Tick Size Pilot Program
Appendix B and C Statistics
Frequently Asked Questions

The Tick Size Pilot Plan ("Plan") was approved by the Securities and Exchange Commission (SEC) on May 6, 2015. The data collection requirements under Appendix B and C of the Plan became effective April 4, 2016. This FAQ document "Appendix B and C Statistics" is intended to assist Plan Participants as they implement the production of Plan mandated statistics as required pursuant to Appendix B and C of the Plan. This document is also intended to provide the public and the industry with information on the calculation methods used by the Plan Participants.

It should be noted that these FAQs reflect data collection, aggregation, and reporting obligations for the Plan as contained in the Plan and the SRO data collection rules as approved by the SEC. Other documents related to the Plan can be viewed on the FINRA website available here.

The Plan Participants, after careful consideration and consultation with industry participants, have determined that the most efficient and cost effective way to comply with the data collection requirements of Appendix B and C of the Plan is for each Plan Participant to supplement data in its possession with data provided to the DEA of each Participant's members. The Participants will then compile the statistics required under Appendixes B and C for submission to the SEC and publication on the Plan Participants' websites as applicable.

These FAQs include the following sections:

Section 1: Defined Terms
Section 2: General Questions
Section 3: Orders Covered by Appendix B.I Market Quality Statistics
Section 4: Statistics Captured by Appendix B.I Market Quality Statistics
Section 5: Orders Covered by Appendix B.II Market and Marketable Limit Order Data
Section 6: Statistics Captured by Appendix B.II Market and Marketable Limit Order Data
Section 7: Appendix B.I and B.II Time of Receipt and Time of Execution
Section 8: Appendix B.I and B.II Determining Marketability
Section 9: Appendix B.III Daily Market Maker Registration Statistics
Section 10: Appendix B.IV Daily Market Maker Participation Statistics
Section 11: Timestamp Granularity
Section 12: NBBO Calculations
Section 13: Appendix C Market Maker Profitability

Section 1: Defined Terms

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. "Inside-the-quote limit order," "at-the-quote limit order," and "near-the-quote limit order" have the meanings provided in Rule 600(b)(29) of Regulation NMS under the Exchange Act. To summarize, the terms 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.

D. "Market Maker" means a dealer registered with any self-regulatory organization (SRO), 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.

E. "Marketable limit order" has the meaning provided in Rule 600(b)(39) of Regulation NMS under the Exchange Act. To summarize, the term 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.

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

G. "Share-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 sum of the single-counted shares traded. For example, in calculating the share-weighted average execution price for the Average Execution Price item in B.II.r assume an SRO has 3 trades in a security on its market trading 1000 shares at $10.00, 2000 at $11.00, and 3000 at $12.00. What is the reported value? 11.33= (1000*10.00 + 2000*11.00 + 3000*12.00)/ (1000+2000+3000).

H. "Share-Weighted Average" means that the quantity of each item being averaged is first multiplied by the number of single-counted shares traded associated with that quantity.   The resulting products are then summed. The resulting sum is then divided by the sum of the single-counted shares used in the initial multiplication.

I. "Volume-Weighted Average Price" is equivalent to "Share-Weighted Average Price" in these definitions.

J.   "Participant" means a party to the Plan.

K.   A "not held" order or "worked" order refers to an unpriced order or limit order in which the customer does not desire to transact automatically at the inside market (market held) but instead has voluntarily given the broker-dealer time and price discretion in transacting on a best-efforts basis.

Section 2: General Questions

Q2.1:   Will the statistics produced under the Plan duplicate those produced in accordance with Rule 605 or other rules under Regulation NMS?

A2.1:   No. The Plan requires more market data be captured, aggregated, and reported than is currently required under Rule 605 and other rules under Regulation NMS. The methodology for calculating statistics under the Plan also differs from that of Rule 605.

Q2.2:   Will the Plan Participants be providing a document that describes field by field the statistics to be made publicly available pursuant to the Plan?

A2.2:   Yes, the Participants have published a Requirements Document for the Appendix B and C statistics that describes field by field the statistics captured in Appendix B and C. This document is available on each Participant's website.

Q2.3:   How will statistics described in the Requirements Document be calculated?

A2.3:   The Requirements Document contains references to specific FAQs describing how certain statistics are to be calculated. Where references are not provided, the calculations will follow the methodology used for Rule 605 data.

Q2.4:   Are the Appendix B.I and B.II statistics designed to avoid double counting of certain statistics when an order is routed between Trading Centers?

A2.4:   Yes. Certain statistics are only reported by the Trading Center where the order was executed so that the same execution is never included in these certain statistics for more than one Trading Center. For example, Trading Center A receives an order and routes the order to Trading Center B where it is executed. In this scenario, both Trading Center A and Trading Center B report the receipt of the order. With respect to certain statistics, however, specifically Items B.I.a.28, B.I.b, B.II.r. and B.II.s, only Trading Center B will report these statistics. Further, other statistics may reflect activity on more than one Trading Center. For example, Items B.I.a(8) and B.I.a.(14) through B.I.a(20) are reported by both Trading Center A and Trading Center B.

The Appendix B and C Reporting Requirements reflect the specific statistics that are calculated only for shares executed on a specific Trading Center and the statistics that are calculated for shares that are executed away from a Trading Center.

Q2.5:   What is the ticker format used in the statistics?

A2.5:   The reported statistics will use the same ticker format as used by the CT/CQ and UTP Processors.

Q2.6:   Will the underlying data be used by regulators to identify violations or lead to/assist in enforcement actions, or is the data only being collected for data analysis purposes?

A2.6:   Underlying data will be used in a manner consistent with Participants' regulatory obligations.

A2.7:   Will updated reports be published in the event of corrections of materially erroneous data?

Q2.7:   It is not anticipated that materially erroneous data will be included in reports. But if such a situation does occur, reports may be updated and reposted. The updated reports will include a revision number and revision date in order to identify the report as a correction. The original reports will also be renamed to indicate that a subsequent update exists.

Section 3: Orders Covered by Appendix B.I.: Market Quality Statistics

Q3.1:   Which orders are included in the B.I Market Quality Statistics?

A3.1:   All orders received by a Trading Center for further handling and execution are included in the B.I. Market Quality Statistics. Orders are categorized by Order Type as follows:

Order Type	Description
10	Market Orders
11	Marketable Limit Orders
12	Inside-the-quote Limit Orders
13	At-the-quote Limit Order
14	Near-the-quote Limit Order (within .10 from the NBBO)
15	Resting Intermarket Sweep Orders
16	Exchange Program Retail Liquidity Providing Orders
17	Midpoint Passive Liquidity Orders
18	Not Held Orders (Broker has discretion as to price and time)
19	Clean Cross Orders (includes QCT)
20	Auction Orders
21	Orders that became effective when an invalid NBBO was in effect
22	Orders priced more than .10 from the NBBO

Q3.2:   Have additional order type codes under Appendix B.I been created since the approval of the Plan?

A3.2:   Yes, the following additional order type codes have been added as a result of the SROs' data collection rule filings and will be reported under Appendix B.I:

- Order type code type 18 for Not-Held orders
- Order type code 19 for Clean Cross orders categorized by Reg NMS exempt and non-Reg NMS exempt
- Order type code 20 for Auction orders
- Order type code 21 for orders that became effective when an invalid NBBO was in effect.

In addition, the Participants intend to submit a rule filing to add Order Type 22 for orders priced more than .10 from the NBBO.

Q3.3:   What is the hierarchy for assigning order type categories?

A3.3:   Orders that meet the definition of Order Type Code 16, 17, 18, 19 or 20 are categorized as such without regard to marketability or condition of the NBBO at order effective time. Please see Section 7 of this FAQ document for the definition of order effective time.

