scheduling of meeting items. For further information and to ascertain what, if any, matters have been added, deleted or postponed, please contact the Office of the Secretary at (202) 551–5400.

Dated: June 26, 2014.
Kevin M. O’Neill,
Deputy Secretary.

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SECURITIES AND EXCHANGE COMMISSION

[Release No. 34–72460]

Order Directing the Exchanges and the Financial Industry Regulatory Authority To Submit a Tick Size Pilot Plan

June 24, 2014.


I. Background

Prior to implementing decimal pricing in April 2001, the U.S. equity markets used fractions as minimum pricing increments. In the 1990s, the Commission began to re-examine the fractional pricing structure, and in 1994, the Commission staff issued a report (the "Market 2000 Report") on the equities markets that, among other things, expressed concern that the then-existing 1/8th of a dollar minimum pricing increment was "caus[ing] artificially wide spreads and hinder[ing] quote competition," leading to excessive profits for market makers. In the Market 2000 Report, the Commission staff also expressed concern that fractional pricing put the U.S. equity markets at a competitive disadvantage to foreign equity markets that used decimal pricing increments. The Commission used these findings as part of a public discussion on whether the U.S. equity markets should adopt a lower fractional minimum tick size or adopt decimal pricing.

At the same time, the exchanges and NASDAQ (the predecessor to The Nasdaq Stock Market LLC) began to implement lower tick sizes, generally to 1/16th of $1.00. The Commission, the exchanges and NASDAQ believed that the reductions in tick size would provide multiple benefits to the equity markets, including better pricing and greater liquidity.

In January 2000, the Commission ordered the exchanges and NASD (the predecessor to FINRA) to submit a decimalization plan that would implement decimal pricing in certain securities by July 2000. Throughout 2000, the Commission and the self-regulatory organizations ("SROs") worked to phase-out fractional pricing and phase-in decimal pricing.

1 Sec. 11A(a)(3)(B) authorizes the Commission, in furtherance of its statutory directive to facilitate the establishment of a national market system, by rule or order, "to authorize or require self- regulatory organizations to act jointly with respect to matters as to which they share authority under [the Act] in planning, developing, operating, or regulating a national market system (or a subsystem thereof) or one or more facilities thereof." 15 U.S.C. 78k–1(i)(3)(B).

markets. In January 2010, the Commission issued a Concept Release, which requested comments on issues, including high frequency trading, order routing, market data linkages, and undisplayed liquidity. In the discussion on undisplayed liquidity, the Commission requested comments on whether public price discovery and execution quality have suffered, and specifically questioned whether the minimum pricing increment for lower priced stocks should be reduced, noting that broker-dealers may have greater incentives to internalize low-priced stocks than higher priced stocks, given the relatively larger minimum spreads that could be earned by broker-dealers. In response, the Commission received several letters opposing and supporting a pilot program to test sub-penny tick increments. The Commission also received letters recommending a pilot program to test a wider variety of tick sizes.

From time to time since the introduction of decimal pricing, concerns have been raised that the one penny MPV may be detrimental to small- and middle-sized companies. In particular, a few studies have raised questions regarding whether decimalization has reduced incentives for underwriters to pursue public offerings of smaller companies, limited the evolution of whole-price research for small and middle capitalization companies, and made it less attractive to become a market maker in the shares of small and middle capitalization companies.

In 2012, Congress passed the Jumpstart Our Business Startups Act ("JOBS Act"), which contained provisions relating to the impact of decimalization on small and middle capitalization companies. Specifically, Section 106(b) of the JOBS Act directed the Commission to conduct a study and report to Congress on how decimalization affected the number of initial public offerings ("IPOs"), and the liquidity and trading of smaller capitalization company securities. The Commission submitted the staff study to Congress in the July 2012 Decimalization Report.

The Decimalization Report summarized the academic literature relating to the impact of decimalization on the market generally, and on the securities of small and middle capitalization companies. The Commission staff noted that there were no academic papers that directly examined the relationship between decimalization and the number of IPOs. The academic studies summarized in the Decimalization Report analyzed decimalization’s impact on spreads, depth, execution speed, trade size, specialist/market maker participation and profitability, market and limit orders, order routing, volatility, and incentives for broker promotion. The Decimalization Report identified the main empirical findings of the academic literature in each of these areas. For example, some studies found that while both effective and quoted spreads declined after decimalization, there is some evidence that, at least for NASDAQ small capitalization stocks, the decline is not statistically significant, and the effect of decimalization on institutional transaction costs is mixed. In addition, some studies found that while quoted depth on average, declined after decimalization, cumulative depth at competitive prices did not change. Some studies found that market maker participation increased after decimalization across all market capitalization categories, but decimalization does not appear to have reduced profitability.

In the Decimalization Report, the Commission staff also surveyed tick-size conventions in non-U.S. markets. Many foreign jurisdictions utilize a tiered tick size approach that provides greater variability for tick sizes based on the price level of a stock rather than the "one size fits all" approach utilized in the United States. Many countries have tick sizes that are four or more times wider than in the U.S. on a percentage basis. However, a few other countries have tick sizes that are less than half the size of the U.S. market on an absolute basis. Therefore, the Decimalization Report stated that the U.S. market would benefit from a broad review of tick sizes, and such review would be informed by the experiences in other countries.

Finally, the Decimalization Report considered the panel discussion that occurred during the meeting of the SEC Advisory Committee on Small and Emerging Companies ("Small Company Advisory Committee") in June 2012 that related to market structure issues on the impact on small and middle capitalization companies and on IPOs. In particular, some Small Company Advisory Committee members commented that it may be hard to

See Decimalization Report at 18. The Decimalization Report also examined the level of small company IPOs in other countries during the time before and after decimalization to assess whether other countries had experienced declines in small company IPOs like the U.S. experienced. An examination of other countries’ IPO activities did not show a decline like that experienced in the U.S., even in those countries that have smaller tick sizes.

