

**Part II: Activities of the Broker-Dealer Operator and its Affiliates**

**Item 3: Order Interaction with Broker-Dealer Operator; Affiliates**

- a. Can any Subscriber opt out from interacting with orders and trading interest of the Broker-Dealer Operator in the NMS Stock ATS?

Yes ☐ No ☐

If yes, explain the opt-out process.

VAL offers Subscribers the ability to opt out of interacting with principal orders entered into POSIT under the MPIDs NITE, VIRT and VALX (“the Principal Opt-Out”). Orders entered into POSIT by VAL under the MPIDs VALR and ITGI are not subject to the Principal Opt-Out.

Subscribers can request the Principal Opt-Out through their sales persons. Following receipt of a request, the sales person will enter a ticket to make the request. Thereafter, an entry is made in a configuration file which will take effect in most cases on the next business day, but could take effect either the same day or greater than the next business day, depending upon the time of day the request is submitted. When the POSIT matching logic is applied, the configuration file is checked to determine whether orders are eligible for crossing with VAL or its Affiliate’s [\(see Part II, item 2a\)](#) principal orders entered under the above referenced MPIDs. VAL does not allow POSIT Subscribers to opt out of interacting with any orders submitted to POSIT by VAL or its Affiliates when they are submitted under any of the other MPIDs referenced in Part II, Item 2(a). The Principal Opt-Out configuration is applied for all crossing sessions.

**Item 6: Activities of Service Providers**

- a. Does any employee of the Broker-Dealer Operator or its Affiliate that services both the operations of the NMS Stock ATS and any other business unit or any Affiliate of the Broker-Dealer Operator (“shared employee”) have access to confidential trading information on the NMS Stock ATS?

Yes ☐ No ☐

If yes, identify the business unit, Affiliate, or both that the shared employee services, and provide a summary of the role and responsibilities of the shared employee at the ATS and the business unit, Affiliate, or both that the shared employee services.

VAL does not have any personnel whose sole responsibility is for POSIT. The Firm considers information relating to Subscriber’s live orders, trading interests and recent executions in POSIT

that the Firm reasonably believes may suggest a Subscriber continues at that moment in time to have the same or additional live orders and trading interests in POSIT, to be ATS confidential information (“Confidential Information”). As is more fully discussed in Part III, Item 7(a), VAL does not consider all post trade data to be Confidential Information, particularly when the information is anonymized, aggregated or both.

Below is a summary of the shared personnel that provide services to both POSIT, VAL, and its Affiliates and have access to Confidential Information.

- **Compliance and Legal:** Compliance and Legal personnel support all of the Firm’s business units and those of the Firm’s Affiliates and perform a variety of compliance and legal activities related to their roles. They have access to Subscriber historical order and execution information and as necessary they can be provided with access to intra-day information.
- **Finance and Management Reporting Group:** Finance and management reporting personnel support all of the Firm’s business units and those of the Firm’s Affiliates. These personnel are involved in accounting, billing, analyzing revenues, and providing management reporting information. They have access to Subscribers’ historical post-trade execution information and data.
- **Operations:** Operations personnel support the Firm’s middle and back office processes for clearance and settlement and related activities and have access to Subscribers’ real time intra-day, post-trade, and historical execution information for clearing, settlement, and regulatory reporting purposes.
- **Core Operations:** Core Operations are technical personnel who have access to the Firm’s and its Affiliates’ trading infrastructure, which includes POSIT, to monitor the functionality, health, and wellness of the Firm’s trading infrastructure and take action as necessary to maintain the systems and manage issues. They have access to Subscribers’ real-time and historical order and execution information. This group supports all trading infrastructure and applications for the Firm.
- **Software Developers:** Software Developers have access to the Firm’s and its Affiliates’ trading infrastructure, which includes POSIT, to maintain and enhance the software for the Firm’s trading applications. They have access to Subscribers’ real-time and historical order and execution information. This group supports all trading infrastructure and applications for the Firm.
- **Product Management:** Product Management are personnel who manage the day-to-day business activities for products such as POSIT, the algorithms the Firm provides to clients, and other trading-related applications VAL and its Affiliates provide to clients. These personnel monitor the trading applications, enhance their product features, and create new features. Product Management compile and analyze statistics and metrics related to the ATS and other electronic products and services. Product Management works with Software Developers, and in some instances are also Software Developers themselves. The Product Manager responsible for supervising POSIT is also the Product Manager