If an order does not meet the definition of Order Type Code 16, 17, 18, 19 or 20, then the order is categorized based on the following hierarchy. See FAQ 12.5 for how to determine a Valid NBBO
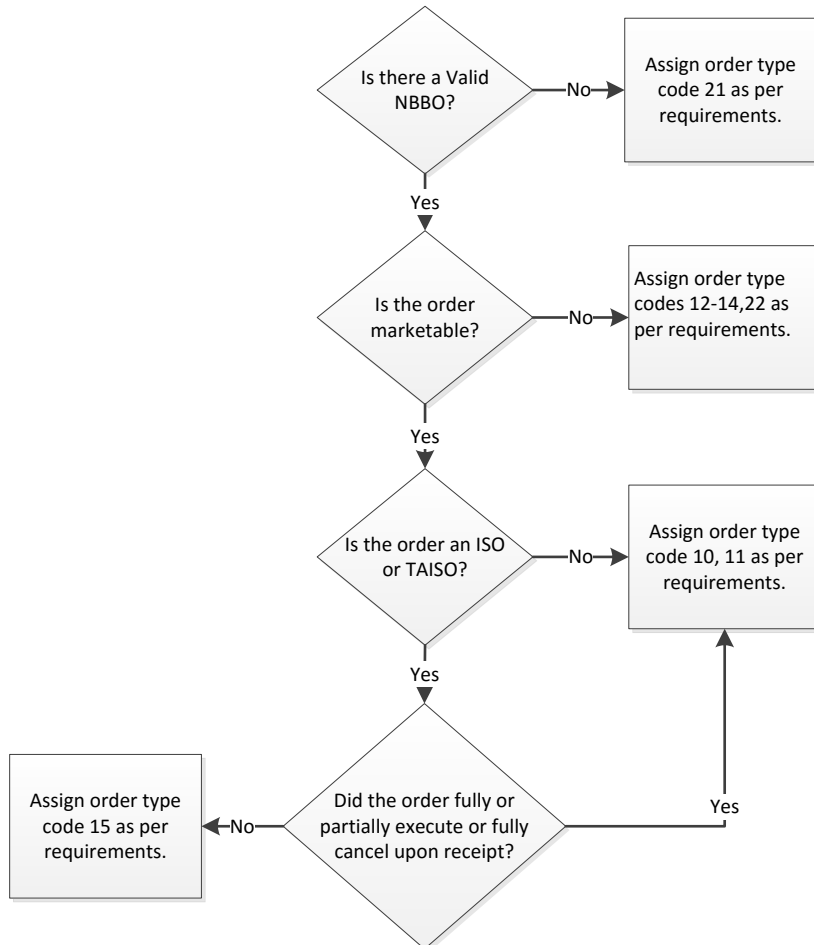
Q3.4:   Are orders that are cancelled in full reportable under the Plan?

A3.4:   Yes. Orders received by a Trading Center that are cancelled in full before receiving an execution must be included.

Q3.5:   Is an order that is cancelled before it becomes effective reportable under the Plan?

A3.5:   No. Fully cancelled orders are reportable by the Trading Center as received and cancelled only if the order becomes effective before being cancelled. An example of an order which does not become effective before being cancelled would be an opening auction order cancelled before the opening auction occurs.

Q3.6:   Are unexecuted shares/orders held by a Trading Center at the end of the Regular Hours considered cancelled?

A3.6:   Orders with Time in Force ("TIF") of Day should be considered canceled if held by the Trading Center at the end of Regular Hours. Orders with GTC instructions should not be considered cancelled at the end of Regular Hours. <u>See</u> FAQs 7.2 and 7.3. GTD or GTM orders should be considered cancelled at the end of Regular Hours on the day that they expire.

Q3.7:   A Trading Center receives an order that is reportable under Appendix B.I. In handling the order, the Trading Center repeatedly enters, cancels, and re-enters "child" orders. Are each of the "child" orders reportable by the receiving Trading Center?

A3.7:   No. Only the original order is reportable by the receiving Trading Center. Additional child orders that the receiving Trading Center creates to work the original order and enters into either its own order book, such as in the case of an exchange or ATS, or routes away to other Trading Centers are not considered orders received by the Trading Center and are therefore not reportable by the Trading Center. Other Trading Centers to which the child orders were routed would be required to report receipt of those orders.

Q3.8:   Is a cancel/replace order considered a new order?

A3.8:   Yes. A cancel/replace should be treated as a new order and included in the applicable Order Type Code based on the cancel/replace time and instructions of the order replacement.

Q3.9:   Are orders received during regulatory trading halts, including Limit Up Limit Down trading pauses, included?

A3.9:   Yes. Orders received during regulatory trading halts, including Limit Up Limit Down trading pauses are included under the Plan.

Q3.10: Are short sale orders covered?

A3.10: Yes, orders marked short or short exempt are included under the Plan.

Q3.11: Are Market Maker quotes reportable?

A3.11: Yes, Market Maker quotes are included under the Plan.

Q3.12: Are Market Maker pegged orders managed by an exchange reportable?

A3.12: Yes, Market Maker pegged orders managed by an exchange are included under the Plan.

Q3.13: Are orders that are executable conditional on counterparty status or other non-price, non-time terms covered orders?

A3.13: Yes. The Plan does not distinguish between orders whose execution is conditional on counterparty status and other orders. Orders whose execution is conditional on counterparty status are included under the Plan.

Q3.14: If an order is rejected by a Trading Center should it be included in the Appendix B.I statistics?

A3.14: No. Rejected orders are not included, regardless of the reason the order was rejected by the Trading Center.

Q3.15: Are requests to cancel trades under Participants' clearly erroneous rules a covered order type in the special handling category?

A3.15: No, a request to cancel trades under clearly erroneous rules is not an order so it is not included under the Plan.

Q3.16: Are trades which are canceled under a Participants' clearly erroneous rules excluded from the data requirements of Appendix B or C?

A3.16: A trade canceled pursuant to a Participant's clearly erroneous rules is not a valid execution at the Trading Center and should not be included under the Plan.

Q3.17: Are indications of interest reportable under the Plan?

A3.17: No. Indications of interest and other message types that do not represent a firm commitment to trade without a subsequent order message are not included under the Plan.

Q3.18: Is direct market access or sponsored access provided by a Trading Center included in the scope of Appendix B.I?

A3.18: No. Direct market access and sponsored access orders reported to FINRA by a Trading Center under the same MPID the Trading Center uses for orders it executes will be excluded from that Trading Center's statistics.

Q3.19: Are orders that are open for greater than one trading day included in the Appendix B.I statistics?

A3.19: Yes. Statistics related to orders that are open across multiple days will be included on the date of order receipt. However, only executions and cancellations that occur within five trading days of order receipt will be included in the statistics.

Q3.20: Should an order which executes in a closing, opening, re-opening, or midday auction be included in Order Type Code 20?

A3.20: An order that is not specifically held in an inactive state for an auction and is eligible to trade in regular, continuous trading, but executes in an auction (e.g., a limit order on an exchange's order book received prior to the closing auction not specifically designated for the closing auction but which ultimately executes in the closing auction) should be included in the order

type category relevant at order effective time (e.g., Order Type Code 14 Near-the-quote Limit Order, etc.) and not in Order Type Code 20. However, orders that are not specifically designated for an auction but were only eligible to trade at the time of an auction, such as IOC orders that were only live during an auction or other orders that were only effective at the time of an auction ("defacto auction orders") should be included in Category 20.

Only an order that is specifically designated for an opening, midday, or closing auction and that cannot trade in regular, continuous trading should be included in Order Type Code 20.

It should be noted that because orders that are not specifically designated for an auction may execute in full or in part in an auction, the share quantity included in an exchange's Order Type Code 20 may be less than the number of shares reported by the exchange for auctions (outside of the Appendix B.I statistics) on a particular trading day.

Q3.21: How does the answer to FAQ 3.20 apply to the unexecuted portion of Day, GTC or similar order which is partially executed in opening, re-opening, or midday auctions?

A3.21: As reflected in FAQ 3.20, a Day, GTC, or similar order, that is eligible to trade in both an auction and during continuous trading, but not prior to the auction, should be included in the applicable Order Type Code based on the order's marketability at order effective time and not in Order Type Code 20 regardless of whether the order partially executes in an opening, re-opening, or midday auction. Subsequent executions against the same order that occur in continuous trading should be measured using the order effective time at the Trading Center. The time to execution for the acution execution should be no less than zero.

Q3.22: Should an IOC order which is held for execution in a closing, opening, re-opening, or midday auction be included in Order Type Code 20?

A3.22: Yes, an IOC order which is held for execution in an auction should be included in Order Type Code 20.

Q3.23: What is the definition of a resting ISO or TAISO for assignment to Order Type Code 15?

A3.23: A resting ISO or TAISO is a day, GTC, or good-til-time order marked as ISO and received by a trading center which is neither fully nor partially executed on receipt, immediately routed to another trading center in full, nor immediately cancelled in full after failing to execute. If the resting ISO is marketable then it will be assigned to Order Type Code 15. If it is not marketable, it should be assigned to the appropriate Order Type Code based on its limit price relative to the current NBBO.

