

**EXHIBIT A**

PLAN TO IMPLEMENT A TICK SIZE PILOT PROGRAM  
SUBMITTED TO  
THE SECURITIES AND EXCHANGE COMMISSION  
PURSUANT TO  
RULE 608 OF REGULATION NMS  
UNDER THE  
SECURITIES EXCHANGE ACT OF 1934  
(As Modified by the Commission;  
additions are in underline and deletions are in [brackets])

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## **Preamble**

Pursuant to Section 11A(a)(3)(B) of the Exchange Act, which authorizes the SEC to require by order self-regulatory organizations to act jointly with respect to matters as to which they share authority in planning, developing, operating, or regulating a national market system, the SEC issued an order directing the Participants to submit a Tick Size Pilot Plan as a national market system plan pursuant to Rule 608(a)(3) of Regulation NMS under the Exchange Act. In response, the Participants submit this Plan to implement a Tick Size Pilot Program that will allow the Commission, market participants, and the public to study and assess the impact of increment conventions on the liquidity and trading of the common stocks of small capitalization companies. To do so, the Plan provides for the widening of quoting and trading increments for a group of Pilot Securities. As detailed herein, the Pilot Securities will be subdivided into three Test Groups and a Control Group, each with its own requirements and exceptions relating to quoting and trading increments to facilitate the referenced analysis.

I. Definitions

(A) "Average effective spread" has the meaning provided in Rule 600(b)(5) of Regulation NMS under the Exchange Act.

(B) "Average realized spread" has the meaning provided in Rule 600(b)(6) of Regulation NMS under the Exchange Act.

(C) "Benchmark trade" means the execution of an order at a price that was not based, directly or indirectly, on the quoted price of a Pilot Security at the time of execution and for which the material terms were not reasonably determinable at the time the commitment to execute the order was made.

(D) "Best protected bid" means the highest priced protected bid.

(E) "Best protected offer" means the lowest priced protected offer.

(F) "Block Size" means for purposes of this Tick Size Pilot Program, an order (1) of at least 5,000 shares or (2) for a quantity of stock having a market value of at least \$100,000 [has the meaning provided in Rule 600(b)(9) of Regulation NMS under the Exchange Act].

(G) "Brokered cross trade" means a trade that a broker-dealer that is a member of a Participant executes directly by matching simultaneous buy and sell orders for a Pilot Security.

(H) "Closing Price" means the closing auction price on the primary listing exchange, or if not available, then the last regular-way trade reported by the processor prior to 4:00 p.m. ET.

(I) "Designated Examining Authority" means, with respect to a member of two or more self-regulatory organizations, the self-regulatory organization responsible for (i) examining such member for compliance with the financial responsibility requirements

imposed by the Exchange Act, or by Commission or self-regulatory organization rules, (ii) receiving regulatory reports from such member, (iii) examining such member for compliance with, and enforcing compliance with, specified provisions of the Exchange Act, the rules and regulations thereunder, and self-regulatory organization rules, and (iv) carrying out any other specified regulatory functions with respect to such member.

(J) "Exchange Act" means the Securities Exchange Act of 1934, as amended.

(K) "Inside-the-quote limit order," "at-the-quote limit order," and "near-the-quote limit order" mean non-marketable buy orders that are ranked at a price, respectively, higher than, equal to, and lower by \$0.10 or less than the National Best Bid at the time of order receipt, and non-marketable sell orders that are ranked at a price, respectively, lower than, equal to, and higher by \$0.10 or less than the National Best Offer at the time of order receipt.

(L) "Market Maker" means a dealer registered with any self-regulatory organization, in accordance with the rules thereof, as (i) a market maker or (ii) a liquidity provider with an obligation to maintain continuous, two-sided trading interest.

(M) "Marketable limit order" means any buy order with a limit price equal to or greater than the National Best Offer at the time of order receipt, or any sell order with a limit price equal to or less than the National Best Bid at the time of order receipt. For price sliding, pegged, discretionary, or similar order types where the ranked price is different from the limit price, the ranked price will determine marketability.

(N) "Measurement Period" means the U.S. trading days during the three-calendar-month period ending at least 30 days prior to the effective date of the Pilot Period.

(O) "National Best Bid" and "National Best Offer" have the meanings provided in Rule 600(b)(42) of Regulation NMS under the Exchange Act.

(P) "Negotiated Trade" means (i) a Benchmark trade, including, but not limited to, a Volume-Weighted Average Price trade or a Time-Weighted Average Price trade, provided that, if such a trade is composed of two or more component trades, each component trade complies with the quoting and trading increment requirements of the Plan, or with an exception to such requirements, or (ii) a Pilot Qualified Contingent Trade.

(Q) "NMS common stock" means an NMS stock that is common stock of an operating company.

(R) "NMS stock" has the meaning provided in Rule 600(b)(47) of Regulation NMS under the Exchange Act.

(S) "Operating Committee" has the meaning provided in Section III(C) of the Plan.

(T) "Participant" means a party to the Plan.

(U) "Pilot Period" means the operative period of the Tick Size Pilot Program, lasting [one] two years from the date of implementation.

(V) "Pilot Qualified Contingent Trade" means 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 common stock; (2) all components are effected with a product or price contingency that either has been agreed to by the respective counterparties 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 components at or near the same time; (4) the specific 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 canceled; and (6) the transaction is fully hedged (without regard to any prior existing position) as a result of the other components of the contingent trade.

(W) "Pilot Securities" means those securities that satisfy the criteria established in Section V.

(X) "Plan" means the plan set forth in this instrument, as amended from time to time in accordance with its provisions.

(Y) "Processor" means the single plan processor responsible for the consolidation of information for an NMS stock pursuant to Rule 603(b) of Regulation NMS under the Exchange Act.