See id.
isolate the impact of decimalization on small company IPOs from other concurrent factors, such as the enactment of the Sarbanes-Oxley Act in 2002, the Global Analyst Research Settlement in 2003, and the emergence of high frequency trading and dark pools. As discussed further below, the Small Company Advisory Committee continued to evaluate the issues raised by decimalization and its impact on small capitalization companies, and issued recommendations in February 2013. While the Decimalization Report did not reach any firm conclusions about the impact of decimalization and the number of IPOs or the liquidity and trading of small capitalization companies, it did recommend that the Commission continue to study this area. The Decimalization Report specifically suggested a public roundtable, where recommendations could be presented on a pilot program that would generate data to allow the Commission to further assess decimalization’s impact. On February 5, 2013, the Commission staff held a Decimalization Roundtable with participation from a wide range of market participants, academics, and other webcasts of the roundtable are available at http://www.sec.gov/news/otherwebcasts/2013/decimalization-transcript-020513.txt. In addition, comments received by the Commission are available at http://www.sec.gov/comments/sr-investoradvisorycom-2014-commentletters.shtml. Generally, these late commenters expressed support for a pilot program to test wider tick sizes for smaller capitalization companies. This view was reflected in comment letters submitted to the Commission in advance of the Roundtable. Some panelists, however, expressed concern about the potential costs to investors of wider minimum tick sizes.

Since the Decimalization Roundtable, discussions have continued with respect to the possibility of raising the minimum tick sizes for small capitalization stocks, and the prospect of a pilot program to test the impact thereof. The Small Company Advisory Committee, in March 2013, recommended that the Commission adopt rules that would allow small exchange-listed companies to choose their own minimum tick size from a limited range designated by the Commission. In the view of the Small Company Advisory Committee, the economic incentives provided by wider minimum tick sizes would encourage capital for small and middle capitalization companies. David Weild, Senior Advisor, Grant Thornton LLP, March 29, 2013 (indicating the belief that the implementation of a tick size pilot could be a step in increasing the number of initial public offering); Paul Ignat, Managing Director, Market Advocacy, TD Ameritrade, Inc., dated February 4, 2013 (indicating support for a tick size pilot and suggesting that such a pilot should focus on volume, price, volatility, and to a lesser extent, market capitalization); Patrick J. Healy, CEO, Issuer Advisory Group, dated February 4, 2013 (indicating the belief that while decimalization has been beneficial to the market, they would support a tick size pilot that would focus on less liquid companies); Colin Clark, Senior Vice President, NYSE Euronext, dated March 5, 2013 (suggesting that less liquid companies could benefit from increased tick sizes and that a pilot program could provide the Commission with data that can be utilized in a cost-benefit analysis to determine whether or not to make the pilot permanent); and Jeffrey M. Solomon, Chief Executive Officer, Cowen and Company, dated February 5, 2013 (suggesting that a pilot program could economically feasible means for investment banks to provide research on small capitalization stocks).

A transcript of the Decimalization Roundtable is available at http://www.sec.gov/news/otherwebcasts/2013/decimalization-transcript-020513.txt. In addition, comments received by the Commission are available at http://www.sec.gov/comments/sr-investoradvisorycom-2014-commentletters.shtml. Since the roundtable, the Commission has received eleven additional comment letters. Generally, these later commenters expressed support for a pilot program to test wider tick size for smaller capitalization companies. See, e.g., letters from David Weisberger, Executive Principal, Two Sigma Securities, dated April 23, 2013; Stuart J. Kaswell, Executive Vice President and Managing Director, General Counsel, Managed Funds Association, dated March 26, 2013; Ernest F. Callipari, Equity Trader, dated May 29, 2013; Daniel Keegan, Managing Director, Head of Equities for the Americas, Citigroup Global Markets Inc., dated November 20, 2013. One commenter suggested that the Commission should apply to illiquid stocks of all sizes); and Joseph Saluzzi, Partner, Themis Trading LLC, dated October 22, 2013 (commenting that a pilot program should apply to illiquid stocks of all sizes); and Joseph Saluzzi, Partner, Themis Trading LLC, dated October 22, 2013 (commenting that a pilot program should apply to illiquid stocks of all sizes); and Joseph Saluzzi, Partner, Themis Trading LLC, dated October 22, 2013 (commenting that a pilot program should apply to illiquid stocks of all sizes). 25 The Investor Advisory Committee was established by Section 911 of the Dodd-Frank Wall Street Reform and Consumer Protection Act (“Dodd-Frank Act”), to advise the Commission on regulatory priorities, the regulation of securities products, trading strategies, fee structures, the effectiveness of disclosure, and on initiatives to protect investor interests and to promote investor confidence and the integrity of the securities marketspace. The Dodd-Frank Act authorizes the Investor Advisory Committee to submit findings and recommendations for review and consideration by the Commission. See Section 911 of the Dodd-Frank Act, Pub. L. 111–203, 124 Stat. 1376 (2010).

disproportionately harm retail investors because their trading costs would rise.\textsuperscript{31} If the Commission determines to conduct a tick size pilot,\textsuperscript{32} however, the Investor Advisory Committee recommended that any such pilot: (a) Should be short-term, with a guaranteed sunset unless benefits are proven to outweigh the costs; (b) should be designed to measure the costs and benefits to investors, with a particular focus on retail investors; and (c) should not focus exclusively on increasing tick size, but also on other changes that could encourage appropriate trading, enhance liquidity, or facilitate capital formation.\textsuperscript{33}