Section 4: Statistics Captured by Appendix B.I Market Quality Statistics

Q4.1:   If Trading Center A receives an order and routes it as agent to Trading Center B where it is executed, which Trading Center reports statistics on the execution of the order, or portion thereof, routed by Trading Center A as agent and executed by Trading Center B?

A4.1:   The following example illustrates how the execution of this order would be reported. Example: Trading Center A receives a 5,000 share marketable limit order. 1,000 shares are immediately executed on Trading Center A with Trading Center A acting as principal. The remaining 4,000 shares are routed by Trading Center A on an agency basis to Trading Center B where they are subsequently executed. Who reports what?

Trading Center A reports statistics for receipt of the 5,000 share order and execution statistics for the 1,000 shares executed at Trading Center A under Items B.I.a(10), B.I.a(28), B.I.a(30) and B.I.b. Trading Center B reports statistics for receipt of the 4,000 share order and execution statistics for the 4,000 shares executed on Trading Center B under Items B.I.a(10), B.I.a(28), B.I.a(30) and B.I.b.

See Section 5 of this FAQ document for the treatment of orders and executions in Appendix B.II. Further, the Appendix B and C Requirements Document reflects which statistics are captured for shares executed at a Trading Center and which statistics are captured for shares executed away from a Trading Center.

Q4.2:   The example in FAQ 4.1 addresses a Trading Center that routed shares to another Trading Center for execution on an agency basis. Would the answer above be the same if Trading Center A acted as riskless principal instead of agent?

A4.2:   Yes. Unlike Rule 605, shares executed by a Trading Center on a riskless principal basis are treated as shares routed away. Accordingly, the reporting for shares executed on a riskless principal basis under the scenario presented in FAQ 4.1 would be the same as the reporting for shares routed as agent.

Q4.3:   Are effective spread, realized spread, and price improvement statistics calculated for all Order Type Codes?

A4.3:   No. The table below reflects which statistics are calculated for each Order Type Code assuming the existence of a valid NBBO. Please see FAQ 12.5 for how to determine the existence of a valid NBBO.

Order Type Code	Description	B.I.a(28) Realized Spread	B.I.a(31)	B.I.a(32)	B.I.a(33)	B.I.b Statistics
10	Market Orders	Yes	Yes	Yes	Yes	Yes
11	Marketable Limit Orders	Yes	Yes	Yes	Yes	Yes

12	Inside-the-quote Limit Orders	Yes	Yes	Yes	Yes	No
13	At-the-quote Limit Order	Yes	Yes	Yes	Yes	No
14	Near-the-quote Limit Order (within .10 from the NBBO)	Yes	Yes	Yes	Yes	No
15	Resting Intermarket Sweep Orders	Yes	Yes	Yes	Yes	No
16	Exchange Program Retail Liquidity Providing Orders	Yes	Yes	Yes	Yes	No
17	Midpoint Passive Liquidity Orders	Yes	Yes	Yes	Yes	No
18	Not Held Orders (Broker has discretion as to price and time)	Yes	Yes	Yes	Yes	No
19	Clean Cross Orders (Reg NMS Exempt)	No	No	No	No	No
19	Clean Cross Orders (not Reg NMS Exempt)	No	Yes	Yes	Yes	No
20	Auction Orders	Yes	No	No	No	No
21	Orders that became effective when an invalid NBBO was in effect	Yes	No	No	No	No
22	Orders priced more than .10 from the NBBO	Yes	Yes	Yes	Yes	No

Q4.4: How will statistics be calculated for Order Type Code 18 (Not Held Orders)?

A4.4: Statistics will not be calculated any differently for Not Held Orders – Order Type Code 18. Because Not Held Orders are captured in their own separate Order Type Code, time to execution and other execution quality statistics for these orders can be analyzed separately from held orders.

Q4.5: For each row, should the number of shares received by a trading center be greater than or equal to the number of shares canceled plus the number of shares executed at the trading center plus the number of shares executed at other trading centers as is the case for Rule 605 reports?

A4.5: The expectation is that shares received will equal shares canceled plus the number of shares executed at the trading center plus the number of shares executed at other trading centers except in the case of orders which remain open beyond five business days of receipt. In such

cases the shares remaining open beyond the five day window are not captured as executed or cancelled and therefore the number of shares executed at the trading center plus the number of shares executed at other trading centers plus the number of shares cancelled will be less than the number of shares received by the Trading Center. The Plan differs from Rule 605 by considering Day orders held, but not executed, at the end of Regular Hours to be cancelled. See FAQ 3.6.

Q4.6:   How will statistics be calculated for Order Type Code 19 (Clean Cross Orders)?

A4.6:   A Clean Cross order is a an order for which the Trading Center receives both the buy and sell side of the order from the same entering party with instructions to cross the two orders at a predetermined price. No statistics, such as realized spreads, which depend on the side of the order will be calculated for these orders. A Clean Cross order is counted as a single order even though there is a buy side and a sell side. Executed and/or cancelled shares are counted only once and not separately as buy side and sell side shares. Examples of Clean Cross Orders include CHX Clean Cross Orders and Qualified Contingent Trades (QCT).

Q4.7:   How will statistics be calculated for Order Type Code 20 – Auction Orders?

A4.7:   The execution of an Auction Order is unrelated to market conditions at the time of order receipt.   No statistics for duration based measures, measures requiring knowledge of the NBBO or BBO at order receipt time, or execution time, are calculated for these orders.

Q4.8:   How will the Plan Participants be determining Rule 605 Coverage for Item B.I.a(6)?

A4.8:   If the order is potentially eligible to be included in a Rule 605 report filed by the Participant for its own Trading Center then the Rule 605 Coverage for item B.I.a(6) should be based on whether or not the Participant included the order in its 605 report. If the Participant does not operate the Trading Center reporting the order pursuant Item B.I.a, then the Participant may determine Rule 605 Coverage for Item B.I.a(6) based on the characteristics of the order as reported to the Participant by the Trading Center and the Participant's interpretation of whether such order meets the definition of "covered order" in SEC Rule 600(b)(15).

It should be noted that the scope of Appendix B.I goes beyond the scope of Rule 605. For example, auction orders, orders received outside normal market hours and GTC orders that did not execute on the day of receipt but had executions on subsequent days (but within five business days), will be included in Appendix B.I but are excluded from Rule 605. The purpose of this flag is to denote when orders are included in the B.I statistics but were excluded from Rule 605 statistics.

Q4.9:   How is the Rule 605 Covered field to be populated for multiday orders?

A4.9:   Rule 605 inclusion or exclusion of an order depends on whether the order was executed in full or part on the same day as receipt and not whether the order was eligible for execution beyond the order effective date (e.g., GTC orders). Therefore, orders eligible for execution beyond the order effective date, but fully or partially executed or fully cancelled on the date they become

effective will be reported in the "Y" category under Item B.I.a(6c) if they are otherwise eligible for inclusion in the Trading Center's Rule 605 statistics. However, a multiday order that did not have any executions on the day of receipt, but did have executions on subsequent days would not be covered by Rule 605 and as such should be reported with "N" entered under Item B.I.a(6).

Q4.10: How will Limit Up Limit Down (LULD) bands be reflected in the Appendix B.I statistics?

A4.10: There will be a new field created as Item B.I.a(6b) under Appendix B.I.   The field is titled "Affected by Limit-Up Limit-Down Bands". The field can take on the value of "Y" or "N".   An order which has its ability to execute affected by the LULD bands should receive a value of "Y". An order which does not have its ability to execute affected by the LULD bands should receive a value of "N".

Under Appendix B.I, if the order price that would be used in determining marketability exceeds the LULD bands (buy price above the LU band, sell price below the LD band) at the time of order receipt, the order should be assigned a value of "Y" for the LULD field B.I.a(6b). If the order price that would be used in determining marketability does not exceed the LULD bands at the time of order receipt, the order should be assigned a value of "N" for that field. Calculation of statistics required under Appendix B.I, including marketability, is otherwise unaffected by the LULD band.

Q4.11: Will there be a new field to identify orders eligible to trade during extended hours?

A4.11: Yes. There will be a new field added for each Order Type that will further categorize the Order Type by the Trading Session in which an order was eligible to trade. There will be four values for this new field: (1) "R" which will designate regular hours only; (2) "E" which will designate extended hours only; (3) "BR" which will designate an order eligible to trade in both regular and extended hours with an effective time during regular market hours; and (4) "BE" which will deisignate an order eligible to trade during regular and exented hours with an order effective time during extended hours.

Q4.12: Will there be a new field to identify multiday orders in the data?