responsible for supervising VAL's other ATS, MatchIt, and also provides support to both VAL's Affiliates' execution services applications. Product Management have access to Subscribers' real-time and historical order and execution information.

- Relationship Management: Relationship Management personnel are responsible for managing the Firm's relationship with its clients, including clients who are Direct Subscribers of the ATS, and for cross-selling the Firm's other products and services. They have access to historical order and execution information.
- Sales and/or Trading personnel: To the extent Sales or Trading personnel are responsible for handling an order, a portion of which is directed to POSIT as a child order, such personnel would have real time access to such child order and any of its executions in POSIT analogous to the access they would have to information about orders and executions that were directed to external market centers in order to monitor executions and provide order-related services.
- POSIT Alert ("Alert") Sales and Coverage: The Firm offers an application called Alert that is a conditional order application which resides outside of the POSIT Matching engine and which transmit orders to the Alert Crossing Session to consummate trades. See Part III, Item 9 and 11 for further descriptions of Alert and the Alert Crossing Session. Alert Sales and Coverage personnel are responsible for the sales and day-to-day coverage of Alert. Alert Sales and Coverage personnel have access to a front end application called Phoenix, which displays real-time order and execution information of Alert participants. See, Part III, Item 9 for further discussion about Alert. This group can access Alert participants' real-time and historical order and execution information, but do not have access to any real-time or historical order and execution information in POSIT's matching engines for the Continuous Crossing Session ~~or the Agency Close Crossing Session.~~
- Analytics Personnel: Analytics Personnel provide transaction cost analysis data and consultancy to institutional investors. This group is separate from the business units of the broker dealer operator that enter or direct the entry of orders and trading interest into POSIT, as defined in Part II, Item 1(a). The Firm offers a product called the Analytics Portal ("the Portal") that provides pre-trade, real-time and post-trade analytics to the Firm's clients. In order to enable and support client trade reporting in the Portal, Analytics personnel have access to real-time order and execution information for Alert participants. This group can access Alert participants' real-time and historical order and execution information, but do not have access to any real-time or historical order and execution information in POSIT's matching engines for the Continuous Crossing Session ~~or the Agency Close Crossing Session.~~ See Part III, Item 9 for further discussion about Alert.

**Part III:** Manner of Operations

Item 7: Order Types and Attributes

- a. Identify and explain each order type offered by the NMS Stock ATS. In your explanation, include the following:
- i. priority, including the order type's priority upon order entry and any subsequent change to priority (if applicable); whether and when the order type can receive a new time stamp; the order type's priority vis-à-vis other orders on the book due to changes in the NBBO or other reference price; and any instance in which the order type could lose execution priority to a later arriving order at the same price;
  - ii. conditions, including any price conditions (e.g., how price conditions affect the rank and price at which it can be executed; conditions on the display or non-display of an order; or conditions on executability and routability);
  - iii. order types designed not to remove liquidity (e.g. post-only orders), including what occurs when such order is marketable against trading interest on the NMS Stock ATS when received;
  - iv. order types that adjust their price as changes to the order book occur (e.g., price sliding orders or pegged orders) or have a discretionary range, including an order's rank and price upon order entry and whether such prices or rank may change based on the NBBO or other market conditions when using such order type; when the order type is executable and at what price the execution would occur; whether the price at which the order type can be executed ever changes; and if the order type can operate in different ways, the default operation of the order type;
  - v. whether an order type is eligible for routing to other Trading Centers;
  - vi. the time-in-force instructions that can be used or not used with each order type;
  - vii. the circumstances under which order types may be combined with another order type, modified, replaced, canceled, rejected, or removed from the NMS Stock ATS; and
  - viii. the availability of order types across all forms of connectivity to the NMS Stock ATS and differences, if any, in the availability of an order type across those forms of connectivity.