II. Discussion

Section 11A(a)(2) of the Act\textsuperscript{34} directs the Commission, having due regard for the public interest, the protection of investors, and the maintenance of fair and orderly markets, to facilitate the establishment of a national market system for securities. Section 11A(a)(3)(B) provides the Commission the authority to require the SROs, by order, “to act jointly . . . in planning, the public interest, the protection of the Commission, having due regard for other changes that could encourage appropriate trading, enhance liquidity, or facilitate capital formation.”\textsuperscript{35}

The Commission believes that it is in the public interest for the Participants to jointly file the Tick Size Pilot Plan, with the terms and conditions set forth in Section III below, as a national market system (“NMS”) plan pursuant to Rule 608(a) of Regulation NMS.\textsuperscript{36} Once filed, the Commission would publish the Tick Size Pilot Plan for public comment, and thereafter consider whether to approve it, in accordance with Rule 608(b) of Regulation NMS.\textsuperscript{37}

Decimalization of the U.S. equity markets occurred over a decade ago. Since that time, the nature of trading, the structure of the markets, and the roles of market participants have changed significantly.\textsuperscript{38} As discussed above, concerns have been expressed from a variety of sources that decimalization, and the associated one penny MPV, may have had a detrimental impact on the trading and liquidity of small capitalization stocks.\textsuperscript{39} Therefore, the Commission believes that it is in the public interest for the Commission to further study and assess decimalization’s impact on the liquidity and trading of the securities of small capitalization companies.\textsuperscript{40}

The submission of proposed NMS plan for a Tick Size Pilot Plan will provide the Commission with the means to continue to gather further information and views on the impact of decimalization on the liquidity and trading of the securities of small capitalization companies. In addition, a proposed NMS plan for a Tick Size Pilot Plan would allow the Commission to gather further comments on whether a Tick Size Pilot Plan is a viable vehicle by which the Commission could gather data to test whether a wider tick benefits small capitalization companies and their investors.

In the Decimalization Report, the Commission staff reviewed academic literature related to the impact of decimalization on the U.S. equity markets. While the academic literature indicated a number of potential benefits from decimalization, such as an overall reduction in effective and quoted spreads, there was some evidence that, at least for NASDAQ small capitalization stocks, the decline was not statistically significant.\textsuperscript{41} The academic literature, post-decimalization, evidence of a decline in quoted depth on average (although cumulative depth at competitive prices did not appear to change), smaller trade sizes, and an increase in the total time to work institutional orders.\textsuperscript{42} In addition, the Decimalization Report noted that the U.S. has an essentially flat, “one size fits all” tick size regime, as compared with many foreign jurisdictions that have adopted tiered regimes where the tick size varies depending on the price level of a stock.\textsuperscript{43} Finally, at the Decimalization Roundtable, there was broad support among the panelists for the Commission to conduct a pilot program with respect to the impact of wider tick sizes on liquidity in small capitalization companies, even though views differed on the likely outcome of the pilot.\textsuperscript{44}

Support for a pilot program is not universal, however, particularly given that an increase in minimum tick sizes may raise costs for investors. This view was reflected, for example, at the Roundtable and in the recommendations of the Investor Advisory Committee.\textsuperscript{45}

Nevertheless, the Commission believes that legitimate questions have been raised as to whether the minimum tick size regime for the U.S. equity markets should be refined and enhanced. Specifically, the Commission preliminarily believes that it should assess, through a targeted short-term pilot program, whether wider minimum tick sizes for small capitalization stocks would enhance market quality to the benefit of market participants, issuers and U.S. investors. The Commission preliminarily believes that such a pilot should facilitate studies of the effect of tick size on liquidity, execution quality for investors, volatility, market maker profitability, competition, transparency and institutional ownership. The Commission has set forth the details of a pilot program that the Commission preliminarily believes would produce measurable data that would allow the Commission and others to conduct such studies.

Further, the Commission preliminarily believes that the pilot described below is sufficiently limited so as to not cause excessive disruption to the market. The Commission preliminarily believes that the terms of the Tick Size Pilot Plan and the securities to be included should mitigate potential harm to investors in the form of increasing transaction costs, as expressed by the Investor Advisory Committee. The Commission would examine the data generated to measure, among other things, any change in transaction costs.

The Commission is ordering the Participants to jointly file the Tick Size Pilot Plan to assure that the pilot...
program, if ultimately approved by the Commission, applies uniformly across the U.S. markets. Once the Participants file the Tick Size Pilot Plan with the Commission, it will be published for public comment, and the Commission will carefully evaluate the comments received as the Commission considers whether to approve the Tick Size Pilot Plan. 46

III. Tick Size Pilot Plan

The Commission hereby orders the Participants to develop and jointly file with the Commission, as an NMS plan pursuant to Rule 608(a) of Regulation NMS, 47 a Tick Size Pilot Plan with the following terms and conditions:

- Duration. The length of the pilot program (“Pilot”) contemplated by the Tick Size Pilot Plan shall be one year. The Commission notes that there has been broad discussion about how long a pilot should run. 48 The Commission preliminarily believes that a one-year time period would generate sufficient data to reliably analyze the effects and impact of wider tick size. 49 The Commission preliminarily believes that the Participants should monitor the data generated during the Pilot Period. 50 The Commission expects that the data produced during the Pilot Period should allow the Commission and Participants to monitor the impact of the Pilot on the market and investors. Further, the Commission would engage in a proactive, ongoing review of the data that could inform whether any modifications to the Pilot are necessary.