(Z) "Protected bid" and "protected offer" have the meanings provided in Rule 600(b)(57) of Regulation NMS under the Exchange Act.

(AA) "Protected quotation" has the meaning provided in Rule 600(b)(58) of Regulation NMS under the Exchange Act.

(BB) "Quotation" has the meaning provided in Rule 600(b)(62) of Regulation NMS under the Exchange Act.

(CC) "Regular Trading Hours" has the meaning provided in Rule 600(b)(64) of Regulation NMS under the Exchange Act. For purposes of the Plan, Regular Trading Hours can end earlier than 4:00p.m. ET in the case of an early scheduled close.

(DD) "Retail Investor Order" means an agency order or a riskless principal order originating from a natural person, provided that, prior to submission, no change is made to the terms of the order with respect to price or side of market and the order does not originate from a trading algorithm or any other computerized methodology. The Participant that is the Designated Examining Authority of a member of a Participant operating a trading center executing a Retail

Investor Order will require such trading center to sign an attestation that substantially all orders to be executed as Retail Investor Orders will qualify as such under the Plan.

(EE) "Retail liquidity providing order" means an order entered into a Participant-operated retail liquidity program to execute against Retail Investor Orders.

(FF) "SEC" means the United States Securities and Exchange Commission.

(GG) "SRO quotation feed" means any market data feed disseminated by a self-regulatory organization.

(HH) "Tick Size Pilot Program" means the program established by this Plan and by the corresponding rules of the Participants.

(II) "Time of order execution" means the time (to the second, or to such smaller increments as are available) that an order was executed at any venue.

(JJ) "Time of order receipt" means the time (to the second, or to such smaller increments as are available) that an order was received by a trading center for execution.

(KK) "Time-Weighted Average Price" means the price calculated as the average price of a security over a specified period of time.

(LL) "Trade-at" means the execution by a trading center of a sell order for a Pilot Security at the price of a protected bid or the execution of a buy order for a Pilot Security at the price of a protected offer during Regular Trading Hours.

(MM) "Trade-at Intermarket Sweep Order" means a limit order for a Pilot Security that meets the following requirements:

(1) When routed to a trading center, the limit order is identified as an Intermarket Sweep Order; and



(2) Simultaneously with the routing of the limit order identified as an Intermarket Sweep Order, one or more additional limit orders, as necessary, are routed to execute against the full displayed size of any protected bid, in the case of a limit order to sell, or the full displayed size of any protected offer, in the case of a limit order to buy, for the Pilot Security with a price that is equal to the limit price of the limit order identified as an Intermarket Sweep Order. These additional routed orders also must be marked as Intermarket Sweep Orders.

(NN) "Trading center" has the meaning provided in Rule 600(b)(78) of Regulation NMS under the Exchange Act.

(OO) "Volume-Weighted Average Price" means the price calculated by summing up the products of the number of single-counted shares traded and the respective share price, and dividing by the total number of single-counted shares traded.

## II. Parties

### (A) List of Parties

The parties to the Plan are as follows:

- (1) BATS Exchange, Inc.  
8050 Marshall Drive  
Lenexa, Kansas 66214
- (2) BATS Y-Exchange, Inc.  
8050 Marshall Drive  
Lenexa, Kansas 66214
- (3) Chicago Stock Exchange, Inc.  
440 South LaSalle Street  
Chicago, Illinois 60605
- (4) EDGA Exchange, Inc.  
545 Washington Boulevard  
Sixth Floor  
Jersey City, NJ 07310

- (5) EDGX Exchange, Inc.  
545 Washington Boulevard  
Sixth Floor  
Jersey City, NJ 07310
- (6) Financial Industry Regulatory Authority, Inc.  
1735 K Street, NW  
Washington, DC 20006
- (7) NASDAQ OMX BX, Inc.  
One Liberty Plaza  
New York, NY 10006
- (8) NASDAQ OMX PHLX LLC  
1900 Market Street  
Philadelphia, PA 19103
- (9) The Nasdaq Stock Market LLC  
1 Liberty Plaza  
165 Broadway  
New York, NY 10006
- (10) New York Stock Exchange LLC  
11 Wall Street  
New York, NY 10005
- (11) NYSE MKT LLC  
11 Wall Street  
New York, NY 10005
- (12) NYSE Area, Inc.  
11 Wall Street  
New York, NY 10005
- (B) Compliance Undertaking

By subscribing to and submitting the Plan for approval by the SEC, each Participant agrees to comply with, and to enforce compliance by its members, as applicable, with the provisions of the Plan as required by Rule 608(c) of Regulation NMS under the Exchange Act. To this end, each Participant will adopt rules requiring compliance by its members with

the provisions of the Plan, as applicable, and adopt such other rules as are needed for such compliance.

(C) New Participants

The Participants agree that any entity registered as a national securities exchange or national securities association under the Exchange Act may become a Participant by: (1) executing a copy of the Plan, as then in effect; (2) providing each then-current Participant with a copy of such executed Plan; and (3) effecting an amendment to the Plan as specified in Section III(B) of the Plan.

III. Amendments to Plan

(A) General Amendments

Except with respect to the addition of new Participants to the Plan, any proposed change in, addition to, or deletion from the Plan will be effected by means of a written amendment to the Plan that: (1) sets forth the change, addition, or deletion; (2) is executed on behalf of each Participant; and (3) is approved by the SEC pursuant to Rule 608 of Regulation NMS under the Exchange Act, or otherwise becomes effective under Rule 608 of Regulation NMS under the Exchange Act.