Continuous Crossing Session

Beginning on July 12, 2021, VAL will make changes to the POSIT Continuous Crossing Session in terms of its manner of operations on a symbol by symbol basis. Descriptions to follow under the heading 'New Matcher' will apply to symbols that have migrated to this new manner of operation under the schedule set forth below, while descriptions under the heading 'Current

Matcher’ will apply to symbols that remain in the current manner of operation under the schedule set forth below.

#### Migration Schedule

July 12, 2021: New Matcher: Symbol: ZVZZT, Current Matcher: All other symbols

July 14, 2021: New Matcher: Symbols: ZVZZT, ZWZZT, ZXIET, ZXYZ.A, ZXZZT, ZY, ZYME, ZYNE, ZYXI, ZZZ, ZZZ Current Matcher: All other symbols

July 16, 2021: New Matcher: All symbols beginning with the letter ‘Z’, Current Matcher: All other symbols

July 19, 2021: New Matcher: All symbols beginning with the letters ‘T’ – ‘Z’, Current Matcher: All other symbols

July 21, 2021: New Matcher: All symbols beginning with the letters ‘N’ – ‘Z’, Current Matcher: All other symbols

July 23, 2021: New Matching: All symbols, Current Matcher: No symbols

#### New Matcher

POSIT accepts Peg orders, Day orders and Immediate or Cancel (“IOC”) orders. Peg and Day orders may execute against contra-side Peg orders, contra-side Day orders or against IOC orders. IOC orders may only ~~execute cross~~ against contra-side Peg orders, or contra-side Day orders. These order types may be entered with other instructions, ~~as described below~~, that will be used by the matching algorithm to determine whether and how they will interact with other orders.

Priority in the POSIT Continuous Crossing Session for all order types is price, then size, then time. For orders without a peg instruction, the limit price submitted will be used to determine the price portion of the queue priority. For orders with a peg instruction, the less aggressive price between the current peg price and limit price submitted will be used to determine the price portion of the queue priority. If the algorithm modifies the terms of a previously transmitted order, the order will receive a new order time stamp for matching purposes (i.e. the order will lose queue spot). The only exception is a reduction in order quantity which, absent any other changes to the terms of the order, will not update the order time stamp for matching purposes.

The following instructions are available for orders entered in the POSIT Continuous Crossing Session. The instructions placed on orders will affect whether an order is eligible to be executed against contra-side orders.

(1) Peg Orders: Peg orders remain open until executed, canceled by the Subscriber or until the end of the daily matching session. Peg orders can be designated with the following execution instruction:

(i) Market: A Market instruction designates that a buy order can be executed up to the national best offer and a sell order can be executed down to the national best bid.

(ii) Mid-Point: A Mid-Point instruction designates that an order can be executed up to the mid-point between the national best bid and national best offer ("NBBO").

(iii) Primary: A Primary instruction designates that the order can only be executed at the national best bid in the case of a buy order and the national best offer in the case of a sell order.

~~(iv.) Limit Price: A Limit Price instruction specifies a price above which a buy order and below which a sell order that the order will not can be eligible specified for Peg orders in conjunction with the above referenced execution- instruction.~~

~~(2) Day Orders: Day orders remain open until executed, canceled by the Subscriber or until the end of the daily matching session. Day orders can also include a Market, Mid-Point, Primary Peg or Limit Price instruction.~~

~~(3) IOC Orders: IOC orders will either execute if an eligible contra side order exists against which the order can be executed or if not the order is canceled. Subscribers may enter IOC orders with Market, Mid-Point and, Primary Peg or Limit Price instructions.~~

~~Subscribers can include Other available Instructions and Designations for the Continuous Crossing Session: The following instructions may be applied to the above order types unless otherwise indicated. These instructions may be implemented by either transmitting a specified value over a FIX tag on an order by order basis, or requesting a session level configuration that will apply the requested instruction across all orders sent to the session specified by the Direct Subscriber, unless otherwise indicated:~~

