes that the current one second tolerance is no longer appropriate for computer system clocks recording time for events in these securities under FINRA rules. For example, the wide use of automated trading systems entails order placement and trading decisions made on a millisecond, or finer, basis. In such a fast-paced environment, the one second tolerance is insufficient for audit trail and surveillance purposes. Accordingly, FINRA is proposing a tighter synchronization standard for NMS securities and OTC Equity Securities that will give FINRA the capability to better determine the order in which reportable events occur, thereby bolstering its surveillance of the markets and enhancing investor protection.

B. Economic Impacts

The proposed rule change would impact member firms that receive or route orders or execute trades directly in NMS securities and OTC Equity Securities. As a baseline, FINRA estimates that there are approximately 1,720 firms that would be subject to the proposal.[38] These firms would be required to synchronize their computer clocks that are used to record applicable events in equity and options securities to within 50 millisecond of the NIST atomic clock.

FINRA understands that some firms already synchronize their computer clocks within 50 milliseconds, and as a result, will not experience any material direct economic impacts as a result of this rule. Additionally, the proposed rule change would not alter the current clock synchronization requirement for members' mechanical time stamping devices. As a result, members solely using mechanical time stamping would not be impacted. Based on FINRA staff's experience, FINRA estimates that only a small fraction of firms use mechanical time stamping devices for trading in NMS securities and OTC Equity Securities.

The proposal would be implemented in phases that would allow less automated firms more time to comply with the 50 millisecond clock synchronization standard. Specifically, FINRA would require firms with systems that capture time in milliseconds to comply with the new 50 millisecond standard within six months of the effective date. Of firms that report to OATS, FINRA estimates that there are 736 firms that report some or all of their order events in milliseconds, accounting for 76 percent of OATS-reporting firms and 95 percent of OATS reportable order events (ROE). FINRA further estimates that there are roughly 237 less automated OATS-reporting firms,

[34] *See, e.g.*, CAT NMS Plan at Appendix C–127 (discussing the Plan's applicability to OTC Equity Securities in addition to NMS securities, and whether debt securities may be subject to the CAT NMS Plan in the future). Because the scope of this proposal would align with the scope of the current proposed CAT NMS Plan, FINRA believes that costs incurred by firms to meet the proposed FINRA clock synchronization standard would support the changes needed to meet any future requirement imposed under CAT and, therefore, should not result in duplicative efforts.

[35] FINRA recognizes that a phased implementation does not necessarily on its own reduce the costs of the proposal. However, a phased implementation could allow firms, particularly smaller or less automated firms, a greater time period over which they can identify and implement the most cost effective clock synchronization solution that meets the standard required by this proposal. FINRA notes that the FIF Clock Offset Survey recommended a delayed implementation and noted that ''[w]hile additional time may not reduce costs, it may ease implementation as firms manage this effort in conjunction with other compliance initiatives.'' *See* FIF Letter and attached FIF Clock Offset Survey.

[36] 15 U.S.C. 78*o*–3(b)(6).

[37] *See* Consolidated Audit Trail Adopting Release, 77 FR at 45774.

[38] This baseline estimate is intended to capture the total number of firms that received orders in any security subject to OATS reporting, as reflected by the number of unique routing firm market participant identifiers from a recent calendar quarter.

accounting for 24 percent of OATS-reporting firms and five percent of ROE, that are not currently reporting order events in milliseconds; these firms would have 18 months from the effective date to comply with the proposed standard. For the remainder of firms that would be subject to the proposal but do not currently report to OATS, FINRA believes that the majority rely on systems provided by their clearing firm or are not likely to have systems that capture time in milliseconds, and they would therefore also have 18 months to comply.

(i) Anticipated Benefits

The proposed rule change would allow FINRA to more accurately determine, with respect to NMS securities and OTC Equity Securities, the sequence of order, quote and trade events across market participants and market centers. By doing so, the proposal would improve FINRA's surveillance program, and as a result, support FINRA's compliance with its regulatory obligations set forth in Section 15A(b)(6) of the Act. In particular, the proposal would enhance FINRA's ability to monitor for manipulative trading practices, including spoofing or layering, and to evaluate best execution and compliance with SEC Regulation NMS, among other things. For example, potentially manipulative trading practices often involve large numbers of orders placed in short periods of time, such that more granular and precise order event sequencing would enhance FINRA's market surveillance abilities. As a result, the proposal would facilitate FINRA's efforts to prevent fraudulent and manipulative acts and practices, to promote just and equitable principles of trade, and to protect investors and the public interest.