(B) New Participants

With respect to new Participants, an amendment to the Plan may be effected by the new national securities exchange or national securities association executing a copy of the Plan, as then in effect (with the only changes being the addition of the new Participant's name in Section II(A) of the Plan) and submitting such executed Plan to the SEC for approval. The amendment will be effective when it is approved by the SEC in accordance

with Rule 608 of Regulation NMS under the Exchange Act, or otherwise becomes effective pursuant to Rule 608 of Regulation NMS under the Exchange Act.

(C) Operating Committee

(1) Each Participant will select from its staff one individual to represent the Participant as a member of an Operating Committee, together with a substitute for such individual. The substitute may participate in deliberations of the Operating Committee and will be considered a voting member thereof only in the absence of the primary representative. Each Participant will have one vote on all matters considered by the Operating Committee. No later than the initial date of Plan operations, the Operating Committee will designate one member of the Operating Committee to act as the Chair of the Operating Committee.

(2) The Operating Committee will monitor the procedures established pursuant to this Plan and advise the Participants with respect to any deficiencies, problems, or recommendations as the Operating Committee may deem appropriate. The Operating Committee will establish specifications and procedures for the implementation and operation of the Plan that are consistent with the provisions of this Plan. With respect to matters in this paragraph, Operating Committee decisions must be approved by a simple majority vote.

(3) Any recommendation for an amendment to the Plan from the Operating Committee that receives an affirmative vote of at least two-thirds of the Participants, but is less than unanimous, will be submitted to the SEC as a request for an amendment to the Plan initiated by the Commission under Rule 608 of Regulation NMS.

#### IV. Policies and Procedures

Consistent with the compliance undertakings set out in Section II(B), all Participants and members of Participants will be required to establish, maintain, and enforce written

policies and procedures that are reasonably designed to comply with applicable quoting and trading requirements specified in Section VI for the Pilot Securities.

Each Participant, as applicable, will develop appropriate policies and procedures that provide for collecting and reporting to the SEC the data described in Appendix B. In addition, each Participant that is the Designated Examining Authority of a member of a Participant operating a trading center will require such member to develop appropriate policies and procedures for collecting and reporting the data described in Items I and II of Appendix B, as applicable, to the Designated Examining Authority. Each Participant that is the Designated Examining Authority of a member of a Participant operating a trading center will develop appropriate policies and procedures, as applicable, that provide for collecting and reporting such data to the SEC. The data collection and reporting obligations are described below in Section VII.

Each Participant that is the Designated Examining Authority of a Market Maker will require such Market Maker to develop policies and procedures for collecting the data set out in Appendix C and reporting it to the Designated Examining Authority. Each Participant that is the Designated Examining Authority of a Market Maker will develop appropriate policies and procedures that provide for collecting and reporting such data to the SEC on an aggregated basis. The Designated Examining Authority will also develop policies and procedures reasonably designed to ensure the confidentiality of the non-aggregated data it receives from Market Makers. The data collection and reporting obligations are described below in Section VII.

## V. Identification of Pilot Securities

### (A) Criteria for Selection of Pilot Securities

Pilot Securities will consist of those NMS common stocks that satisfy the following criteria:

- (1) A market capitalization of \$[5]3 billion or less on the last day of the Measurement Period, where market capitalization is calculated by multiplying the total number of shares outstanding on such day by the Closing Price of the security on such day;
- (2) A Closing Price of at least \$2.00 on the last day of the Measurement Period;
- (3) A Closing Price on every U.S. trading day during the Measurement Period that is not less than \$1.50;
- (4) A Consolidated Average Daily Volume ("CADV") during the Measurement Period of one million shares or less, where the CADV is calculated by adding the single-counted share volume of all reported transactions in the Pilot Security during the Measurement Period and dividing by the total number of U.S. trading days during the Measurement Period; and
- (5) A Measurement Period Volume-Weighted Average Price ("Measurement Period VWAP") of at least \$2.00, where the Measurement Period VWAP is determined by calculating the VWAP for each U.S. trading day during the Measurement Period, summing the daily VWAP across the Measurement Period, and dividing by the total number of U.S. trading days during the Measurement Period.

For purposes of the CADV and Measurement Period VWAP calculations described in Sections V(A)(4) and V(A)(5), U.S. trading days during the Measurement Period with early closes will be excluded. An NMS common stock that had its initial public offering within six months of the start of the Pilot Period will not be eligible to be a Pilot Security.

(B) Grouping of Pilot Securities

The Operating Committee will oversee the Pilot Security grouping process in accordance with the methodology and criteria set out in this subsection. Once the population of Pilot Securities has been determined based on the criteria in Section V(A), the Operating Committee will select the Pilot Securities to be placed into three Test Groups by means of a stratified random sampling process. To effect this sampling, each of the Pilot Securities will be categorized as having (1) a low, medium, or high share price based on the Measurement Period VWAP, (2) low, medium, or high market capitalization based on the last day of the Measurement Period, and (3) low, medium, or high trading volume based on the CADV during the Measurement Period, yielding 27 possible categories. Low, medium, and high subcategories will be established by dividing the categories into three parts, each containing a third of the population.

Pilot Securities will be randomly selected from each of the 27 categories for inclusion into the Test Groups. If, however, a single category of Pilot Securities contains fewer than 10 securities, it will be combined with another of the 27 categories that contains at least 10 securities. If two or more categories of Pilot Securities contain fewer than 10 securities, those categories will be combined, provided the combined category contains at least 10 securities. If the combined category contains fewer than 10 securities, then the category will be combined with another of the 27 categories that contains at least 10 securities.