~~(i) Minimum Execution Quantity ("MEQ") instructions on their orders via FIX, which: An MEQ instruction specifies the minimum number of shares that must be available for a contra side order to be eligible for execution.~~

~~Subscribers can also request to apply the following instructions on their POSIT does not aggregate multiple contra side orders at the session level:~~

~~(i) —to satisfy a MEQ instruction on a single order. POSIT will cancel back an order to the Direct Subscriber if the residual quantity of an order falls below the MEQ instruction.~~

~~(ii) Locked Market: Direct and Indirect Subscribers may request a A Locked Market instruction, which specifies that an order is not eligible for execution during locked markets. IOC orders entered with a Locked Market instruction will be rejected accepted if the NBBO is locked, but will receive a 'Nothing Done' message. Peg orders will be accepted but ineligible for execution until the NBBO unlocks.~~

~~(ii) —~~

~~(iii) Peg Order Add-Only Liquidity Instruction ("Add Only"): An Add-Only instruction specifies that the order is only eligible for execution when it adds liquidity to~~

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POSIT upon entry. Peg orders that would remove liquidity from POSIT will be accepted by POSIT and remain open but ineligible for execution until such a time as the order adds liquidity to POSIT. Contra-side Peg orders on the book at the time a Peg order with an Add Only instruction is entered will not interact with the Peg Add Only order. The Add Only instruction will be ignored if specified for an IOC order.

(iv) ~~Virtu Principal Opt-Out~~; Direct and Indirect Subscribers may request to have their orders not interact with Virtu principal orders. This instruction will only prevent interaction against orders entered by VAL under the ~~MPID's~~ MPID's NITE, VIRT and VALX. -Principal orders entered by VAL or the Affiliates, as defined in Part II, Item 2a, using other MPIDs will not be subject to this opt out. -See Part 2, Item 3b for more detail.

(iii) ~~MEQ Instruction Non-Aggregation~~: Direct and Indirect Subscribers may request that multiple orders are not aggregated to meet a MEQ instruction. By default, POSIT will aggregate orders to meet a Subscriber's MEQ instruction.

(iv) ~~Cancel Residual if Below MEQ Instruction~~: Direct and Indirect Subscribers may request that a residual quantity be canceled back to the Subscriber if the residual quantity is less than the Subscriber's MEQ instruction. By default, POSIT will not cancel back an order if the residual is less than the MEQ instruction.

(v) ~~Default Peg Instructions~~: Direct and Indirect ~~See Part II, Item 3a for more detail. This~~ order instruction can only be specified at the session level, and cannot be specified on an order by order basis via a FIX tag.

(v) POSIT Liquidity Profiles and Limits on Interaction: This instruction specifies the types of counterparties that an order may interact with based on the counterparty's Liquidity Profile. POSIT uses quantitative metrics to create one or more Liquidity Profiles for each POSIT Subscriber. The metrics include execution performance relative to the market over different time horizons for all fills in POSIT. POSIT makes discretionary decisions in assigning a Liquidity Profile to a new or previously uncategorized Subscriber. POSIT will inform Subscribers about their own profile information upon request. See Part III, Item 13a for more detail on POSIT Liquidity Profiles.

(vi) Self-Match Prevention: Subscribers may request that their IOC provide instructions that will prevent orders from crossing if the resulting cross may result in a transaction with no change in beneficial ownership. This order instruction can only be specified at the session level, and ~~or~~ Day orders have a Default Peg instruction cannot be specified on an order by order basis via a FIX tag.

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An order that contains a value in a utilized FIX field other than a value recognized by VAL (as described in its FIX specifications) will be rejected. An order containing a value in a non-utilized FIX field will be accepted, but that instruction will not be processed.