(ii) Anticipated Costs

Member firms that receive or route orders or execute trades directly in NMS securities and OTC Equity Securities would likely incur costs associated with updating their systems and procedures to comply with a tightened clock synchronization standard. These costs may include costs to develop and maintain software programs that allow and monitor for synchronization within 50 milliseconds. FINRA notes that there are third party software products that could help firms maintain the proposed 50 millisecond standard. Firms may find these software products to be more cost effective than developing and maintaining their own programs. Some firms may also need to update their technology hardware, including servers and event logging platforms, or implement other networking enhancements to achieve the 50 millisecond drift standard. These costs will likely vary across firms depending on their current technology systems and procedures, their business models and the frequency with which they synchronize their clocks, as well as their current drift standards.

FINRA's analysis of current practices and potential costs is informed in part by the industry survey that FIF performed and submitted along with its comment on this proposal. The FIF Clock Offset Survey, which is discussed in detail in the CAT NMS Plan, collected information on existing synchronization systems, current clock management costs, and anticipated costs of meeting tighter synchronization standards from 28 firms, including 23 broker-dealers and 5 service bureaus.[39] The survey found that 39% of responding firms do not already synchronize their clocks to at least a 50 millisecond standard, suggesting that many firms may already have the capacity to meet the proposed standard.

The FIF survey estimates an average cost of adopting a 50 millisecond standard would be roughly $550,000 per firm.[40] FINRA notes, however, that the FIF survey seems to estimate the costs of implementing a synchronization standard with the assumption that synchronization logs would be required to be maintained for more than three years.[41] Since this FINRA proposal would require synchronization logs to be stored for only three years, FINRA believes the FIF cost estimate may overstate the implementation costs of this aspect of the proposal. FINRA notes further that the FIF survey estimates did not include data from smaller firms and therefore may not be informative as to what small firm implementation costs may be.

Implementation costs would likely vary across firms based on their current clock synchronization systems and procedures, their business models and trading activity. Firms that already synchronize their clocks to the 50 millisecond standard would likely incur much lower implementation costs, whereas other firms with less tight synchronization standards may incur relatively higher costs. As noted above, FINRA is aware of third party clock synchronization software products that could help firms, in particular smaller firms, reduce costs relative to developing and maintaining their own programs.

The survey results indicate that the average annual costs of maintaining a 50 millisecond standard are anticipated to be approximately $313,000 per firm and this represents a 31% increase over current annual clock management costs. Based on these survey results, FINRA estimates current annual clock management costs to be approximately $239,000 per firm. Hence the anticipated increase in the annual cost from the current standard to the proposed 50 millisecond synchronization standard is expected to be approximately $74,000 per firm. FINRA notes again, however, that to the extent the FIF survey assumed a more than 3 year log retention period, its maintenance cost estimates may be greater than the maintenance costs of this proposal, which requires that synchronization logs be retained for three years.

According to the FIF survey, implementation and maintenance costs would increase significantly for synchronization standards below 50 milliseconds. For instance, survey respondents indicated that a 1 millisecond standard, recommended by some of the commenters on this proposal, would cost over $1.1 million to implement and more than $530,000 to annually maintain.[42]

Based on its evaluation of the FIF Clock Offset Survey, as well as the CAT NMS Plan's economic analysis of potential clock synchronization requirements, FINRA believes that a 50 millisecond standard is the best achievable standard at this time. Furthermore, to minimize undue cost burdens, particularly for small or less automated firms, FINRA modified the proposal as described above—specifically, FINRA narrowed the scope of the proposal to apply only to NMS securities and OTC Equity Securities, and FINRA is proposing a phased implementation that would allow less automated firms up to 18 months to come into compliance. In addition,

[39] *See* FIF Letter and attached FIF Clock Offset Survey.

FINRA notes that the respondents primarily comprised of firms with a significant amount of reportable order events (ROE) in OATS. For example, 64% of the respondents reported 3 million or more ROE/month. Smaller firms with low ROE/month tiers did not generally respond to the survey. As a result, these survey results may not be representative of the views of smaller firms with less trading activity. The FIF survey notes that an effort is underway to solicit feedback from smaller firms. *See* the attached FIF Clock Offset Survey.

[40] *See id.*

[41] *See id.* at Survey page 12 (noting survey respondent comments about the costs of implementing larger storage requirements to log synchronization events) and 23 (recommending a requirement to log only exceptions for a period of three years to reduce costs).

[42] *See id.*

FINRA notes that the scope of this proposal would align with the scope of the CAT NMS Plan that has been filed with the Commission. As such, in the presence of an adopted CAT NMS plan, the costs associated with this proposal are only associated with the timing of the obligation to meet the proposed clock synchronization standard. Accordingly, FINRA believes that costs incurred by firms to meet the proposed FINRA clock synchronization would support the changes needed to meet any future requirement imposed under CAT and therefore, should not result in duplicative efforts.

C. Alternatives

In considering how to best meet its regulatory objectives, FINRA considered several alternatives to particular features of this proposed rule change. For example, FINRA considered whether to impose less costly 100 or 200 millisecond standards. For the reasons referenced in part above, FINRA chose not to pursue these alternatives.