- Securities. The securities to be included in the Pilot shall be securities that are NMS common stocks with: (1) A market capitalization of $5 billion or less; (2) an average daily trading volume of one million shares or less; and (3) a share price of $2 per share or more (“Pilot Securities”). The Commission preliminarily believes that these criteria will capture the securities of smaller and middle capitalization companies with low liquidity and trading activity and should provide the Pilot with a broad sample on which to test the impact of wider tick sizes. 51 Requiring stock prices to be $2 or more per share assures that “sub-penny stocks” 52 are not included in the Pilot.

In addition, these thresholds are not set directly because these stocks are relatively exogenous, which could help to inform the Commission about any potential rulemaking based on the results of the Pilot. Overall, because the stocks below these thresholds have higher average effective spreads, the thresholds, though exogenous help to target the pilot towards those stocks most likely to benefit from a larger tick size. Finally, this group is broad enough to allow researchers to examine various threshold levels for potential rulemaking.

- Pilot Design. The Pilot should consist of one control group and three test groups with 300 Pilot Securities in each test group. The selection of Pilot Securities to be included in each test group should involve stratified sampling by market capitalization and price. The Commission preliminarily believes that choosing three relatively small test groups would minimize any potential disruption to the current market. 53 The Commission also preliminarily believes that having a control group is vital to test the effects of larger tick size, and that a control group with the current quoting and trading increments would best represent a baseline for the analysis of the effect of the pilot. Further, the Commission preliminarily believes that three test groups should generate sufficient data to test a variety of potential changes, described below. Finally, the Commission preliminarily believes that the inclusion of 300 Pilot Securities per test group should allow each test group to be statistically large enough to generate data to reliably test for the effects of larger tick size and to examine thresholds for any potential rulemaking in the future. 54

- Control Group. Pilot Securities in the Control Group shall be quoted at the current tick size increment, $0.01 per share, and trade at the increments currently permitted.

- Test Group One. Pilot Securities in Test Group One would be quoted in $0.05 minimum increments. Trading could continue to occur at any price increment that is permitted today. The Commission preliminarily believes that the $0.05 minimum quoting increment is appropriate. Commission staff's preliminary analysis of the Pilot Securities 55 indicates that a significant percentage of Pilot Securities have bid-ask spreads greater than $0.05. Therefore, the Commission believes that the five cent increment should be relatively conservative so as to limit increases in transaction costs for investors. In addition, for those securities that currently have spreads greater than $0.05, the introduction of a minimum quoting increment would prevent market participants from “pennying” quotes, i.e., improving the displayed quote by only one penny to gain execution priority) as quotes will be made in 5 cent increments. Finally, the 5 cent minimum quoting increment

The market capitalization and average daily trading volume thresholds are based on a staff examination of effective spreads. Stocks above these thresholds typically have effective spreads below $0.02. Stocks below these thresholds vary with some in the $0.01 range but most above $0.02 and a substantial percentage above $0.05. These thresholds should capture the stocks that would benefit most from an increased tick size while still allowing researchers to assess which stock characteristics might be correlated with positive results from larger tick sizes and which would be correlated with negative results from larger tick sizes.

- “Sub-penny stocks” are NMS stocks with a stock price below $1 that have a minimum quote increment of $0.0001 under current rules. The threshold of $2 was chosen to mitigate the effect of NMS stocks for which stock prices may decline to below $1 during the pilot period.

Some commenters suggested that a pilot test several tick sizes. See e.g., Letter from David Weild, Senior Advisor, Grant Thornton LLP, dated January 29, 2013 (suggesting four tick increments of $0.25, $0.10, $0.05, $0.02, and $0.01); and Jeffrey M. Solomon, Chief Executive Officer, Cowen and Company, dated February 5, 2013 (suggesting a pilot term of 5 years); Colin Clark, Senior Vice President, NYSE Euronext, dated February 5, 2013 (suggesting a pilot term of no longer than one year); David Weisberger, Executive Director, Sigma Securities, dated April 23, 2013 (suggesting a pilot term of at least one year); and Daniel Keegan, Managing Director, Head of Equities for the Americas, Citigroup Global Markets, Inc., dated October 22, 2013 (suggesting a pilot term of one year). See also, the Investor Advisory Committee recommendations, supra note 30, which recommended that any pilot be short-term, with a guaranteed sunset.

46 These preliminary beliefs are based on analysis of power statistics for relevant liquidity measures, e.g., trading volume. Being able to examine a subset of stocks facilitates the examination of potential threshold levels.

47 17 CFR 242.608(a).

48 17 CFR 242.608(b).

49 These preliminary beliefs are based on analysis of data that could inform whether any potential rulemaking could be based on the results of the Pilot. Overall, because the stocks below these thresholds have higher average effective spreads, the thresholds, though exogenous help to target the pilot towards those stocks most likely to benefit from a larger tick size. Finally, this group is broad enough to allow researchers to examine various threshold levels for potential rulemaking.

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52 "Sub-penny stocks" are NMS stocks with a stock price below $1 that have a minimum quote increment of $0.0001 under current rules. The threshold of $2 was chosen to mitigate the effect of NMS stocks for which stock prices may decline to below $1 during the pilot period.

53 Some commenters suggested that a pilot test several tick sizes. See e.g., Letter from David Weild, Senior Advisor, Grant Thornton LLP, dated January 29, 2013 (suggesting five tick increments of $0.25, $0.10, $0.05, $0.02, and $0.01); and Jeffrey M. Solomon, Chief Executive Officer, Cowen and Company, dated February 5, 2013 (suggesting four tick increments of $0.20, $0.10, $0.05 and $0.01). At this time, the Commission is concerned about the cost and complexity of a pilot that contains more test groups. See e.g., Letter from David Weisberger, Executive Vice President, Two Sigma Securities, dated April 23, 2013 to Elizabeth M. Murphy, Secretary, Commission ("We urge the Commission to keep the design of the pilot simple. Simplicity will ensure timely implementation and reduce operational risks as most firms will have to update their trading software to comply with the pilot.").