A4.12: Yes, the fields in B.I.a will be renumbered. There will be a new field B.I.a(6c) in section B.I.a between current fields B.I.a(6) and B.I.a(7) entitled "Multiday Order".   This field will contain a "Y" if the order was open and eligible for execution for more than one trading day. Otherwise, the field with contain a "N".

Q4.13: For Items B.I.a(31) to B.I.a(33) – Should order receipt time or order execution time be used?

A4.13: The statistics calculated for Items B.I.a(31) to B.I.a(33) should be based on order receipt time Please refer to Section 7 of these FAQs for how time of order receipt should be determined when an order is received prior to when it is eligible to trade.

Q4.14: How is "hidden status category" in Item B.I.a(5) determined?

A4.14: The hidden status is determined based on whether the order is displayable by the receiving Trading Center on its Trading Center and not whether the order was ultimately displayed on a different Trading Center.

Q4.15: How is "final percentage hidden" (Item B.I.a(30)) calculated?

A4.15: Final percentage hidden represents the number of shares never displayed by the Trading Center excluding any shares executed away from the Trading Center. The numerator is the number of shares in the order that were never displayed by the Trading Center less the number of shares executed Away from the Trading Center. The numerator should be adjusted so that negative values are changed to zero. The denominator is the total number of shares in the order less the number of shares executed Away from the Trading Center. If the denominator is zero then the order should be excluded from aggregation in the percentage hidden statistics. (The numerator may also be calculated as Shares not executed away less shares displayed, depending on how the Trading Center tracks reserve replenishment.) For example, Trading Center A receives an order for 1,000 shares.   Trading Center A displays 100 shares and executes 500 shares. Subsequently, Trading Center A routes 500 shares to Trading Center B who executes the 500 shares. The final percent hidden for Trading Center A would be 80% (400 shares divided by 500 shares). The 500 shares executed at Trading Center B must be subtracted from both the numerator and the denominator.   If however, the 500 shares routed to Trading Center B were not executed by Trading Center B and were returned unexecuted to Trading Center A where they were cancelled, the final hidden percentage would be 90% (900 shares divided by 1,000 shares) reflecting that only 100 shares of the order were ever displayed by Trading Center A and no shares were executed at an away Trading Center.

Q4.16: What constitutes a displayable order under Item B.I.a(5)?

A4.16: A displayable order under Item B.I.a(5) is an order for which the customer permitted the Trading Center, if it displays quotations via a public quotation feed, to display all or part of the order. Whether or not an order is displayable is also used in the calculation of Items B.I.a(29) and B.I.a(30).

For a Trading Center operated by a Participant, a displayable order is an order included in a Trading Center's proprietary feed if the Trading Center has such a feed. A displayable order may be displayed at one or many price levels.   A displayable order may also be an order that is included in the BBO that an exchange may send to the SIP. To be displayable an order need not be sent to both the SIP and the proprietary feed; display in either is sufficient.

An order is not considered displayable if the reporting Trading Center has neither a proprietary feed nor a BBO which the Trading Center sends to the SIP or to the ADF. Further, a Trading Center which only provides their BBO to the SIP, or the ADF, and does not have a proprietary feed, shall consider an order displayable if it would be eligible to be included in the Trading Center's BBO if the order were priced at such trading center's BBO.

For OTC Trading Centers, an order would only be considered displayable if it is an order for which the customer permitted the Trading Center, if it displays quotations via a public quotation feed, to display all or part of the order and the Trading Center were an ADF Participant that was displaying quotations via the ADF. Orders sent to an exchange by an OTC Trading Center for display on the exchange are considered displayable by the exchange and not by the OTC Trading Center.

Q4.17: What constitutes a displayable order under Items B.I.a(29) and B.I.(30)?

A4.17: An order must be displayable as described in FAQ 4.16.

Q4.18: Are IOC orders included in any of the time to cancel categories; specifically, Items B.I.a(21) to B.I.a(27)?

A4.18: IOC orders are included in the total number of shares cancelled (B.I.a(9)). Additionally, there is a separate category specifically for IOC orders that did not execute. They are not placed in any specific time category to recognize that processing times may vary across Trading Centers.

Q4.19: Will the time ranges of fields B.I.a(14), B.I.a(15), B.I.a(21) and B.I.a(22) be changed?

A4.19: Yes. The SEC approved new ranges for fields B.I.a(14), B.I.a(15), B.I.a(21) and B.I.a(22), which are as follows. Please refer to Section 7 of these FAQs for how time of order receipt should be determined when an order is received prior to when it is eligible to trade.

(14)   The cumulative number of shares of orders executed from 0 to less than 100 microseconds after the time of order receipt;

(14A) The cumulative number of shares of orders executed from 100 microseconds to less than 1 millisecond after the time of order receipt;

(15)   The cumulative number of shares of orders executed from 1 millisecond to less than 100 milliseconds after the time of order receipt;

and

(21)   The cumulative number of shares of orders canceled from 0 to less than 100 microseconds after the time of order receipt;

(21A) The cumulative number of shares of orders cancelled from 100 microseconds to less than 1 millisecond after the time of order receipt;

(22) The cumulative number of shares of orders canceled from 1 millisecond to less than 100 milliseconds after the time of order receipt;

Q4.20: Will there be new fields for size at the NBBO in Item B.I.a(31)?

A4.20: Yes, the same side size and the opposite side size will be provided in two separate fields B.I.a(31a) and B.I.a(31b). See FAQ 12.9.

Q4.21: Regarding the "routable flag" in B.II.o, how should an order be reported if the order is eligible for routing but circumstances do not permit the order to be routed?

A4.21: For the purposes of Appendix B.I, an order is routable if the instructions on the order permit the order to be routed and not whether the order was in fact routed.

Section 5: Orders Covered by Appendix B.II. Market and Marketable Limit Order Data

Q5.1: Appendix B.II covers Market Orders and non-booked portions of Marketable Limit Orders. What is the meaning of "non-booked portions of Marketable Limit Orders"?

A5.1: Under Appendix B.II, the Plan requires reporting only for orders that are immediately acted upon by the Trading Center. The Trading Center's actions may include execution, routing, and/or cancellation. The Plan does not require statistics under Appendix B.II for the unexecuted portion of an order that is retained by the Trading Center, referred to as the "booked" portion of the order.

For purposes of complying with the requirements of Appendix B.II, the Participants that operate a Trading Center will include all Market Orders and Marketable Limit Orders (Order Type Code 10 and 11) that are not placed on the exchange's book before being acted upon. Orders that are routed by a Participant operating a Trading Center to another Trading Center will only be included if the routed order is cancelled by the originating client or executed at the away Trading Center within 3 seconds. FINRA, on behalf of OTC Trading Centers, will include all Market Orders and Marketable Limit Orders (Order Type Code 10 and 11) that are cancelled or executed at any US venue within 3 seconds of order effective time.

Q5.2: Is an order that is cancelled before it becomes effective reportable under Appendix B.II?

A5.2: No. Fully cancelled orders are reportable by the Trading Center as received and cancelled only if the order becomes effective before being cancelled. An example of an order which does not become effective before being cancelled would be an opening Auction Order cancelled before the opening auction occurs.

Section 6: Statistics Captured by Appendix B.II Market and Marketable Limit Order Data

Q6.1: Item B.II.j refers to round lots, should this be shares and what about Partial Round Lots ("PRLs")?

A6.1: As noted in the FAQ 12.2, determination of order categorization relative to the NBBO is based either on non-SIP proprietary data or on SIP data.

For Trading Centers categorizing orders using SIP data, the SIPs quote in round lots only, and quotes are protected as round lots as well (i.e., if an exchange is displaying 112 shares on a direct feed, the SIP will show and protect one round lot). Therefore, Item B.II.j should be calculated in round lots only for Trading Centers relying on SIP data.

For Trading Centers relying on non-SIP proprietary data, Item B.II.j will depend on the nature of the non-SIP data and may result in the Trading Center being required to report in partial round lots if odd lots and/or partial round lots are displayed in the data used by the Trading Center.

Q6.2:   Is Item B.II.x, average execution time for routed orders, to be calculated on a share-weighted basis? Is the starting time the order effective time on the reporting Trading Center/Participant/member?

A6.2:   Yes, the average execution time for routed orders should be calculated on a share-weighted basis. The starting time should be the order effective time.

Q6.3:   What should be reported in Item B.II.k "Receiving market offer for buy, or bid for sell, if applicable"?