Pilot Securities will be randomly selected from each category for inclusion in the three Test Groups based on the percentage of Pilot Securities comprised of that category. As a result, each category will be represented in the three Test Groups based on its relative proportion to the population of Pilot Securities. Further, a primary listing market's securities will be selected from each category and included in the three Test Groups in the same

proportion as that primary listing market's securities comprise each category of Pilot Securities. Each Test Group will consist of 400 Pilot Securities. Those Pilot Securities not placed into the three Test Groups will constitute the Control Group.

(C) Publication of Pilot Securities and Groups

Each primary listing exchange will make publicly available for free on its website a list of those Pilot Securities listed on that exchange and included in the Control Group and each Test Group, adjusting for ticker symbol changes and relevant corporate actions. The list of Pilot Securities will contain the data specified in Appendix A.

VI. Pilot Test Groups

As described in Section V(B), the Pilot Securities will be divided into four groups: a Control Group and three Test Groups. Each Test Group will consist of 400 Pilot Securities. The Control Group will consist of the Pilot Securities not placed into a Test Group.

(A) Control Group

Pilot Securities in the Control Group may be quoted and traded at any price increment that is currently permitted.

(B) Test Group One

Pilot Securities in Test Group One will be quoted in \$0.05 minimum increments, but may continue to trade at any price increment that is currently permitted. Participants will adopt rules prohibiting Participants or any member of a Participant from displaying, ranking, or accepting from any person any displayable or non-displayable bids or offers, orders, or indications of interest in any Pilot Security in Test Group One in price increments other than \$0.05. However, orders priced to execute at the midpoint and orders entered in a Participant-



operated retail liquidity program may be ranked and accepted in increments of less than \$0.05.

(C) Test Group Two

Pilot Securities in Test Group Two will be subject to the same quoting requirements as Test Group One, along with the applicable quoting exceptions. In addition, Pilot Securities in Test Group Two may only be traded in \$0.05 minimum increments. Participants will adopt rules prohibiting trading centers operated by Participants and members of Participants from executing orders in any Pilot Security in Test Group Two in price increments other than \$0.05. The \$0.05 minimum trading increment applies to brokered cross trades. Pilot Securities in Test Group Two may trade in increments less than \$0.05, however, under the following circumstances:

(1) Trading may occur at the midpoint between the National Best Bid and the National Best Offer or the midpoint between the best protected bid and the best protected offer;

(2) Retail Investor Orders may be provided with price improvement that is at least \$0.005 better than the best protected bid or the best protected offer; and

(3) Negotiated Trades may trade in increments less than \$0.05.

(D) Test Group Three

Pilot Securities in Test Group Three will be subject to the same quoting and trading requirements as Test Group Two, along with the applicable quoting and trading exceptions. In addition, Pilot Securities in Test Group Three will be subject to a trade-at prohibition.

Trade-at Prohibition. Under the trade-at prohibition, the Plan will (1) prevent a trading center that was not quoting from price-matching protected quotations and (2) permit a

trading center that was quoting at a protected quotation to execute orders at that level, but only up to the amount of its displayed size.

In accordance with the trade-at prohibition, Participants will adopt rules prohibiting trading centers operated by Participants and members of Participants from executing a sell order for a Pilot Security at the price of a protected bid or from executing a buy order for a Pilot Security at the price of a protected offer unless such executions fall within an exception set forth below.

Trade-at Prohibition Exceptions. Trading centers will be permitted to execute an order for a Pilot Security at a price equal to a protected bid or protected offer under the following circumstances:

- (1) The order is executed by a trading center that is displaying a quotation, via either a processor or an SRO quotation feed, at a price equal to the traded-at protected quotation but only up to the trading center's full displayed size [. Where the quotation is displayed through a national securities exchange, the execution at the size of the order must occur against the displayed size on that national securities exchange. Where the quotation is displayed through the Alternative Display Facility or another facility approved by the Commission that does not provide execution functionality, the execution at the size of the order must occur against the displayed size in accordance with the rules of the Alternative Display Facility or such approved facility];
- (2) The order is of Block Size;
- (3) The order is a Retail Investor Order executed with at least \$0.005 price improvement;

(4) The order is executed when the trading center displaying the protected quotation that was traded at was experiencing a failure, material delay, or malfunction of its systems or equipment;

(5) The order is executed as part of a transaction that was not a "regular way" contract;

(6) The order is executed as part of a single-priced opening, reopening, or closing transaction by the trading center;

(7) The order is executed when a protected bid was priced higher than a protected offer in the Pilot Security;

(8) The order is identified as an Intermarket Sweep Order;

(9) The order is executed by a trading center that simultaneously routed Trade-at Intermarket Sweep Orders to execute against the full displayed size of the protected quotation that was traded at;

(10) The order is executed as part of a Negotiated Trade;

(11) The order is executed when the trading center displaying the protected quotation that was traded at had displayed, within one second prior to execution of the transaction that constituted the trade-at, a best bid or best offer, as applicable, for the Pilot Security with a price that was inferior to the price of the trade-at transaction.

(12) The order is executed by a trading center which, at the time of order receipt, the trading center had guaranteed an execution at no worse than a specified price (a "stopped order"), where:

a. The stopped order was for the account of a customer;

b. The customer agreed to the specified price on an order-by-order basis; and

c. The price of the trade-at transaction was, for a stopped buy order, equal to the national best bid in the Pilot Security at the time of execution or, for a stopped sell order, equal to the national best offer in the Pilot Security at the time of execution; or

(13) The order is for a fractional share of a Pilot Security, provided that such fractional share order was not the result of breaking an order for one or more whole shares of a Pilot Security into orders for fractional shares or was not otherwise effected to evade the requirements of the trade-at prohibition or any other provisions of the Plan.

