MEMORANDUM

November 20, 2013

To: File No. 4-657

From: Ilya Fradkin
Division of Trading and Markets

Re: Staff meeting with Two Sigma Securities, LLC

On November 18, 2013, staff from the Division of Trading and Markets (David Shillman, Associate Director; Gregg Bergman, Associate Director; Daniel Gray, Senior Special Counsel; Donna Chambers, Counsel to the Director; Carl Tugberk, Special Counsel; Steve Kuan, Special Counsel; Ilya Fradkin, Special Counsel; and Chalres Collver, Quantitative Analyst), and staff from the Division of Economic and Risk Analysis (Amy Edwards, Assistant Director, Hans Heidle, Economist) met with the following representatives of Two Sigma Securities, LLC:

- David Weisberger
- Edgar Ortega Barrales

During the meeting, the Two Sigma Securities, LLC representatives discussed, among other issues, their views regarding a potential implementation of a tick size pilot program.

TWO SIGMA SECURITIES, LLC

www.twosigmasecurities.com

Key Considerations in Constructing a Tick Size Pilot

November 18, 2013

Presentation to:

SEC Division of Trading and Markets

Presented by:

David Weisberger
Two Sigma Securities, LLC

Keystones for Building a Pilot

In April, TSS submitted a comment letter* that recommended designing a pilot based on three general principles:

- **Focus on the Right Issue** – The pilot should be tailored to promote liquidity in small company stocks in a manner that is least disruptive to the rest of the market.

- **Do No Harm** – There is a risk that transaction costs could increase if the pilot results in wider spreads or if it restricts opportunities for price improvement. Introducing major technology changes also raises issues of systems integrity. The pilot should be designed to minimize these risks.

- **Design the Pilot for Scientific Rigor –** Construct the pilot so as to yield reliable data and evaluate performance using an objective, data-driven approach with a clear methodology.

* Letter from David Weisberger, Executive Principal, TSS, to Elizabeth Murphy, Secretary, SEC (April 23, 2013), *available at* http://www.sec.gov/comments/4-657/4657-19.pdf.

Focus on the Right Issue

Widening the minimum quote increment for certain securities may enhance incentives for market participants to display more liquidity.

- Wider minimum quote increments for less liquid securities should make it relatively more expensive for traders to jump in front of existing bids or offers.
- With less risk of getting “pennied”, market participants may be encouraged to display more liquidity.
- Data suggest that there is a statistical relationship between the average spread measured in number of ticks and the liquidity of small-cap stocks.

Focus on the Right Issue

Recent proposals have gone beyond widening the tick size to suggest the need for a minimum trade increment. We believe this is unwarranted.

- A minimum trade increment is unlikely to incentivize off-exchange volume to move onto exchanges.
  - These proposal do not include a Trade-At restriction. A minimum trade increment, without more, would not stop internalizers from trading off exchange. It would, however, restrict internalizers' ability to offer price improvement.
  - Dark Pool volume is unlikely to be materially affected since passive dark liquidity typically tends to be pegged to the NBBO.
- A Trade-At restriction would be a bigger technological and regulatory change than contemplated by the JOBS Act, and deserves an in-depth analysis as part of a holistic review of market structure.

Do No Harm: Transaction Costs

The pilot should be based on statistical evidence, so that the predicted outcome is a narrowing of the observed spread and an increase in liquidity.

- We recommend setting conservative quote increments relative to observed average spread.
- Base a stock's eligibility for the pilot on the average observed spread, rather than the price of the stock. Consider the following examples:
  - A $1.20 stock with an average spread of 2 cents should not be a candidate for a minimum quote increment of 5 cents. That would likely increase transaction costs for investors.
  - A $40 stock with an average spread of 25 cents should be a candidate for a minimum quote increment of 5 cents.

Do No Harm: Price Improvement

Imposing minimum trade increments would restrict opportunities for price improvement and likely increase transaction costs, particularly for retail investors.

- Retail investors, in aggregate, receive significant benefits from price improvement. According to Rule 605 data for August 2013, retail investors in all reportable order sizes received average price improvement of 0.12 cent per share on over 14 billion shares.* That represents more than $15 million in price improvement.

- Permitting executions at prices between the minimum quote increment would ensure that retail and institutional investors can continue to receive price improvement.

* Source: VistaOne Solutions. The August 2013 figures are based on Rule 605 public data for all stocks, all reportable order sizes, and all marketable orders executed by Knight Capital Americas LLC; UBS Securities, LLC; Citadel Securities, LLC; Automated Trading Desk Financial Services, LLC; Two Sigma Securities, LLC; and G1X Execution Services, LLC.

Do No Harm: Technology Risk

A pilot widening the trade increment would require significant technology changes and increase operational risks.

- Market participants have code in their systems to support quote increments due to the requirements of Reg NMS.
- While current systems restrict printing trades in all stocks to a defined number of decimal places, a pilot that widens trading increments would introduce a new rule to handle stocks in the experimental group.
- We believe this would likely impact the following systems:
  - Matching engines of exchanges and ATSs;
  - Both TRF systems in order to validate that prints occur at the trading increment or have proper exception codes;
  - Broker-dealer execution and TRF printing software;
  - Broker-dealer validation and surveillance systems to ensure that prints occur at the trading increment or have proper exception codes; and
  - SRO surveillance systems to monitor compliance with the pilot's rules.

Design the Pilot for Scientific Rigor

The pilot should be designed to yield reliable data that can be evaluated under a clear methodology and with metrics of success determined in advance.

- Possible design parameters:
  - Determine pilot eligibility based on a time-weighted average of the observed spread over the previous quarter using CTA/UTP data.
  - To simplify the technology requirements, we would suggest (as others have) only three minimum quote increments: 1 cent, 5 cents and 10 cents.
  - We would suggest using an issue's percentage of market capitalization traded daily as a key metric.

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