A6.3:   The current best offer of the receiving Trading Center for a received buy order or the current best bid for a received sell order, if a best bid or offer exists. The best offer or bid of the receiving Trading Center should be expressed in dollars and cents. For Trading Centers relying on SIP data, only displayed quotes reported by the SIPs should be considered in determining the Trading Center's best bid or offer.

For Trading Centers relying on non-SIP proprietary data, Item B.II.k will depend on the nature of the non-SIP data, e.g., the displayed quotes reported by the non-SIP data should be considered in determining the Trading Center's best bid or offer.

Q6.4:   What should be reported in Item B.II.l "Receiving market depth (offer for buy and bid to sell) (as applicable)"?

A6.4:   The current number of shares at the best offer of the receiving Trading Center for a received buy order, or the current number of shares at the best bid for a received sell order, if a best bid or offer exists.

For Trading Centers categorizing orders using SIP data, the SIPs quote in round lots only. Therefore, Item B.II.I should be calculated as symbol round lot size times the number of round lots shown in the SIP for Trading Centers relying on SIP data.

For Trading Centers relying on non-SIP proprietary data, Item B.II.l will depend on the nature of the non-SIP data and may result in the Trading Center being required to report in actual shares or making an adjustment similar to that required for users of SIP data depending on the data source.

See also FAQ 12.12.

Q6.5:   What should be reported in Items B.II.k and B.II.l if the receiving Trading Center transmits a quote to the SIP that is not a protected quote under Regulation NMS?

A6.5:   If the Trading Center is not transmitting a valid protected quote to the SIP then the receiving Trading Center should report null.

Q6.6:   Will a Short Sale exempt status flag be added to the list of data elements?

A6.6:   No. There is a short sale flag in Item B.II.g. Allowable values for that field will be distributed along with the Requirements Document for Appendix B.II. Types of sales to be identified are B (buy), S (sell, both long and short exempt), and SS (short sale).

Q6.7:   How should OTC Trading Centers populate the Retail Investor Order Flag under Item B.II.n.?

A6.7:   If the OTC Trading Center is relying upon the Retail Investor Order exception to Test Groups Two and Three with respect to the order, then the flag should be 'Y", otherwise it should be "N".

Q6.8:   What should be included in Item B.II.t. "Executed Shares"?

A6.8:   Item B.II.t should reflect the total number of shares executed on the receiving Trading Center.

Q6.9:   What should be included in Item B.II.u. "Cancelled Shares"?

A6.9:   Item B.II.u refers to the total number of shares cancelled in full or part by the customer or reporting Trading Center, including IOC orders that are not executed.

Q6.10:   Does "routed shares," in Item B.II.v reflect the shares routed to other Trading Centers or the shares executed on another Trading Center?

A6.10:   "Routed shares" in Item B.II.v should reflect the shares executed at an away Trading Center.

          Example: Trading Center A receives an order to sell 1,000 shares at the NBB. Trading Center A is unable to execute the order and routes 500 shares to Trading Center B and 500 shares to Trading Center C. The order routed to Trading Center B is not executed. Trading Center A subsequently receives a separate order to buy 200 shares which it matches against the sell order. Trading Center A then routes 300 shares to Trading Center D where all 300 shares are executed. Trading Center C executes 100 shares of the 500 shares routed to it and cancels the remaining 400 shares back to Trading Center A. Trading Center A then routes the 400 shares to Trading Center E where it is executed. How many shares should be reported as "routed" by Trading Center A?

          Trading Center A should report 800 shares as routed in Item B.II.v for that order. The 800 shares represents the 100 shares executed at Trading Center C, the 300 shares executed at Trading Center D, and 400 shares executed at Trading Center E.

Q6.11:   How will LULD bands be reflected in Appendix B.II?

A6.11:   There will be a new field created under Appendix B.II. The field is titled "Affected by Limit-Up Limit-Down Bands". The field can be populated with the value of "Y" or "N". An order which has its ability to execute affected by the LULD bands should receive a value of "Y". An order

which does not have its ability to execute affected by the LULD bands should receive a value of "N".

Under Appendix B.II, if the order price that would be used in determining marketability exceeds the LULD bands at order effective time, the order should be assigned a value of "Y" for the "Affected by Limit-Up Limit-Down Bands" field. Calculation of statistics required under Appendix B.II is otherwise unaffected by the LULD bands.

Q6.12   A marketable limit order for 1,000 shares is received by a Trading Center. 300 shares of the order are immediately executed and the remaining 700 shares are booked and then executed later. What should be reported for this order under B.II.f (Order Size in Shares) and the execution statistics required under B.II?

A.6.12 While the full size of the order must be captured under B.II.f, only the portion of the order executed prior to when it was booked, or in the case of an OTC Trading Center the portion that was executed within 3 seconds of receipt, should be captured in the execution statistics. Accordingly, in the example above the Order Size in Shares should be reported as 1,000 shares. However, only the 300 shares executed prior to the order being booked should be captured in the execution statistics. No statistics will be captured for the 700 shares that were executed after the order was booked. Further, because no part of the order was cancelled prior to execution, nothing should be captured in the cancelled statistics.

Section 7: Appendix B.I and B.II Time of Receipt and Time of Execution

Q7.1:   What should be used as the time of receipt for an order received at a time when the order is not eligible for execution, such as a Day order received outside of Regular Trading Hours?

A7.1:   If an order is received prior to when it is eligible to trade (e.g., an order received pre-open that is only eligible to trade during the regular trading session), the time it becomes live or "wakes up", which is referred to as the order effective time, should be used to determine marketability and for all time measurement statistics instead of the actual time of receipt. For example, for an order received at 8:15 a.m., but not eligible to trade until 9:30 a.m., 9:30 a.m. should be used to determine marketability and to calculate all time measurements with respect to the order and not the actual receipt time of 8:15 a.m. Further, orders that are received during a regulatory halt, including a LULD pause, would be assigned an order effective time of when the stock was re-opened for trading.

Q7.2:   How should the time fields for orders that are not fully executed on the day of receipt and remain open on subsequent trading days be reported under Appendix B.I and B.II?

A7.2:   For purposes of Appendix B.I and B.II, the time fields should be calculated using order effective time for the first trading day. Time statistics for multiday orders should be reported based on elapsed wall time adjusted for trading halts using a 24 hour midnight-to-midnight day for trading days. Wall time for days which are not trading days, e.g., weekends and holidays, should be

excluded. For example, in the case of an order that remains open over a weekend,the hours between 16:00:00 and 23:59:59.9999 on Friday and the hours between 00:00:00 and 09:30:00 on Monday should be counted. However, the hours between 00:00:00 on Saturday and 23:59:59.9999 on Sunday should not be counted. Days which are partial trading days are treated like full 24 hour trading days. Durations should be adjusted for any time during the day when the underlying security is either in a regulatory halt or LULD trading pause. The calculations of other statistics are not affected by the fact the order is multiday.

Because fields B.I.a(14) – B.I.a(27) are limited to durations of less than 30 minutes, executions and cancels from multiday orders would only be included in these fields for those shares that are executed or cancelled in less than 30 minutes.

Example: A GTC order is entered on Monday at 3:00 PM ET and is a marketable covered order under the Plan. The Trading Center executes 100 shares immediately in 10 milliseconds and 100 shares remain open. The remaining 100 shares of the order executes at 2:00 PM ET the next trading day. Because the second 100 share execution took more than 30 minutes after order effective time the shares are not entered in any field in B.I.a(14) – B.I.a(27). Under Item B.I.b(6) 100 shares with a time to execution of 23 hours and 100 shares with a time to execution of 10 milliseconds are included in the averages.

Q7.3:   Will time to execution or cancellation be adjusted for halt time if an order arrives prior to a halt and is executed or cancelled after the halt?

A7.3:   Yes, the time to execution or cancellation will be based on wall time between order effective time and order execution and/or cancellation adjusted for the duration of regulatory trading halts that occurred during the life of the order.

Q7.4:   What is used as the time of execution for "Stopped" or "Guaranteed" orders?

A7.4:   The same time should be used as under Regulation NMS Rule 605.

FAQ 15 to Rule 605 reads as follows:
Q: Is it permissible for a market center to assign an execution time to orders when they are "stopped" or "guaranteed" an execution at no worse than a specific price and later assigned a specific execution price?

A: The statistical measures required by the Rule may be calculated using the guarantee time as the time of order execution, but only under the following conditions. First, the guarantee must be made pursuant to an SRO rule setting forth the standards for guaranteed or stopped executions. Second, the customer must be immediately informed of the guarantee and the guarantee price. Third, the guarantee must be final with no opportunity for rescission. Finally, the guarantee price must be no worse than the Consolidated BBO at the time of order receipt and for the full size of the order.