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~~Subscribers can route orders to the Agency-Close-Crossing Session, which are subject to specific time in force and order type attributes, as described in Part III, Item 17.~~

#### Current Matcher

Continuous Crossing Session  
POSIT accepts Peg orders and Immediate or Cancel ("IOC") orders. Peg orders may execute against contra-side Peg orders or against IOC orders. IOC orders may only execute against contra-side Peg orders. These order types may be entered with other instructions, as described below, that will be used by the matching algorithm to determine whether and how they will interact with other orders.

(1) Peg Orders: Peg orders remain open until executed, canceled by the Subscriber or until the end of the daily matching session. Peg orders can be designated with the following execution instruction:

(i) Market: A Market instruction designates that a buy order can be executed up to the national best offer and a sell order can be executed down to the national best bid.

(ii) Mid-Point: A Mid-Point instruction designates that an order can be executed up to the mid-point between the national best bid and national best offer ("NBBO").

(iii) Primary: A Primary instruction designates that the order can only be executed at the national best bid in the case of a buy order and the national best offer in the case of a sell order.

(iv.) Limit Price: A Limit Price instruction specifies a price above which a buy order and below which a sell order that the order will not be eligible for execution.

(2) IOC Orders: IOC orders will either execute if an eligible contra side order exists against which the order can be executed or if not the order is canceled. Subscribers may enter IOC orders with Market, Mid-Point and Limit Price instructions.

Subscribers can include Minimum Execution Quantity ("MEQ") instructions on their orders via FIX, which specifies the minimum number of shares that must be available for a contra side order to be eligible for execution.

Subscribers can also request to apply the following instructions on their orders at the session level:

(i) Locked Market: Direct and Indirect Subscribers may request a Locked Market instruction, which specifies that an order is not eligible for execution during locked markets. IOC orders entered with a Locked Market instruction will be rejected if the NBBO is locked. Peg orders will be accepted but ineligible for execution until the NBBO unlocks.

(ii) Virtu Principal Opt-Out: Direct and Indirect Subscribers may request to have their orders not interact with Virtu principal. This instruction will only prevent

interaction against orders entered by VAL under the MPID's NITE, VIRT and VALX. Principal orders entered by VAL or the Affiliates using other MPIDs will not be subject to this opt out. See Part 2, Item 3a for more detail.

(iii) POSIT Liquidity Profiles and Limits on Interaction: This instruction specifies the types of counterparties that an order may interact with based on the counterparty's Liquidity Profile. POSIT uses quantitative metrics to create one or more Liquidity Profiles for each POSIT Subscriber. The metrics include execution performance relative to the market over different time horizons for all fills in POSIT. POSIT makes discretionary decisions in assigning a Liquidity Profile to a new or previously uncategorized Subscriber. POSIT will inform Subscribers about their own profile information upon request. See Part III, Item 13a for more detail on POSIT Liquidity Profiles.

(iv) MEQ Instruction Non-Aggregation: Direct and Indirect Subscribers may request that multiple orders are not aggregated to meet a MEQ instruction. By default, POSIT will aggregate orders to meet a Subscriber's MEQ instruction.

(v) Cancel Residual if Below MEQ Instruction: Direct and Indirect Subscribers may request that a residual quantity be canceled back to the Subscriber if the residual quantity is less than the Subscriber's MEQ instruction. By default, POSIT will not cancel back an order if the residual is less than the MEQ instruction.

(vi) Default Peg Instructions: Direct and Indirect Subscribers may request that their IOC and/or Day orders have a Default Peg instruction.

An order that contains a value in a utilized FIX field other than a value recognized by VAL (as described in its FIX specifications) will be rejected. An order containing a value in a non-utilized FIX field will be accepted, but that instruction will not be processed.

For resting Peg orders, priority in POSIT is based on the price instruction, i.e. market, mid, or primary. Resting Peg orders that can be executed at the same price receive a pro rata share allocation. -However, POSIT will always attempt to execute at the midpoint of the NBBO, prior to executing at the NBB or NBO. -Resting Peg orders with market instructions on the same side of the market will execute at the midpoint in a pro rata share allocation along with resting Peg orders with midpoint instructions also on the same side of the market. -Peg orders with primary instructions, cannot execute at the midpoint, and would not participate and receive shares in a pro rata allocation when there are resting Peg orders with market and or midpoint price instructions on the same side.