The following examples illustrate the basic operation of the trade-at prohibition:

**Example 1**

The NBBO for Pilot Security ABC is \$20.00 x \$20.10. Trading Center 1 is displaying a 100-share protected bid at \$20.00. Trading Center 2 is displaying a 100-share protected bid at \$19.95. There are no other protected bids. Trading Center 3 is not displaying any shares in Pilot Security ABC but has 100 shares hidden at \$20.00 and has 100 shares hidden at \$19.95. Trading Center 3 receives an incoming order to sell for 400 shares. To execute the 100 shares hidden at \$20.00, Trading Center 3 must respect the protected bid on Trading Center 1 at \$20.00. Trading Center 3 must route a Trade-at Intermarket Sweep Order to Trading Center 1 to execute against the full displayed size of the protected bid, at which point Trading Center 3 is permitted to execute against the 100 shares hidden at \$20.00. To execute the 100 shares hidden at \$19.95, Trading Center 3 must respect the protected bid on Trading

Center 2 at \$19.95. Trading Center 3 must route a Trade-at Intermarket Sweep Order to Trading Center 2 to execute against the full displayed size of the protected bid, at which point Trading Center 3 is permitted to execute against the 100 shares hidden at \$19.95.

### **Example 2**

The NBBO for Pilot Security ABC is \$20.00 x \$20.10. Trading Center 1 is displaying a 100-share protected bid at \$20.00. Trading Center 2 is displaying a 100-share protected bid at \$20.00. Trading Center 2 also has 300 shares hidden at \$20.00 and has 300 shares hidden at \$19.95. Trading Center 3 is displaying a 100-share protected bid at \$19.95. There are no other protected bids. Trading Center 2 receives an incoming order to sell for 900 shares. Trading Center 2 may execute 100 shares against its full displayed size at the protected bid at \$20.00. To execute the 300 shares hidden at \$20.00, Trading Center 2 must respect the protected bid on Trading Center 1 at \$20.00. Trading Center 2 must route a Trade-at Intermarket Sweep Order to Trading Center 1 to execute against the full displayed size of Trading Center 1's protected bid, at which point Trading Center 2 is permitted to execute against the 300 shares hidden at \$20.00. To execute the 300 shares hidden at \$19.95, Trading Center 2 must respect the protected bid on Trading Center 3 at \$19.95. Trading Center 2 must route a Trade-at Intermarket Sweep Order to Trading Center 3 to execute against the full displayed size of Trading Center 3's protected bid, at which point Trading Center 2 is permitted to execute against the 300 shares hidden at \$19.95.

### **Example 3**

The NBBO for Pilot Security ABC is \$20.00 x \$20.10. Trading Center 1 is displaying a 100-share protected bid at \$20.00. Trading Center 1 is also displaying 300 shares at \$19.90 on an SRO quotation feed. Trading Center 2 is displaying a 100-share protected bid at

\$19.95. Trading Center 2 is also displaying 200 shares at \$19.90 on an SRO quotation feed and has 200 shares hidden at \$19.90. Trading Center 3 is displaying a 100-share protected bid at \$19.90. There are no other protected bids. Trading Center 2 receives an incoming order to sell for 700 shares. To execute against its protected bid at \$19.95, Trading Center 2 must comply with the trade-through restrictions in Rule 611 of Regulation NMS and route an intermarket sweep order to Trading Center 1 to execute against the full displayed size of Trading Center 1's protected bid at \$20.00. Trading Center 2 is then permitted to execute against its 100-share protected bid at \$19.95. Trading Center 2 may then execute 200 shares against its full displayed size at the price of Trading Center 3's protected bid. To execute the 200 shares hidden at \$19.90, Trading Center 2 must respect the protected bid on Trading Center 3 at \$19.90. Trading Center 2 must route a Trade-at Intermarket Sweep Order to Trading Center 3 to execute against the full displayed size of Trading Center 3's protected bid, at which point Trading Center 2 is permitted to execute against the 200 shares hidden at \$19.90. Trading Center 2 does not have to respect Trading Center 1's displayed size at \$19.90 for trade-at purposes because it is not a protected quotation.

## VII. Collection of Pilot Data

### (A) Collection of Trading Center Pilot Data

Throughout the Pilot Period, the Participants will collect the following data with respect to Pilot Securities (as set forth in Appendix B):

- (1) Daily market quality statistics of orders by security, order type, original order size (as observed by the trading center), hidden status (as applicable), and coverage under Rule 605 of Regulation NMS;
- (2) Specified data regarding market orders and marketable limit orders;

(3) Daily number of registered Market Makers; and

(4) Daily Market Maker participation statistics. Each Participant that is the Designated Examining Authority of a member of a Participant operating a trading center will require such member to collect and provide to the Designated Examining Authority the data described in subparagraphs (1) and (2) above, as applicable, subject to the terms and conditions in Appendix B. The Participants and each member of a Participant operating a trading center will also be required to collect such data for dates starting six months prior to the Pilot Period through six months after the end of the Pilot Period. Each Participant will make available to other Participants a list of members designated as Market Makers on that Participant's trading center.

On a monthly basis, the Participants and the Designated Examining Authority for each member of a Participant operating a trading center will make the data in the applicable subparagraphs specified above publicly available on their websites for free and will report such data to the SEC on a disaggregated basis by trading center. The data made publicly available will not identify the trading center that generated the data.

(B) Collection of Market Maker Profitability Data

Each Participant that is the Designated Examining Authority of a Market Maker will require such Market Maker to provide to the Designated Examining Authority the data specified in Appendix C regarding daily Market Maker trading profits with respect to Pilot Securities on a monthly basis. Each Market Maker will also be required to provide to its Designated Examining Authority such daily data for dates starting six months prior to the Pilot Period through six months after the end of the Pilot Period. On a monthly basis, the Designated Examining Authority will aggregate such data related to Market Makers

categorized by the Control Group and each Test Group and make the aggregated data publicly available on its website for free and will report such data to the SEC, provided, however, the data reported to the SEC shall include the profitability statistics categorized by security. The data made publicly available will not identify the Market Makers that generated the data or the individual securities.