If guarantee time is used as the time of execution for an order, it must be used for all purposes under the Rule, including both the calculation of speed of execution statistics and the calculation of average realized spread, as defined in paragraph (a)(3) of the Rule.

Q7.5:   What time stamp should be used for order effective time when measuring execution time and cancel time for an order received during extended hours but eligible for execution only during Regular Trading Hours?

A7.5:   The time stamp should be the time the order becomes eligible to trade ("order effective time"). For example, for Day orders the effective time will typically be 9:30:00.000000 or shortly thereafter based on the opening practices of the reporting Trading Center. For orders received during regulatory halts, the effective time will be the trade resumption time for the security. For orders where the customer provides an alternative effective time to market open, the alternative effective time should be used.

Section 8: Appendix B.I and B.II Determining Marketability

Q8.1:   How should marketability be determined for orders that are not fully executed on the day of receipt and remain open on subsequent trading days?

A8.1:   Marketability is based on the order effective time of the original order.

Q8.2:   How are pegged orders categorized for marketability?

A8.2:   The first price a pegged order is filled or priced at should be used. (Paragraph M of Section I of the Plan defines this as the "ranked" price). For example, assuming the market is 10 bid and 12 offer, a buy at 12 Add Liquidity Only ("ALO") midpoint peg order would be added to the book at 11 and therefore be considered an inside the quote order and would use 11 as the limit price.

Q8.3:   How are orders such as Access Liquidity Only, Post Only, and price sliding orders categorized?

A8.3:   See response to question on pegged orders, FAQ 8.2. In general marketability is based on the first price where an order could execute based on current market conditions and terms of the order.

Q8.4:   For ISO IOC orders, are super marketable effective spreads and Price Improvement ("PI") stats calculated for Item B.I.b?

A8.4:   Yes, effective spreads and PI stats are calculated for these orders even though the customer instructions may result in a super marketable execution.

Q8.5:   How should a Trading Center handle a midpoint passive liquidity order which is out of range for its limit price?

A8.5:   If the Trading Center does not automatically cancel the order when the limit is out of range, then the order should be included in the statistics for the appropriate order type category for non-midpoint limit orders based on the order's limit price.

Q8.6:   How should marketability be determined for an extended market hours order under Appendix B.I. and B.II?

A8.6:   Marketability should be determined for an extended market hours order based on the availability of a valid NBBO as defined in Section 12 below.

Section 9: Appendix B.III Daily Market Maker Registration Statistics

Q9.1:   The data is required to be collected on a daily basis but reported on a monthly basis. Will a date field be added to the template?

A9.1:   Yes.

Q9.2:   Will there be unique identifier that each Participant shall use for the "SRO" field?

A9.2:   Yes.

Q9.3:   Is the number of Market Makers reported by each Participant under Appendix B.III the number of Market Makers registered at that Participant, or the number of members of that Participant that are registered as Market Makers at any Participant (including that Participant or another Participant) for that symbol?

A9.3:   The Participant will report under Appendix B.III only the number of Market Makers registered for the symbol at its Trading Center.

Q9.4:   Is the number of liquidity providers reported by each Participant under Appendix B.III the number of liquidity providers registered at that Participant, or the number of members of that Participant that are registered as liquidity providers at any Participant (including that Participant or another Participant) for that symbol?

A9.4:   The Participant will report under Appendix B.III only the number of liquidity providers registered for the symbol at its Trading Center.

Section 10: Appendix B.IV Daily Market Maker Participation Statistics

Q10.1: How will the Market Maker Participation statistics as required under Appendix B.IV be calculated?

A10.1: Please see the Data Collection FAQs at http://www.finra.org/industry/faq-data-collection-requirements-broker-dealers

For a description of how the Participants will comply with the requirements of Appendix B.IV at http://www.finra.org/industry/faq-data-collection-requirements-broker-dealers

Q10.2: Appendix B.IV requires both shares and purchases and sales be reported under Items B.IV.d through B.IV.g. How should orders with executed shares that fall into more than one category of Items B.IV.d through B.IV.g be handled?

A10.2: The Appendix B.IV statistics are calculated based on executed trades and not on orders. Therefore, each execution is evaluated separately without regard to the order that resulted in such execution.

Q10.3: Is a valid NBBO determined the same way for Appendix B.IV as it is for Appendix B.I and B.II?

A10.3: Yes. Please refer to Section 12 of this FAQ document for how to determine a valid NBBO.

Q10.4: Does activity to be reported under Appendix B.IV cover Regular Hours or both Regular Hours and Extended Hours?

A10.4: The activity to be reported covers both Regular Hours and Extended Hours.

Q10.5: In Items B.IV.f and B.IV.g, the description says: "In the case of a downward moving National Best Bid or Offer, the price immediately before the trade would be used." What does this mean?

A10.5: Only the NBBO in effect immediately prior to the time of execution will be used in Appendix B.IV calculations. The Participants intend to submit a rule filing to eliminate the language "In the case of a downward moving National Best Bid or Offer, the price immediately before the trade would be used."

Q10.6: Are data elements B.IV.d to B.IV.g based on the NBBO at the time the order is received or at the time of execution?

A10.6: Data elements B.IV.d to B.IV.g are based on the valid NBBO in effect immediately prior to order execution.

Q10.7: Data elements B.IV.d to B.IV.g refer to the number of shares bought and sold at a price relative to the NBBO (e.g., "at or above" and "at or below" the NBBO in Item B.IV.d). To which party to the trade does this price refer?

A10.7: The price reference refers to the price at which the Market Maker executed its principal side of the trade.

Q10.8: How will statistics be aggregated for data elements B.IV.d to B.IV.g?

Q10.8: Statistics will be aggregated using total number of shares. Weighted averages will not be used in the calculations.

Q10.9: The requirements of Items B.IV.b to B.IV.g appear inconsistent with respect to what statistics are required. The language in question is as follows:

In Appendix B.IV, the language for b. (share participation) has "number of shares purchased OR sold". The language for c. (trade participation) has "number of purchases AND sells". The language for d. through g. has number of shares purchased AND number of shares sold".

What, exactly, is required here?

A10.9: Statistics on buys and sells are to be provided separately for Items B.IV.b. through B.IV.g.

Q10.10: Item B.IV.b states in part "When aggregating across Market Makers, share participation will be an executed share-weighted average per Market Maker". How should a share-weighted average be calculated?

A10.10: The Participants intend to file a proposed rule to eliminate the requirement to provide statistics on a weighted average basis and instead provide total counts.

Q10.11: Item B.IV.c states in part "When aggregating across Market Makers, trade participation will be a trade-weighted average per Market Maker". How should a trade-weighted average be calculated?

A10.11: The Participants intend to file a proposed rule to eliminate the requirement to provide statistics on a weighted average basis and instead provide total counts.

Q10.12: Will the number of Market Makers be reported in Appendix B.IV?

A10.12: Yes, the Participants intend to file a proposed rule to require that the number of Market Makers used in calculating each of the statistics in Items B.IV.b through B.IV.g be included in the statistics. Registered Market Makers with no activity in a symbol on the reporting day will not be included in the count of Market Makers. Both the distinct count of Market Makers with purchases and the distinct count of Market Makers with sales will be provided.

Q10.13: How should an execution that occurred during a locked market be categorized for purposes of B.IV?

A10.13: For purposes of B.IV, orders executed during a locked market should be included only in the "cross-quote" share (trade) participation category.

Section 11: Timestamp Granularity

Q11.1: Does the Plan mandate a uniform timestamp granularity?

A11.1: No. Definitions II and JJ of the Plan have time of order execution and time of order receipt to the second "or to such smaller increments as are available". A number of items in Appendix B use information based on these two definitions. The phrase "such smaller increments as are available" refers to availability within the Trading Center's own systems for receiving orders, executing orders, reading quotation data, and receiving information from other Trading Centers

to which orders were routed. The phrase also refers to the time stamps published by one or both SIPs or other sources of quotation data used by the Trading Center in its data reporting practices. A Participant-operated Trading Center's statistics pursuant to Appendix B may therefore be based on systems using different time stamps depending on the field. For example, a Participant-operated Trading Center may have time to execution in its own systems to the microsecond so reporting requirements for executions should be in microseconds.   But when ex-post matching an execution to quotes from the SIP in calculating realized spread, as another example, milliseconds may be the finest resolution available to the Trading Center. A Participant-operated Trading Center should use the highest resolution time stamp available to it, up to one microsecond resolution, in completing each data field, as appropriate. Under no circumstances should the time resolution be lower than one second. It is possible that responses provided by a Trading Center in the different data fields will be based on different degrees of resolution depending on the available data.