54 These preliminary beliefs are based on staff analysis of power statistics for relevant liquidity measures, e.g., trading volume. In particular, the staff focused on the least active stocks and assessed how many stocks would be needed to detect changes in daily liquidity measures. The staff selected 300 as a sample size to provide sufficient power to detect changes in liquidity measures for a subset of pilot stocks.

55 See supra note 31.

56 The transaction cost is measured by the difference of an investor buying a security at the offer and then immediately selling the same security at the bid. Thus, the wider the minimum quoting increment, the greater the transaction cost would be for such round trip trade.
will allow data to be developed to test whether liquidity increases due to the aggregation of liquidity at the 5 cent increments for these securities.

There are other Pilot Securities that currently have spreads that are less than $0.05. The spreads in these Pilot Securities would be directly impacted. However, their inclusion in the Pilot would allow data to be developed to study the impact on liquidity for these stocks as well. Moreover, trading in this group can occur at any price increment allowable today, so the data generated from this group should isolate the effects of an increased quoting increment.

The $0.05 minimum quoting increment is significantly larger than the current $0.01 but smaller than the 1/16th of $1.00 increment used immediately prior to decimalization. Relative to the alternative minimum quoting increments that could be considered, the Commission preliminarily believes $0.05 provides a good balance between assuring the ability to measure the hypothesized effect, if it exists, and mitigating any potential harm to liquidity as a result of a tick size that is too large. Therefore, the Commission preliminarily believes that a $0.05 minimum quoting increment should be sufficient to test the effects of a larger minimum quoting increment for the Pilot Securities. The Commission preliminarily believes that changing the minimum quoting increment for Test Group One would generate data about the impact of changing the minimum quoting increment, and only the minimum quoting increment, for the Pilot Securities overall.

- Test Group Two. Pilot Securities in Test Group Two would be quoted in $0.05 minimum increments, and traded in $0.05 minimum increments subject to certain exceptions. The following exceptions from the $0.05 minimum trading increment would be permitted:
  1. Trading could occur at the mid-point between the national best bid or offer (“NBBO”); (2) retail investor orders could be priced with a price improvement that is at least $0.005 better than the NBBO (i.e., 10% of the $0.05 tick size); and (3) certain negotiated trades (i.e., trades with a performance target such as volume-weighted average price trades and time-weighted average price trades;\(^{57}\)) could continue to occur at any price increment that is permitted today.

The Commission preliminarily believes that changing the quoting increment alone may not be adequate to test the effects of larger tick size. The Commission preliminarily believes that if the minimum quoting increment is changed without corresponding changes to the minimum trading increment, market participants may be hesitant to display liquidity because of the ability to step ahead of wider quotes. Therefore, the Commission preliminarily believes that a test group should be established to examine this potential impact on displayed liquidity in conjunction with Test Group One.\(^{59}\)

The Commission also preliminarily believes that limited exceptions to the trading increment should be allowed so as not to prohibit certain categories of trades that are broadly beneficial to market participants today. First, negotiated trades such as volume-weighted average price trades or time-weighted average trades are used to execute a trading strategy over volume or time. By their definition, the price to be executed with these negotiated trades would not be at the NBBO or a $0.05 increment.\(^{60}\)

\(^{57}\) A qualified contingent trade is a transaction consisting of two or more component orders, executed as agent or principal, where: (1) at least one component order is in an NMS stock; (2) all components are effected with a product or price contingency that either has been agreed to by the respective counterparts or arranged for by a broker-dealer as principal or agent; (3) the execution of one component is contingent upon the execution of all other component orders or at near the same time; (4) the relationship between the component orders (e.g., the spread between the prices of the component orders) is determined at the time the contingent order is placed; (5) the component orders bear a derivative relationship to one another, represent different classes of shares of the same issuer, or involve the securities of participants in mergers or with intentions to merge that have been announced or since cancelled; (6) the transaction is fully hedged (without regard to any prior existing position) as a result of the other components of the contingent trade; and (7) the transaction that is part of a contingent trade involves at least 10,000 shares or has a market value of at least $200,000.\(^{58}\)

\(^{58}\) A pilot with Test Group Two alone cannot examine the issue of adding trading increments to wider quoting increments. Banning such executions would not only add to the complexity of evaluating the pilot’s results, but would effectively deprive retail and institutional investors of an opportunity to receive price improvement.”) to Elizabeth Murphy, Secretary, Commission; and Paul Jiganti, Managing Director, Market Structure and Client Advocacy, TD Ameritrade dated October 31, 2013 (“If there is going to be a tick size pilot program, we recommend that it is controlled, limited in scope and time, and one that does not compromise the benefits retail customers receive from Regulation NMS.”) to the Honorable Mary Jo White, Chair, Commission. But see letter from Joseph Saluzzi, Partner, Themis Trading LLC, dated November 20, 2013 (recommending that the trading increments under a pilot be limited to the highest price increment alone may not be adequate to test the effects of larger tick size. The Commission preliminarily believes that if the minimum quoting increment is changed without corresponding changes to the minimum trading increment, market participants may be hesitant to display liquidity because of the ability to step ahead of wider quotes. Therefore, the Commission preliminarily believes that a test group should be established to examine this potential impact on displayed liquidity in conjunction with Test Group One.\(^{59}\)

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\(^{60}\) The Commission staff has previously stated that, with respect to Rule 612 of Regulation NMS a performance target is not generally a price subject to Rule 612 as long as it is not used analogously to a limit price for quoting or displaying an order. However, if the performance target were an explicit price to be executed with these

addition, retail orders often receive price improvement to the benefit of retail investors.\(^{61}\) The Commission preliminarily believes that preserving retail investors’ ability to receive price improvement on their orders would limit a potential negative impact of the Pilot on costs for retail investors.\(^{62}\) The Commission preliminarily believes that changing the quoting increment and trading increment for Test Group Two could generate useful data on the effects of quoting and trading increments on the Pilot Securities.