FINRA's decision not to pursue these alternatives is based in part on its own observations. The range of variance among market participants' clocks may be up to twice the permitted synchronization standard; for example, one participant's clocks may drift ahead of the NIST clock by 50 milliseconds, while another's may drift behind by 50 milliseconds, meaning their clocks would be 100 milliseconds apart. FINRA studied OATS data for a single trading day and found a large number of events that occur within any single 100 millisecond window of time. However, FINRA observed that the number of events within 200 or 400 millisecond windows—twice the possible alternative 100 and 200 millisecond standards—increased significantly. Departing from the 50 millisecond standard would therefore cause significantly greater numbers of events to be recorded with less certainty and accuracy.

In addition, FINRA notes that the FIF Clock Offset Survey supported the proposed 50 millisecond standard, as opposed to a 100 or 200 millisecond standard. The survey asked respondents about possible reduced burdens if FINRA were to adopt one of these alternative standards in advance of tighter tolerances imposed as part of the CAT NMS Plan. In response, survey respondents "questioned the benefits of an interim tolerance citing that any changes to the current clock offset would require modifications to systems and processes." [43]

[43] *See* FIF Letter at 2.

In developing this proposal, FINRA also considered suggestions by commenters regarding different clock synchronization standards depending on the type of market participants (*e.g.* tighter standard for highly automated or HFT firms and less strict standard for other firms). FINRA believes it is important to apply the same standard to all computer-recorded events, regardless of firm size or activity type, since the integrity of the audit trail relies on the ability to accurately sequence all events for a given period of time, including events generated by firms that do not engage in HFT. As discussed above, FINRA believes that in light of the prevailing technology for trading systems and clock synchronization, 50 milliseconds is the right standard for all participants, and strikes a reasonable balance between audit trail integrity and the costs of compliance.

C. Self-Regulatory Organization's Statement on Comments on the Proposed Rule Change Received From Members, Participants, or Others

The proposed rule change was published for comment in *Regulatory Notice* 14–47 (November 2014). Eight comments were received in response to the *Regulatory Notice.* A copy of the *Regulatory Notice* is attached as Exhibit 2a.[44] Copies of the comment letters received in response to the *Regulatory Notice* are attached as Exhibit 2c.[45] The comments are summarized above in Item A.

III. Date of Effectiveness of the Proposed Rule Change and Timing for Commission Action

Within 45 days of the date of publication of this notice in the **Federal Register** or within such longer period (i) as the Commission may designate up to 90 days of such date if it finds such longer period to be appropriate and publishes its reasons for so finding or (ii) as to which the self-regulatory organization consents, the Commission will:

(A) By order approve or disapprove such proposed rule change, or

(B) institute proceedings to determine whether the proposed rule change should be disapproved.

IV. Solicitation of Comments

Interested persons are invited to submit written data, views, and arguments concerning the foregoing, including whether the proposed rule change is consistent with the Act. Comments may be submitted by any of the following methods:

[44] The Commission notes that all references to Exhibit 2a refer to Exhibit 2a to the proposed rule change.

[45] The Commission notes that all references to Exhibit 2c refer to Exhibit 2c to the proposed rule change.

Electronic Comments

- Use the Commission's Internet comment form (*http://www.sec.gov/rules/sro.shtml*); or
- Send an email to *rule-comments@sec.gov.* Please include File Number SR–FINRA–2016–005 on the subject line.

Paper Comments

- Send paper comments in triplicate to Brent J. Fields, Secretary, Securities and Exchange Commission, 100 F Street NE., Washington, DC 20549–1090.

All submissions should refer to File Number SR–FINRA–2016–005. This file number should be included on the subject line if email is used. To help the Commission process and review your comments more efficiently, please use only one method. The Commission will post all comments on the Commission's Internet Web site (*http://www.sec.gov/rules/sro.shtml*). Copies of the submission, all subsequent amendments, all written statements with respect to the proposed rule change that are filed with the Commission, and all written communications relating to the proposed rule change between the Commission and any person, other than those that may be withheld from the public in accordance with the provisions of 5 U.S.C. 552, will be available for Web site viewing and printing in the Commission's Public Reference Room, 100 F Street NE., Washington, DC 20549, on official business days between the hours of 10:00 a.m. and 3:00 p.m. Copies of the filing also will be available for inspection and copying at the principal office of FINRA. All comments received will be posted without change; the Commission does not edit personal identifying information from submissions. You should submit only information that you wish to make available publicly. All submissions should refer to File Number SR–FINRA–2016–005 and should be submitted on or before March 17, 2016.

For the Commission, by the Division of Trading and Markets, pursuant to delegated authority.[46]

Brent J. Fields,

Secretary.

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[46] 17 CFR 200.30–3(a)(12).