FINRA will be calculating the Appendix B.I. and B.II statistics for OTC Trading Centers using OATS data reported to FINRA. Therefore, OTC Trading Center statistics will be captured and reported at the finest timestamp granularity reported by the Trading Center to OATS.

Q11.2: In what increment should execution time under Items B.I.b(4), B.I.b(6), B.I.b(9), B.II.d, B.II.s, B.II.x be reported?

A11.2: For Trading Centers operated by a Participant, microseconds should be used if available. For OTC Trading Centers, the finest granularity reported by the Trading Center to OATS will be used. Trading Centers lacking microsecond resolution should pad the indicated fields with the number of zeros necessary to achieve six zeros after the decimal point. Averages in Items B.I.b(4), B.I.b(6), B.I.b(9) should not be reported with a finer resolution than other time statistics reported by the Trading Center.

Q11.3: Which fields from Items B.I.a(14) to B.I.a(27) should a Trading Center use for a zero elapsed time execution or cancelation if the Trading Center is not using microsecond timestamps but rather timestamps in milliseconds or some other increment?

A11.3: A Trading Center which does not use microsecond time stamps should use the field which corresponds to one half the minimum increment for that Trading Center for the Trading Center's zero elapsed time executions and cancellations.

Section 12: NBBO Calculations

Q12.1: Must Trading Centers match their activity to the NBBO in real time or can the matching be done ex-post?

A12.1: Ex-post matching to SIP data only is permissible in reporting data pursuant to the Plan. Ex-post matching is not permissible using proprietary quotation data.   Real time matching is acceptable from SIP or proprietary feeds only if all necessary data is captured in real time.

Q12.2: Should Trading Centers use the SIP quotes and time stamps to determine the NBBO and other quote related items or use a Trading Center's internal time stamps?

A12.2: Trading Centers may use SIP quotes and time stamps. To determine categorization of orders relative to marketability, depth at NBBO, NBBO leader, and any other statistics based on the orders' relationship to the NBBO, use the NBBO as represented by timestamps from the relevant SIP, in microseconds. For example, if the Trading Center receives an order to buy 200 shares at $10.20 at 10:00:01.123551, and the latest NBBO from the SIP was $10.15 bid and $10.20 offered, at 10:00:01.122490 as time stamped by the SIP, then the order is a marketable limit order. For multiple NBBO records in the same microsecond, use the last NBBO record.

As an alternative, a Trading Center may use quote and time stamp information which their systems capture in real time so long as all necessary information such as the protected NBBO, size at the protected NBBO, and the receiving Trading Center's BBO (if applicable) are captured by the Trading Center's system.

Q12.3: How should Trading Centers use SIP quotes and time stamps to determine the NBBO and other quote data if the Trading Center's time stamps are of different resolution than the SIP quotes and time stamps?

A12.3: Trading Centers should truncate the higher resolution time stamps to the precision of the lower resolution time stamp. When matching to the SIP, use the SIP quote in effect one lower resolution increment prior to the record being matched. For example, if the Trading Center's time stamps are in milliseconds and the Trading Center receives an order to buy 200 shares at $10.20 at 10:00:01.123, and the latest NBBOs from the SIP were $10.15 bid and $10.20 offered, at 10:00:01.122490 and $10.15 bid and $10.25 offered, at 10:00:01.123124 as time stamped by the SIP, then the order is a marketable limit order based on the truncated SIP time stamp of 10:00:01.122. For multiple NBBO records in the same truncated time interval, use the last NBBO record before applying truncation.

Q12.4: Are orders received when the NBBO is locked or crossed included in the reported data?

A12.4: Yes. Orders received when the NBBO is locked or crossed are included in the reported data.

Q12.5: What is the definition of a valid NBBO for purposes of determining marketability and calculating statistics, including realized spread, in sections B.I, B.II, and B.IV?

A12.5: A valid NBBO is defined as a SIP published NBBO in either regular and extended hours. For trading centers using proprietary feeds, a valid NBBO is defined as the NBBO derived from the proprietary feeds in either regular or extended hours. If a Trading Center is using proprietary feeds, it must disclose such when publishing its statistics. A locked market is considered a valid NBBO. Further, a one sided quote will be evaluated as a wide spread quote, as futher described below.

Additional analysis is required in certain conditions to determine the existence of a valid NBBO as described below.

<u>Crossed Markets</u>

If the NBBO is crossed at an order effective time or execution time, as applicable, ("subject NBBO time"), reject the crossed NBBO and use the next NBBO that is not crossed if there has been less than 30 seconds between that NBBO and the last uncrossed NBBO that occurred prior to the subject NBBO time. If there has been 30 seconds or more between the last uncrossed NBBO prior to the subject NBBO time and the first uncrossed quote NBBO after the subject NBBO time, the NBBO should be considered invalid.

NOTE: A Trading Center may choose an alternate approach of looking only for NBBOs that occurred prior to the subject NBBO time to find an uncrossed NBBO. If an uncrossed NBBO is found within 30 seconds prior to the subject NBBO time, the uncrossed NBBO should be used. If an uncrossed NBBO is not found with 30 seconds prior to the crossed NBBO, the then quote would be considered invalid. If a Trading Center uses this alternative approach, they must disclose such when publishing their statistics.

If the subject NBBO was not crossed or an uncrossed NBBO is found within 30 seconds per the guidance above, then it must be determined <u>whether the Consolidated NBBO reflects a spread that exceeds $1 plus 5% of the midpoint of the Consolidated NBBO as follows:</u>

If at the subject NBBO time, the NBBO reflects a spread that exceeds $1 plus 5% of the midpoint of the NBBO, reject the NBBO and use last NBBO that occurred prior to the subject NBBO time where the spread is less than $1 plus 5% of the midpoint of the NBBO if it occurred within 30 seconds of the subject NBBO time. If there has been more than 30 seconds between the last NBBO that occurred prior to the subject NBBO time where the spread is less than $1 plus 5% of the midpoint of the NBBO, the NBBO should be considered invalid.

If the subject NBBO did not reflect a spread that exceeded $1 plus 5% as described above, then it must be determined if <u>the midpoint of the consolidated NBBO varies by more than 20% from the midpoint of the immediately preceding Consolidated NBBO as follows:</u>

An NBBO should be potentially rejected if both (1) the midpoint of the NBBO at the subject NBBO time ("the variant NBBO") varies by more than 20% from the midpoint of the immediately preceding NBBO ("the original NBBO"), and (2) the midpoint of the next succeeding NBBO ("the correcting NBBO") reverts back to within 20% of the midpoint of the original BBO if such correcting NBBO occurred within 30 seconds of the variant NBBO. In this case, the correcting NBBO should be used as the NBBO. If, however, the midpoint of the correcting NBBO does not revert back to within 20% of the midpoint of the original NBBO within 30 seconds, the variant NBBO should be used.

NOTE: A Trading Center may choose an alternate approach that relies only on preceding quotes. In this case, if the midpoint of the variant NBBO (Quote n) varies by more than 20% from the midpoint of the original NBBO (Quote n-1), the Trading Center must identify the midpoint of the NBBO immediately preceding the original NBBO (Quote n-2). If Quote

n-2 varied by more than 20% from Quote n-1, then the Trading Center should use Quote n. This is regardless of whether the changes from Quote n-2 to Quote n-1 and from Quote n-1 to Quote n were in the opposite direction (i.e., there was a reversal in the quote) or whether these changes were in the same direction (i.e., there was a trend in the quote). If Quote n-2 varied by less than 20% from Quote n-1, then the Trading Center should use Quote n-1. However, when testing the validity of the midpoint of the next Quote n+1, the Trading Center should continue using Quote n (and not the replacement Quote n-1) for determining this test.

The following chart reflects how an invalid NBBO at <u>order effective time</u> impacts the Order Type Code to which an order should be assigned:

Description	Order Type If Valid NBBO	Order Type If Invalid NBBO
Market Orders	10	21
Marketable Limit Orders	11	21
Inside-the-quote Limit Orders	12	21
At-the-quote Limit Order	13	21
Near-the-quote Limit Order (within .10 from the NBBO)	14	21
Resting Intermarket Sweep Orders	15 as per FAQ 3.3	21
Exchange Program Retail Liquidity Providing Orders	16	16
Midpoint Passive Liquidity Orders	17	17
Not Held Orders (Broker has discretion as to price and time)	18	18
Clean Cross Orders (includes QCT)	19	19
Auction Orders	20	20
Orders that became effective when an invalid NBBO was in effect		21
Orders priced more than .10 from the NBBO	22	21

Appendix B and C Requirements Document reflects which specific statistics are not calculated in the event of an invalid NBBO.