- Test Group Three. Pilot Securities in Test Group Three would be subject to the same minimum quoting and trading increments (and exceptions thereto) as Test Group Two, but in addition would be subject to a “trade-at” requirement. Generally, a trade-at requirement is intended to prevent price matching by a trading center not displaying the NBBO. Under a trade-at requirement, a trading center that was not displaying the NBBO at the time it received an incoming marketable order could:
  1. Execute the order with significant price improvement (such as the minimum allowable $0.05 increment or the mid-point between the NBBO),\(^63\), and

\(^{63}\) For retail investor orders, trading centers would be required to provide the minimum price improvement of 10% of the $0.05 tick size as described under Test Group 2.
the order at the NBBO with significant size improvement if the size of the order was of block size64, or (3) route intermarket sweep orders65 to execute against the full displayed size of protected quotations at the NBBO and then execute the balance of the order at the NBBO price.

The Commission preliminarily believes that a trade-at requirement should be included in the Pilot.66 When quoting and trading increments are widened in the absence of a trade-at requirement, the Commission preliminarily believes there is a possibility trading volume could migrate away from “lit venues”—trading venues that provide public pre-trade transparency by displaying the best-priced quotations—to “dark venues” that do not provide such public pre-trade price transparency. The percentage of trading volume executed in dark venues has increased in recent years. In 2009, trading volume executed in dark venues was approximately 25 percent. Today, it is approximately 35 percent.67 The Commission believes that if trading volume in Test Group Two Pilot Securities moves to undisplayed trading centers, then including the trade-at requirement in Test Group Three could test whether trading remains on lit venues and what impact, if any, the migration of trading from lit venues to dark venues would have on liquidity and market quality for the Pilot Securities.

Therefore, the Commission preliminarily believes that the Pilot should test whether a trade-at requirement would stem the potential migration of trading volume away from these lit venues. The inclusion of a trade-at requirement would allow the Commission generate and analyze data on the impact of a trade-at requirement in conjunction with wider tick sizes. In particular, a comparison of Test Group Three to Test Group Two would provide insight into the incremental effects of a trade-at requirement.

- **SRO Data for the Tick Size Pilot.**
  - The Commission preliminarily believes that the following data should be collected and transmitted to the Commission and made available to the public in an agreed-upon format on the frequency noted below. The Commission intends to study such data to assess the impact of the changes made under the Pilot. The Commission believes that making the data available to the public, in an agreed-upon format would facilitate the public’s ability to assess the impact of the pilot.
  - **Identification of Pilot Securities.** On each day during the Pilot, the primary listing exchanges should make publicly available the list of stocks included in each Test Group, adjusting for ticker symbol changes and relevant corporate actions, as set forth in **Annex A.**
  - **Pilot Data.** The Commission preliminarily believes that the Participants should provide to the Commission the data set forth in **Annex B** or explain in the NMS Plan any data alternatives that would to the same extent facilitate the studies of the effects of tick size mentioned in this order. All data must be provided in an agreed-upon format, on a monthly basis and made publicly available. The data should be provided for dates starting six months prior to the Pilot period through six months after the end of the Pilot period. The Commission intends to study such data to assess the impact of the changes made under the Pilot.
  - **Assessments.** The Commission preliminarily believes that the Participants, either individually or jointly, should provide to the Commission and make publicly available their assessment of the impact of the Pilot no later than six months after the end of the Pilot Period, as follows:
    - **A.** Assess the statistical and economic impact of an increase in the quoting increment on market quality.
    - **B.** Assess the statistical and economic impact of an increase in the quoting increment on the number of market makers.68
    - **C.** Assess the statistical and economic impact of an increase in the quoting increment on market maker participation.
    - **D.** Assess the statistical and economic impact of an increase in the quoting increment on market maker profits.
    - **E.** Assess the statistical and economic impact of an increase in the quoting increment on market transparency.
    - **F.** Evaluate whether any thresholds can differentiate the results of the above assessments across stocks (e.g., whether stocks above the threshold have negative effects while stocks below the threshold have positive effects).
    - **G.** Assess the statistical and economic impact of the above assessments for the incremental impact of a trading increment and for the joint effect of an increase in a quoting increment with the addition of a trading increment.
    - **H.** Assess the statistical and economic impact of the above assessments for the incremental impact of a trade-at rule and for the joint effect of an increase in a quoting increment with the addition of a trading increment and a trade-at rule.

**I.** Assess any other economic issues that the Participants believe the Commission should consider in any rulemaking that may follow the Pilot.

*It is hereby ordered,* pursuant to Section 11A(a)(3)(B) of the Act,69 that the Participants act jointly in developing and filing with the Commission, as an NMS plan pursuant to Rule 608(a) of Regulation NMS,70 a Tick Size Pilot Plan, as described above.

The Participants are ordered to file with the Commission such Tick Size Pilot Plan no later than August 25, 2014.

By the Commission.

Kevin M. O’Neill,
Deputy Secretary.

**Annex A**

These datasets can include additional fields as agreed upon by the Participants.