#### VIII. Assessment of Pilot

No later than [six] eighteen months after the [end] start of the Pilot Period, the Participants will provide to the Commission and make publicly available a joint assessment of the impact of the Pilot. The assessment will be conducted using data generated during the first twelve months of the Pilot Period, or a subset of which that represents the impact of the Pilot.

The assessment will include:

(1) An assessment of the statistical and economic impact of an increase in the quoting increment on market quality;

(2) An assessment of the statistical and economic impact of an increase in the quoting increment on the number of Market Makers;

(3) An assessment of the statistical and economic impact of an increase in the quoting increment on Market Maker participation;

(4) An assessment of the statistical and economic impact of an increase in the quoting increment on Market Maker profits;

([4]5) An assessment of the statistical and economic impact of an increase in the quoting increment on market transparency;

([5]6) An evaluation whether any market capitalization, daily trading volume, or other thresholds can differentiate the results of the above assessments across stocks (e.g., does



the quoting increment impact differently those stocks with daily trading volume below a certain threshold);

([6]7) An assessment of 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;

([7]8) An assessment of the statistical and economic impact of the above assessments for the incremental impact of a trade-at prohibition and for the joint effect of an increase in a quoting increment with the addition of a trading increment and a trade-at prohibition; and

(8) An assessment of any other economic issues that the Participants believe the SEC should consider in any rulemaking that may follow the Pilot.

Participants may individually submit to the SEC and make publicly available additional supplemental assessments of the impact of the Pilot.

#### IX. Implementation

The Tick Size Pilot Program will be implemented on a [one]two-year pilot basis. The Tick Size Pilot Program will be applicable during and outside of Regular Trading Hours.

#### X. Withdrawal from Plan

If a Participant obtains SEC approval to withdraw from the Plan, such Participant may withdraw from the Plan at any time on not less than 30 days' prior written notice to each of the other Participants. At such time, the withdrawing Participant will have no further rights or obligations under the Plan.

## XI. Counterparts and Signatures

The Plan may be executed in any number of counterparts, no one of which need contain all signatures of all Participants, and as many of such counterparts as will together contain all such signatures will constitute one and the same instrument.

IN WITNESS THEREOF, this Plan has been executed as of the \_\_\_\_ day of \_\_\_\_ [2014] 2015

by each of the parties hereto.

BATS EXCHANGE, INC.

BATS Y-EXCHANGE, INC.

BY: \_\_\_\_\_

BY: \_\_\_\_\_

CHICAGO STOCK EXCHANGE, INC.

EDGA EXCHANGE, INC.

BY: \_\_\_\_\_

BY: \_\_\_\_\_

EDGX EXCHANGE, INC.

FINANCIAL INDUSTRY REGULATORY  
AUTHORITY, INC.

BY: \_\_\_\_\_

BY: \_\_\_\_\_

NASDAQ OMX BX, INC.

NASDAQ OMX PHLX LLC

BY: \_\_\_\_\_

BY: \_\_\_\_\_

THE NASDAQ STOCK MARKET LLC

NEW YORK STOCK EXCHANGE LLC

BY: \_\_\_\_\_

BY: \_\_\_\_\_

NYSE MKT LLC

NYSE ARCA, INC.

BY: \_\_\_\_\_

BY: \_\_\_\_\_

## **Appendix A – Publication of Pilot Securities**

The following data will be made publicly available in a pipe delimited format regarding the list of Pilot Securities included in the Control Group and each Test Group. Each primary listing exchange will be responsible for making publicly available for free on its website the following data with respect to the Pilot Securities listed on that exchange and included in the Control Group and each Test Group.

### **I. Identification of Pilot Securities**

- a. Ticker Symbol
- b. Security Name
- c. Listing Exchange
- d. Date
- e. Tick Size Pilot Program Group- character value of
  - i. "C" for Pilot Securities in the Control Group
  - ii. "G1" for Pilot Securities in Test Group One
  - iii. "G2" for Pilot Securities in Test Group Two
  - iv. "G3" for Pilot Securities in Test Group Three

### **II. Change in Pilot Securities' Ticker Symbols**

- a. Ticker Symbol
- b. Security Name
- c. Listing Exchange
- d. Effective Date
- e. Deleted Date
- f. Tick Size Pilot Program Group – character value of

- i. "C" for Pilot Securities in the Control Group
- ii. "G1" for Pilot Securities in Test Group One
- iii. "G2" for Pilot Securities in Test Group Two
- iv. "G3" for Pilot Securities in Test Group Three
- g. Old Ticker Symbol(s)
- h. Reason for the change

## **Appendix B – Data Collected by Participants and Trading Centers**

Each Participant, as applicable, will collect and transmit the data described in Items I-IV with respect to Pilot Securities to the SEC in a pipe delimited format on a monthly basis. In addition, each Participant that is the Designated Examining Authority of a member of a Participant operating a trading center will require such member, as applicable, to collect and transmit the data described in Items I and II with respect to Pilot Securities to the Designated Examining Authority in a pipe delimited format on a monthly basis. Each Designated Examining Authority will transmit the data on a disaggregated basis to the SEC, *i.e.*, by trading center. The data will be provided to the SEC within 30 calendar days following month end. All trading centers, including Participants, will report the data described in Items I.a(28) and I.b with respect to only those orders executed, in whole or part, on that trading center. All trading centers will report the remaining data described in Items I.a with respect to any order received by that trading center. The data described in Item I will only be collected for orders received during Regular Trading Hours. All trading centers, including Participants, will report the data described in Item II with respect to any market or marketable limit orders received by that trading center. The data described in Item II will be collected for orders received during and outside of Regular Trading Hours. Orders entered while a trading halt is in effect will be excluded from the data. The data will be provided for dates starting six months prior to the Pilot Period through six months after the end of the Pilot Period.