Q12.6: What is the definition of a valid BBO for those statistics that cover an individual Trading Center's BBO?

A12.6: The same criteria for determining a valid NBBO should be used to determine whether an individual Trading Center's BBO is valid. If a Trading Center is using proprietary feeds to determine its BBO, it must disclose such when publishing its statistics.

Q12.7: How are effective spreads to be calculated for an order executed outside of regular market hours?

A12.7: Effective spreads should be calculated using the valid NBBO (as defined in FAQ 12.5) at order effective time.

If a valid NBBO does not exist at order effective time when calculating the effective spread for an order executed outside of regular market hours then exclude that execution from the aggregated data reported under Item B.I.b(1) for effective spread.

Q12.8: How should executions with price improvement, at the quote, and outside the quote be determined for an execution in extended hours?

A12.8: Executions with price improvement, at the quote, and outside the quotes should be calculated using a valid NBBO as defined in Q12.5.

If there is no valid National Best Bid(Offer) at order effective time then exclude that execution from the aggregated data reported under Items B.I.b(2)-B.I.b(9) for price improvement.

Q12.9: Item B.I.a(31) asks for quoted size at the NBBO. What is the calculation for quoted size at the inside?

A12.9: The same side size and the opposite side size will be provided in two separate fields in Items B.I.a(31a) and B.I.a(31b). The same side is defined as bid(ask) for buy orders(sell orders) The opposite is defined as bid(ask) for sell orders(buy orders). Consistent with the SIP published size, the size should be reported as the largest size at the inside price and not the aggregate of all size at the inside. See FAQ 4.20.

Q12.10: Item B.I.a(33) asks for the average BBO Spread of the reporting exchange at the time of order execution. How is this populated on an execution for an OTC Trading Center?

A12.10: "[E]xchange" should read "exchange or Trading Center registered with a Participant that is a national securities association for display in its Alternative Display Facility" in Item B.I.a(33). This requirement only applies to the displayed BBO spread of the Trading Center as reported by the Consolidated Tape Plans. If the reporting Trading Center did not have a displayed BBO in the SIP when it received that order, then Item B.I.a(33) should not include data for that order.

Q12.11: How should the size at the NBBO and the NBBO spread be calculated for an order with an order effective time outside of normal market hours?

A12.11: Size at the NBBO and the NBBO spread should be calculated using a valid NBBO transmitted by the SIP at order effective time. If there is no valid NBBO as defined in FAQ 12.5 for use in determining size at the NBBO and the NBBO spread, exclude the execution from the data provided under Items B.I.a(31) and B.I.a(32).

Trading Centers that use the Internal Alternative to the SIP should use their alternative NBBO calculations where the SIP NBBO is referenced.

Q12.12: How should the size at the BBO spread for the reporting Trading Center be calculated for an order with an order effective time outside normal market hours?

A12.12: The BBO spread should be calculated using a valid BBO transmitted by the SIP at order effective time. If there is no valid BBO transmitted by the SIP in determining size at the BBO spread then exclude the execution from the data provided under Item B.I.a(33).

Trading Centers using the Internal Alternative to the SIP should use their alternative BBO calculations where the SIP BBO is referenced.

Q12.13: How should the size at the NBBO, the NBBO spread, and the BBO spread be calculated for an order received outside of regular market hours and eligible for execution only during regular market hours?

A12.13: Orders received outside of regular hours and eligible for execution only during regular hours should have size at the NBBO, the NBBO spread, and the BBO spread calculated using the NBBO or BBO in effect at the time the order becomes eligible to trade. If there is no valid NBBO or BBO at order effective time, then no data should be reported for these statistics. See FAQ 12.5 for the definition of a valid NBBO. Please refer to the Appendix B and C Requirements Document for the specific Order Type Codes for which these statistics are calculated.

Q12.14: How are realized spreads calculated for an order executed outside of regular market hours?

A12.14: If a valid NBBO does not exist five minutes after execution time when calculating the realized spread for an order executed outside of regular market hours, then exclude that execution from the aggregated data reported under B.I.a(28) for realized spread. See FAQ 12.5 for definition of a valid NBBO.

Section 13: Appendix C Market Maker Profitability

Q13.1: How will the Market Maker Profitability statistics as required under Appendix C be calculated?

A13.1: Please see the Data Collection FAQs for a description of how the Participants will comply with the requirements of Appendix C, available at
http://www.finra.org/industry/faq-data-collection-requirements-broker-dealers

The calculation of the profitability statistics is prescribed in the SRO rules. Specifically, for purposes of Item I of Appendix C, the Participants shall calculate daily Market Maker realized profitability statistics for each trading day on a daily last in, first out (LIFO) basis using reported trade price and shall include only trades executed on the subject trading day. The daily LIFO calculation shall not include any positions carried over from previous trading days. For purposes of Item I.c of Appendix C, the Participants shall calculate daily Market Maker unrealized profitability statistics for each trading day on an average price basis. Specifically, the Participants must calculate the volume weighted average price of the excess (deficit) of buy volume over sell volume for the current trading day using reported trade price. The gain (loss) of the excess (deficit) of buy volume over sell volume shall be determined by using the volume weighted average price compared to the closing price of the security as reported by the primary listing exchange. In calculating unrealized trading profits, the Participant also shall report the number of excess (deficit) shares held by the Market Maker, the volume weighted average price of that excess (deficit), and the closing price of the security as reported by the primary listing exchange used in reporting unrealized profit. See FINRA Rule 6191.

Market Maker level statistics are provided to the SEC while only industry aggregate calculations will be publicly disseminated. Please refer to the Appendix B and C Requirements Document for the specific data attributes provided to the SEC and those publicly disseminated.

Q13.2: Does activity to be reported under Appendix C cover Regular Hours or both Regular Hours and Extended Hours?

A13.2: The activity to be reported covers both Regular Hours and Extended Hours.

Q13.3: How will cancels and corrects be applied in calculating Market Maker profitability?

A13.3: Cancels and corrects will be applied to the profitability calculations for the current day and not carried back to the date of the cancelled or corrected trade. If the cancel or correct applies to a trading day before the start of the measurement period it will be ignored. For example, a Market Maker reports a cancellation on April 8 for a buy that occurred on April 4. This cancellation will be treated as a sale for purposes of calculating the Market Maker's realized profit on April 8. The profitability calculated for April 4 will not be amended to reflect the cancellation on April 8.

Q13.4: Does Market Maker profitability, as reported under Appendix C, need to match internal profit calculations of the reporting Market Maker?

A13.4: No. As stated in the Approval Order "the requirement to produce profitability figures for the Tick Size Pilot does not mean that Market Makers are required to change how they currently compute trading profits for internal business purposes."

Q13.5: How will the aggregated market maker profitability data calculated under Appendix C.II be publicly disseminated?

Q13.5: The Participants intend to file a proposed rule change prescribing that profitability data for all market makers be aggregated by Control Group and each Test Group across all DEAs and

published as a single aggregated industry statistic on FINRA's public website. The Participants believe that publishing a single consolidated statistic will better ensure the anonymity of individual market makers in instances when a single DEA has a very limited number of market makers. In such cases, displaying market maker statistics aggregated by DEA may introduce the risk of a particar market maker's profititability statitistics becoming easily disernable.

Q13.6: How should the LIFO methodology described in Q 13.1 be applied within a single trading day, including trades occurring outside normal market hours, for determining realized profit/loss?

A13.6: LIFO realized profit/loss calculations should begin with the earliest sale of the day. The cost basis for each sale should be determined by using the immediately prior purchase(s). To the extent prior purchases exceed the amount of the sale currently being considered, the excess purchase should be reserved to offset the next sale in time. If an immediately prior purchase for a particular sale has already been used to offset an earlier sale, the cost basis for the current sale should be determined by using the most recent prior purchase(s) that have not yet been used to offset an earlier sale.   If the first trade of the day is a sale and there are no prior purchases on that same day, the gain/loss for the sale should be determined by using the first purchase that occurs subsequent to such sale. Any excess purchases/sales remaining at the end of the calendar day must be valued as described in FAQ 13.1.