For IOC orders and Peg orders that remove liquidity, these orders are processed one at a time in time sequence. The following examples illustrate the matching process, assuming there are no

instructions that would prevent an execution such as MEQ or a Limit Price that would be an order ineligible based upon the current NBBO.

Example 1:

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Market bid/offer: \$10.00 x \$10.10

In POSIT, Order 1 is a Midpoint Peg order to buy 1,000 shares and Order 2 is a Market Peg order to buy 1,000 shares. -An in-bound Peg order or IOC order with market or midpoint instructions to sell 1,000 shares is entered into POSIT. -An execution of 1000 shares will occur at midpoint, with Order 1 receiving 500 shares, and Order 2 receiving 500 shares.

Example 2:

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Market bid/offer: \$10.00 x \$10.10

In POSIT, Order 1 is a Midpoint Peg order to buy 1,000 shares and Order 2 is a Primary Peg order to buy 1,000 shares. -An in-bound Peg order or IOC order with market or midpoint instructions to sell 1,000 shares is entered into POSIT. -An execution of 1000 shares will occur at midpoint of the NBBO, with Order 1 receiving 1000 shares and Order 2 receiving no shares.

#### Alert Crossing Session

The Alert Crossing Session supports all of the order types and instructions described in the Continuous Crossing Session section in Part III, Item 7(a), with the exception that the Alert Crossing Session does not accept IOC orders. Additionally, the below order type instructions are only available in the Alert Crossing Session.

- (i) **Conditional Indicator:** Peg orders entered into the Alert Crossing Session are by default designated as Conditional Orders. Conditional Orders are not firm and must respond affirmatively to an Invitation to Firm-Up from the Alert Crossing Session by transmitting a Firm-Up Response Order to be eligible to be executed against contra-side orders.
- (ii) **Firm-Up Response Order:** These orders are entered in response to invitations from the Alert Crossing Session.
- (iii) **Auto-Ex:** Human Participants, as described in Part III, Item 9(a), can designate a Conditional Order as Auto-Ex. If the Auto-Ex instruction is enabled for a Conditional Order, the Human Participant will not receive a pop up window requesting to Firm-Up, as described in Part III, Item 9(a), but instead the

Conditional Order from the Human Participant will automatically Firm-Up against a contra side order.

See Part III, Item 9a for more detail on the Alert Crossing Session.

#### Agency Close Crossing Session

~~For the Agency Close Crossing session, Subscribers can only submit Peg orders with a Market Peg instruction and a time in force of close. See Part III, Item 11(e) for more detail on the Agency Close Crossing Session.~~

#### Item 9: Conditional Orders and Indications of Interest

- a. Does the NMS Stock ATS send or receive any messages indicating trading interest (e.g., IOIs, actionable IOIs, or conditional orders)?

Yes ☐ No ☐

If yes, identify and explain the use of the messages, including information contained in messages (e.g., price or size minimums), how the message is transmitted (e.g., order management system, smart order router, FIX), when the message is transmitted (e.g., automatically by the ATS, or upon the sender's request), the type of Persons that receive the message (e.g., Subscribers, Trading Centers), responses to conditional orders or IOIs (e.g., submission to firm-up conditional orders), and the conditions under which the message might result in an execution in the ATS (e.g., response time parameters, interaction, and matching).

VAL offers a conditional messaging system known as Alert. Alert is an anonymous Conditional Order matching application that exists outside of the POSIT matching engine. Alert has two types of participants: Human Participants and Electronic Participants. Alert has three message types: A Conditional Order; an Invitation to Firm-Up; and a Firm-Up Response Order.