**I. Market Quality Statistics** - Daily market quality statistics categorized by security, order type, original order size, hidden status, and coverage under Rule 605, including the following columns of information:

a. For regular hours orders which are market orders (10), marketable limit orders (11), inside-the-quote resting limit orders (12), at-the-quote resting limit orders (13), near-the-quote resting limit orders (within .10 from the NBBO) (14), resting intermarket sweep orders (15), retail liquidity providing orders (16), and midpoint passive liquidity orders (17) executed on the trading center:

- (1) Exchange code or trading center identifier;
- (2) Ticker Symbol;
- (3) Order Type, as defined in the Plan or in I.a of this Appendix;
- (4) Original Order size with the following modified categories from Rule 605

reports:

- a. Less than 100 shares;
- b. 100 to 499 shares;
- c. 500 to 1999 shares;
- d. 2000 to 4999 shares;
- e. 5000 to 9999 shares; and
- f. 10000 or more shares;

- (5) Hidden Status Category- indicates whether the orders fall into the

following categories:

- a. Entirely Displayable;
- b. Partially Displayable; and
- c. Not Displayable;

- (6) Rule 605 Coverage- indicates whether the orders are covered in Rule 605

(Y/N);

- (7) The cumulative number of orders;
- (8) The cumulative number of shares of orders;
- (9) The cumulative number of shares of orders canceled;
- (10) The cumulative number of shares of orders executed on the receiving trading center;
- (11) The cumulative number of orders with special handling instructions (for example, slide, discretion, eligible counterparty, minimum quantity) excluded from price improvement and effective spread statistics;
- (12) The cumulative number of shares of orders with special handling instructions (for example slide, discretion, eligible counterparty, minimum quantity) excluded from price improvement and effective spread statistics;
- (13) The cumulative number of shares of orders executed at any other trading center;
- (14) The cumulative number of shares of orders executed from 0 to less than 100 microseconds after the time of order receipt;
- (15) The cumulative number of shares of orders executed from 100 microseconds to less than 100 milliseconds after the time of order receipt;
- (16) The cumulative number of shares of orders executed from 100 milliseconds to less than 1 second after the time of order receipt;
- (17) The cumulative number of shares of orders executed from 1 second to less than 30 seconds after the time of order receipt;
- (18) The cumulative number of shares of orders executed from 30 seconds to less than 60 seconds after the time of order receipt;



- (19) The cumulative number of shares of orders executed from 60 seconds to less than 5 minutes after the time of order receipt;
- (20) The cumulative number of shares of orders executed from 5 minutes to 30 minutes after the time of order receipt;
- (21) The cumulative number of shares of orders canceled from 0 to less than 100 microseconds after the time of order receipt;
- (22) The cumulative number of shares of orders canceled from 100 microseconds to less than 100 milliseconds after the time of order receipt;
- (23) The cumulative number of shares of orders canceled from 100 milliseconds to less than 1 second after the time of order receipt;
- (24) The cumulative number of shares of orders canceled from 1 second to less than 30 seconds after the time of order receipt;
- (25) The cumulative number of shares of orders canceled from 30 seconds to less than 60 seconds after the time of order receipt;
- (26) The cumulative number of shares of orders canceled from 60 seconds to less than 5 minutes after the time of order receipt;
- (27) The cumulative number of shares of orders canceled from 5 minutes to 30 minutes;
- (28) The share-weighted average realized spread for executions of orders;
- (29) Original Percentage Hidden - the received share-weighted average percentage of shares not displayable as of order receipt;
- (30) Final Percentage Hidden - the received share-weighted average percentage of shares not displayed prior to final order execution or cancellation;

(31) Quoted Size at the National Best Bid and National Best Offer -the share-weighted average of the consolidated quoted size at the inside price at the time of order execution;

(32) Share-weighted average NBBO Spread at the time of order execution; and

(33) Share-weighted average BBO Spread of reporting exchange at the time of order execution.

b. For market orders and marketable limit orders, except those noted as excluded:

(1) The share-weighted average effective spread for executions of orders;

(2) The cumulative number of shares of orders executed with price improvement;

(3) For shares executed with price improvement, the share-weighted average amount per share that prices were improved;

(4) For shares executed with price improvement, the share-weighted average period from the time of order receipt to the time of order execution;

(5) The cumulative number of shares of orders executed at the quote;

(6) For shares executed at the quote, the share-weighted average period from the time of order receipt to the time of order execution;

(7) The cumulative number of shares of orders executed outside the quote;

(8) For shares executed outside the quote, the share-weighted average amount per share that prices were outside the quote; and

(9) For shares executed outside the quote, the share-weighted average period from the time of order receipt to the time of order execution.