1. A dataset identifying pilot stocks containing the following fields in a pipe delimited format with the field names as the first record. The SROs should use consistent file name formats.
   - (a) Ticker Symbol
   - (b) Security Name
   - (c) Listing Exchange
   - (d) Date
   - (e) Tick Size Pilot Group—character value of

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64 Block size refers to an order that is (1) at least 10,000 shares or (2) for a quantity of stock having a market value of at least $200,000. See Rule 600(b)(9) of Regulation NMS, 17 CFR 242.600(b)(9).
65 Intermarket sweep orders are exceptions provided in 8(b)(9) and (6) of Regulation NMS that enable an order router to sweep one or more price levels simultaneously at multiple trading centers without violating trade-through restrictions. As defined in Rule 600(b)(9) of Regulation NMS, intermarket sweep orders must be routed to execute against the full displayed size of any protected quotation that otherwise would be traded through by the orders. See also Responses to Frequently Asked Questions Concerning Rule 611 and Rule 610 of Regulation NMS.
68 The term “market makers” includes all registered market makers and other registered liquidity providers.
70 17 CFR 242.608(a).
(1) “C” for stocks in the Control
Group
(2) “C1” for stocks in Test Group One
(3) “C2” for stocks in Test Group Two
(4) “C3” for stocks in Test Group Three

2. A dataset that identifies changes in the
pilot ticker symbols on that day
containing the following fields and in a
pipe delimited format with field names
as the first record. The SROs should use
consistent file name formats.
(a) Ticker Symbol
(b) Security Name
(c) Listing Exchange
(d) Effective Date
(e) Deleted Date
(f) Tick Size Pilot Group—character
value of
(1) “C” for stocks in the Control
Group
(2) “C1” for stocks in Test Group One
(3) “C2” for stocks in Test Group Two
(4) “C3” for stocks in Test Group Three
(g) Old Ticker Symbol(s)
(f) Reason for the change—character
value agreed upon by SROs

Annex B

These datasets can include additional
fields as agreed upon by the SROs. The
data need only include stocks meeting
the thresholds for inclusion in one of
the three Test Groups and the Control
Group as of the date of selection.
A dataset of daily market quality
statistics of orders by security, order
type, original order size (as observed by
SRO), hidden status, and coverage
under Rule 605 in a pipe delimited
format with field names as the first
record:
1. Minimum Fields: Same as Rule 605
fields, except as modified below, and, as
defined below, Rule 605 Coverage,
Hidden Status, Original Percentage
Hidden, and Final Percentage Hidden.
2. The SRO should include only
orders executed on their exchanges (or
OTC in the case of FINRA).
3. The order size should be the
original order size as observed by the
SRO.
4. Modified order size categories
(slightly different than Rule 605): Less
than 100, 100 to 499 shares, 500 to 1999
shares, 2000 to 4999 shares, 5000 to
9999 shares, and 10000 or greater
shares.
5. Modified execution speed
categories include: Orders executed
from 0 to <100 microseconds, 100
microseconds to <100 milliseconds, 100
milliseconds to <1 second, 1 second to
<30 seconds, 30 seconds to <60 seconds,
60 seconds to <5 minutes, 5 minutes to
30 minutes.

6. Hidden status should include
orders for which the instructions
indicate that the order is not displayable
in part or full.
(a) Hidden status is a character
variable with the values “entirely
displayable,” “partially displayable,”
and “not displayable” or other values as
agreed upon by the SROs.
(b) Original Percentage Hidden is the
percentage of shares not displayable as
of order receipt, regardless of its
placement relative to the quotes. For
example, a buy order for 5000 shares
with an instruction to not display 4000
shares would be 80% hidden regardless
of whether it is greater than or less than
the bid price.
(c) Final Percentage Hidden is the
percentage of shares not displayed prior
to final order execution or cancellations.
For example, suppose a buy order for
5000 shares with an instruction to
display not more than 1000 shares at a
time. After the first 1000 shares execute
a second 1000 is displayed. If the order
is cancelled before any more executions,
the final percentage hidden is 60%.
7. Orders to include: Market orders,
marketable limit orders, inside-the-
quote limit orders, at-the-quote limit
orders, near-the-quote limit orders, and
intermarket sweep orders (ISOs),
including those not covered by Rule
605.
8. Rule 605 coverage: Indicate
whether the order is covered in Rule
605 (“Yes”) or reason for not covered
(character variable with the consistent
values across SROs such as “opening”,
“closing”, “stop price”, “full size”,
“short sale”, “other tick/bid sensitive”,
“not held”, “special settlement”, “non-
market”, “order size >10,000”, or other
values as agreed upon by SROs).
A dataset of daily number of
registered market makers by
security in a pipe delimited format with
field names as the first record:
1. Minimum fields: SRO, number of
registered market makers, number of
other registered liquidity suppliers.
A dataset of daily market maker
participation and trading profits of
orders by security in a pipe delimited
format with field names as the first record:
1. Minimum fields: SRO, total market
maker share participation, total market
maker trade participation, cross-quote
market maker share participation,
cross-quote market maker trade
participation, inside-the-quote market maker
share participation, inside-the-quote market
maker trade participation, at-the-quote
market maker share participation, at-
the-quote market maker trade participation,
outside-the-quote market maker share
participation, outside-the-quote market
maker trade participation, raw market maker
realized trading profits, market maker realized
trading profits net of fees and rebates, raw
market maker unrealized trading profits.
2. Participation fields:
(a) Share participation: The number of
shares purchased or sold by market
makers in a principal trade, not
including riskless principal. When
aggregating across market makers, this
should be a share-weighted average per
market maker.
(b) Trade participation: The number of
purchases and sales by market makers
in a principal trade, not
including riskless principal. When
aggregating across market makers, this
should be a trade-weighted average per
market maker.
(c) Cross-quote participation refers to
the market maker buying at or above
the national best offer or selling at or below
the national best bid at the time of the
trade.
(d) Inside-the-quote participation
refers to a trade price that is between
the national best bid and offer prices at
the time of the trade.
(e) At-the-quote (outside-the-quote)
participation refers to a buy price that is
equal to (less than) the national best
bid price at the time of or immediately
before the trade. In the case of
downward moving national best bid,
use the national best bid price immediately
before the trade. Otherwise, use the
national best bid price at the time of the
trade. For a sell price, use the same method
with the national best offer price.
3. Trading profit fields:
(a) Realized trading profits are the
difference between the market value of
market maker sales (shares sold × price)
and the market value of market maker
purchases (shares purchased × price).
Use a LIFO-like method for determining
which shares prices to use in the
calculation. When aggregating across
market makers, this should be a share-
weighted average per market maker.
(b) Realized trading profits net of fees
and rebates are the realized trading
profits plus rebates the market maker
collects from trading on that day minus
access fees the market maker pays for
trading on that day. If estimated before
allocations of rebates and fees, use
expected rebates and fees.
(c) Unrealized trading profits are the
difference between the purchase or sale
price of the end-of-day inventory
position of the market maker and the
official closing price. In the case of a