Human Participants install Alert software, which can be installed on a variety of OMS or EMS systems, on their systems. The Alert software takes in information about Human Participants orders resident in the OMS or EMS and transmits that information to the Alert matching application in the form of a Conditional Order. Alert Human Participants configure the frequency at which the Alert software takes in information about orders resident in their OMS or EMS. The Alert software also provides Alert participants with a graphical user interface ("the Alert Front End") that allows users to see pending Conditional Orders and respond to Invitations to Firm-Up. Human Participants can manually respond to Firm-Up Requests or configure the Alert software to automatically respond. For Human Participants, Alert will send the Invitation to Firm-Up to the Alert Front End via a pop up window, requesting the Human Participant to Firm-Up. The pop up window indicates that a contra order exists in a given symbol, as well as indicates if the contra is an Electronic Participant, but does not provide any size or price information of the contra order. For an execution to occur, the Human Participant must respond to the pop-up window by submitting a Firm-Up Response. The one exception to this workflow is for Human Participants who have enabled Auto-Ex on their order, which is described in Part

III, Item 7a. The Auto-Ex order instruction can only be set by the Human Participant in the Alert software. The Auto-Ex instruction will remain in effect until one of the following occurs: 1. The Human Participant turns off Auto-Ex on the order, 2. The Human Participant is fully filled on the Auto-Ex order, 3. The trading day ends. The Alert software will send a Firm-Up Response Order from the Human Participant's EMS to VAL for submission to the POSIT ATS Alert Crossing Session that references the invitation and matches the attributes of the invitation in terms of symbol, side and quantity. Human Participants can change order quantities up or down prior to submitting a Firm-Up Response. VAL's agency desks and clients of its Affiliates cannot use the Alert Front End to view and interact with conditional interests. They are Electronic Participants and can only send orders to algorithms that can send Conditional Orders through Alert.

Electronic Participants do not install Alert software. Rather, Electronic Participants transmit Conditional Orders directly to the Alert matching application through the Electronic Participant's algorithm or electronic system. Alert will send an Invitation to Firm-Up to the algorithm or system that entered a Conditional Order when a potential matching opportunity exists. When the Invitation to Firm-Up message is sent to an Electronic Participant, the Electronic Participant's original Conditional Order is automatically canceled. Hereinafter, Electronic Participant and algorithm or system shall have the same meaning. For an execution to occur, the Electronic Participant must respond to the invitation by transmitting a Firm-Up Response Order. Alert will transmit an Invitation to Firm-Up to the Electronic Participant containing the same number of shares included in the Electronic Participant's original Conditional Order. The Electronic Participant may then respond by sending a Firm-Up Response Order to VAL for submission to the POSIT ATS Alert Crossing Session that references the invitation and matches the attributes of the invitation in terms of symbol, side and quantity. The Electronic Participant may transmit a Firm-Up Response Order with a quantity that is less or more than the invited quantity. An execution will occur to the extent that Firm-Up Response Orders are received by POSIT within the designated response time, subject to other instructions placed on the orders by the participant, as described in Part III item 7. All business units and affiliates of the broker dealer operator that enter or direct the entry of orders into POSIT ALERT are considered Electronic Participants, and are not treated any differently than Electronic Participants external to the broker dealer operator.

When multiple Conditional Orders are present on the same side and same symbol, the Alert matching application will give invitation priority in the following order: Human Participant with Auto-Ex enabled, Human Participant without Auto-Ex enabled, Electronic Participant. When two participants are on the same side and fall within the same participant type (i.e., two Human Participants with Auto-Ex enabled, two Human Participants without Auto-Ex enabled, or two Electronic Participants), the Alert matching application will use order size as the second order of invitation priority. For example, if two Human Participants are present on the same side and same symbol, and a single contra order is submitted, the Human Participant with the largest order size will receive an invitation message. Lastly, if two participants are on the same side, fall within the same participant type, and have the same order size, order submission time will be used as the third order of priority to determine which participant would receive the invitation.

The response time to the Invitation to Firm-Up is a function of the type of participants invited. Electronic Participants must respond within 2 seconds, while Human Participants without Auto-

Ex enabled have 30 seconds to respond. Participants who do not respond within these time frames will not be eligible to participate in the match.