**II. Market and Marketable Limit Order Data** – The following columns of information with respect to Market Orders and non-booked portions of Marketable Limit Orders:

- a. Exchange code or trading center identifier;
- b. Ticker Symbol;
- c. Date;
- d. Time of order receipt;
- e. Order Type;
- f. Order Size in Shares;
- g. Order side- "B", "S" (including sell short exempt), "SS";
- h. Order price (if marketable limit);
- i. NBBO quoted price;
- j. NBBO quoted depth in lots;
- k. Receiving market offer for buy or bid for sell (as applicable);
- l. Receiving market depth (offer for buy and bid for sell) (as applicable);
- m. ISO flag (Y/N);
- n. Retail Investor Order flag (Y/N);
- o. Routable flag (Y/N);
- p. IOC (Y/N);
- q. Indicator for quote leader- "1" if the receiving market is the first market to post the NBB for a sell or NBO for a buy (as applicable);
- r. Average execution price-share-weighted average that includes only executions on the receiving market;

- s. Average execution time-share-weighted average period that includes only executions on the receiving market;
- t. Executed shares-the number of shares in the order that are executed;
- u. Canceled shares – the number of shares in the order that are canceled;
- v. Routed shares- the number of shares in the order that are routed to another exchange or market;
- w. Routed average execution price-share-weighted average that includes only shares routed away from the receiving market;
- x. Average routed execution time-share-weighted average period that includes only executions on the routed markets; and
- y. Indicator for special handling instructions (for example, slide, discretion, eligible counterparty, minimum quantity)-identifies orders that contain instructions that could result in delayed execution or an execution price other than the quote.

**III. Daily Market Maker Registration Statistics** - Each Participant that is a National Securities Exchange will collect daily Market Maker registration statistics categorized by security, including the following columns of information:

- a. Ticker Symbol;
- b. SRO;
- c. Number of registered market makers; and
- d. Number of other registered liquidity suppliers.

**IV. Daily Market Maker Participation Statistics**- Each Participant will collect daily Market Maker participation statistics with respect to each Market Maker engaging in trading activity on the trading center operated by the Participant. With respect to each Market Maker,

the Participant will collect such statistics irrespective of whether the Market Maker is registered with the Participant. The participation statistics will be categorized by security, including the columns of information listed below, except that a Participant that is a national securities association will not be required to collect such statistics unless a Market Maker registers with its Alternative Display Facility prior to or during the Pilot Period:

- a. Ticker Symbol;
- b. 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, share participation will be an executed share-weighted average per Market Maker;
- c. Trade participation – the number of purchases and sales by Market Makers in a principal trade, not including riskless principal. When aggregating across Market Makers, trade participation will be a trade-weighted average per Market Maker;
- d. Cross-quote share (trade) participation– the number of shares purchased (the number of purchases) at or above the NBO and the number of shares sold (the number of sales) at or below the NBB at the time of the trade;
- e. Inside-the-quote share (trade) participation-the number of shares purchased (the number of purchases) and the number of shares sold (the number of sales) between the NBBO at the time of the trade;
- f. At-the-quote share (trade) participation-the number of shares purchased (the number of purchases) that are equal to the National Best Bid price and the number of shares sold (the number of sales) that are equal to the National Best Offer price at the time of or immediately before the trade. In the case of a downward moving National Best Bid or Offer,

the National Best Bid or National Best Offer price immediately before the trade will be used;  
and

g. Outside-the-quote share (trade) participation-the number of shares purchased (the number of purchases) that are less than the National Best Bid price and the number of shares sold (the number of sales) that are greater than the National Best Offer price at the time of or immediately before the trade. In the case of a downward moving National Best Bid or Offer, the National Best Bid or National Best Offer price immediately before the trade will be used.

## **Appendix C – Data Collected by Market Makers**

Each Participant that is the Designated Examining Authority of a Market Maker will require such Market Maker to collect the data described in Item I with respect to orders and executions in Pilot Securities on any trading center and to transmit such data in a pipe delimited format to the Designated Examining Authority on a monthly basis, to be provided within 30 calendar days following month end. Data will only be collected with respect to those orders and executions occurring during Regular Trading Hours. The data will be provided for dates starting six months prior to the Pilot Period through six months after the end of the Pilot Period. Each Designated Examining Authority will be responsible for aggregating the data provided by the Market Makers under Item I and providing the data described in Item II in a pipe delimited format to the SEC.

**I. Market Maker Profitability-** Daily Market Maker profitability statistics categorized by security, including the following columns of information:

- a. Total number of shares of orders executed by the Market Maker;
- b. Raw Market Maker realized trading profits – the difference between the market value of Market Maker sales (shares sold x price) and the market value of Market Maker purchases (shares purchased x price). A LIFO-like method will be used for determining which share prices to use in the calculation; and
- c. [Market Maker realized trading profits net of fees and rebates -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 allocation of rebates and fees, use expected rebates and fees); and]

[d.] Raw Market Maker unrealized trading profits – the difference between the purchase or sale price of the end-of-day inventory position of the Market Maker and the Closing Price. In case of a short position, the Closing Price from the sale will be subtracted. In the case of a long position, the purchase price will be subtracted from the Closing Price.

**II. Aggregated Market Maker Profitability-** Total Daily Market Maker profitability statistics categorized by security as well as categorized by the Control Group and each Test Group, including the following columns of information:

a. Total Raw Market Maker realized trading profits-the difference between the market value of Market Maker sales (shares sold x price) and the market value of Market Maker purchases (shares purchased x price). A LIFO-like method will be used for determining which share prices to use in the calculation;

b. Volume-weighted average of Raw Market Maker realized trading profits;

[c. Total Market Maker realized trading profits net of fees and rebates-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 allocation of rebates and fees, use expected rebates and fees);

d. Volume-weighted average of Market Maker realized trading profits net of fees and rebates;]

c.[e.] Total Raw Market Maker unrealized trading profits-the difference between the purchase or sale price of the end-of-day inventory position of the Market Maker and the Closing Price. In case of a short position, the Closing Price from the sale will be subtracted. In the case of a long position, the purchase price will be subtracted from the Closing Price; and



d.[f.] Volume-weighted average of Market Maker unrealized trading profits.