71 The term “market makers” includes all
registered market makers and other registered
liquidity providers.
short position, subtract the closing price from the sale price. In the case of a long position, subtract the purchase price from the closing price.

A dataset of market orders and marketable limit orders in a pipe delimited format with field names as the first record.

1. Minimum fields: Ticker symbol, date, order receipt time, order type, order size in shares, order side ("B", "S", or "SS"), order price (if marketable limit), NB quoted price, NB quoted depth in lots, receiving market offer for buy or bid for sell, receiving market depth (offer for buy and bid for sell), indicator for quote leader, average execution price (share-weighted), executed shares, canceled shares, routed shares, routed average execution price (share-weighted), indicator for special handling instructions.

2. Quote variables:
   (a) NB quoted price is the national best offer for buys and the national best bid for sells.
   (b) NB quoted depth is the NBO depth for buys and NBB depth for sells.
   (c) The indicator for quote leader is 1 if the receiving market was the first market to post the NBB for a sell or NBO for a buy.

3. Average execution price is a share-weighted average that includes only executions on the receiving market. Routed average execution price is a share-weighted average that includes only shares routed away from the receiving market.

4. Routed shares refers to the number of shares in the order that were routed to another exchange or market.

5. The indicator for special handling instructions should identify orders that contain instructions that could result in delayed execution or an execution price other than the quote.

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SECURITIES AND EXCHANGE COMMISSION


Self-Regulatory Organizations; International Securities Exchange, LLC; Order Granting Approval of Proposed Rule Change, as Modified by Amendment No. 2, Regarding the Short-Term Option Series Program

June 24, 2014.

I. Introduction

On April 22, 2014, the International Securities Exchange, LLC (the “Exchange” or “ISE”) filed with the Securities and Exchange Commission (“Commission”), pursuant to Section 19(b)(1) of the Securities Exchange Act of 1934 (“Act”), and Rule 19b–4 thereunder, a proposed rule change to amend its rules governing the Short Term Option Series Program to introduce finer strike price intervals for standard expiration contracts in option classes that also have short term options listed on them (“related non-short term options”), and to remove obsolete rule text concerning the listing of new short term option series during the week of expiration. On May 1, 2014, the Exchange filed Amendment No. 2 to the proposal. The proposed rule change, as modified by Amendment No. 2, was published for comment in the Federal Register on May 12, 2014. The Commission received no comments on the proposal. This order approves the proposed rule change, as modified by Amendment No. 2.

II. Description of the Proposed Rule Change

On any Thursday or Friday that is a business day, the Exchange currently may list short term options that expire at the close of business on each of the next five Fridays that are business days and are not Fridays in which monthly or quarterly options expire. These short term options may be listed in strike price intervals of $0.50, $1, or $2.50. The Exchange may also list standard expiration contracts, which are listed in accordance with the regular monthly expiration cycle, in wider strike price intervals of $2.50, $5, or $10. During the week prior to expiration, only the Exchange is permitted to list related non-short term option contracts in the narrower strike price intervals available for short term option series. Since this exception to the standard strike price intervals is available only during the week prior to expiration, however, standard expiration contracts regularly trade at significantly wider intervals than their weekly counterparts. As a result, the Exchange proposes to amend Supplementary Material .02(e) to Rule 504 and Supplementary Material .01(e) to Rule 2009 to permit the listing of related non-short term options in the same strike price intervals as allowed for short term option series at any time during the month prior to expiration, which begins on the first trading day after the prior month’s expiration date, subject to the provisions of Rule 504(f).

In addition, the Exchange noted that it recently adopted rule text that states that, notwithstanding any language to the contrary, short term options may be added up to and including on the expiration date. Accordingly, the Exchange proposes to delete rule text that prohibits the opening of additional series listed pursuant to Supplementary Material .12 to Rule 504 and Supplementary Material .05 to Rule 2009 during the week of expiration. The Exchange also stated that is has analyzed its capacity, and represented that it and the Options Price Reporting Authority (“OPRA”) have the necessary systems capacity to handle any potential additional traffic associated with this proposed rule change.

In addition, the Exchange stated that it believes that its members will not have a capacity issue as a result of this proposal. Furthermore, the Exchange stated that it does not believe the proposed rule change will cause fragmentation of liquidity.

III. Discussion and Commission Findings

After careful review, the Commission finds that the proposed rule change is consistent with the requirements of the Act and the rules and regulations thereunder applicable to a national securities exchange. In particular, the Commission finds that the proposed rule change...