Alert invites all participants in the potential match simultaneously, except as described below. When an Electronic Participant has a potential match against a Human Participant, the Human Participant will receive the Invitation to Firm-Up first. Once the Human Participant firms up, an Invitation to Firm-Up is then sent to the Electronic Participant. If the Human Participant does not firm up, the Electronic Participant will not receive an Invitation to Firm-Up.

In addition to the messaging described above to Alert participants, Alert will transmit information to POSIT on the potential Alert match. At the time Invitations to Firm-Up are sent to participants, Alert sends the following information to POSIT on the potential Alert match: 1) Number of buyers, 2) Number of sellers, 3) Number of Human Participants, 4) Symbol, 5) Response timer. POSIT will run the match at the earlier of when all participants submit firm up orders to POSIT or the expiration of the response timer.

After the completion of the match, or the expiration of the response timer, POSIT will transmit information on the outcome of the match back to Alert. This information is stored to log files that are consumed by a front end application called Phoenix. Phoenix is used by Alert Sales and Coverage personnel to monitor client orders in Alert, as described in Part II, Item 6a.

Upon request, POSIT will apply a maximum notional value constraint, set by the Alert participant, to an Alert participant's order. In addition, upon request and only available to Human participants, POSIT will aggregate an Alert participant's orders for execution. Where such Alert orders have a common MEQ instruction, POSIT will apply the MEQ instruction on the aggregated Alert order.

Item 11: Trading Services, Facilities and Rules

- a. Provide a summary of the structure of the NMS Stock ATS marketplace (e.g., crossing system, auction market, limit order matching book) and explain the means and facilities for bringing together the orders of multiple buyers and sellers on the NMS Stock ATS.

POSIT is an equity crossing system providing a continuous trading environment in all NMS stocks for orders received by POSIT through a variety of means, both direct and indirect, as described in response to Part III, Item 5. POSIT operates ~~three~~two general crossing sessions: (i) the Continuous Crossing Session; (ii) the Alert ~~Crossing Session~~; and (iii) the ~~Agency Close~~ Crossing Session. Each of these crossing sessions is described in detail in response to Part III, Item 11(c). ~~POSIT's The Continuing Crossing Session employs a price, size, time priority crossing methodology for crossing is price and then pro-rata split~~, as described in Part III, Item 7(a). All NMS stocks are eligible for trading in POSIT. POSIT may, in its sole discretion, stop trading certain symbols for, among other reasons, the purpose of remaining below the volume thresholds for (i) classification as an "SCI Entity" under Regulation SCI and (ii) certain regulatory requirements as set forth in Rules 301(b)(3) and (5) of Regulation ATS.

- c. Explain the established; non-discretionary rules and procedures of the NMS Stock ATS, including order interaction rules for the priority, pricing methodologies,

allocation, matching, and execution of orders and trading interest, and other procedures governing trading, such as price improvement functionality, price protection mechanisms, short sales, locked-crossed markets, the handling of execution errors, and the time-stamping of orders and executions.

POSIT operates ~~three~~two crossing sessions: (i) the Continuous Crossing Session, ~~(iii) and (ii)~~ the Alert Crossing Session ~~(ii) the Agency Close Crossing Session, and,~~ POSIT offers the ability to participate in the ~~three~~two crossing sessions to all Subscribers. Note, the rules and procedures applicable to the Continuous Crossing Session apply to the ~~other crossing sessions~~Alert Crossing session unless otherwise stated. Subscribers can specify which session to route an order to via a specific FIX tag. ~~POSIT's methodology for crossing is that priority is based on price and then eligible orders receive allocations based on a pro rata split, as described in Part III, Item 7a. If shares cannot be evenly split on a pro rata basis, then POSIT will randomly choose an order to receive a smaller allocation.~~

POSIT reserves the right to review any transaction based upon the request of a Subscriber or on its own motion and declare any transaction executed by POSIT null and void in the event that the transaction occurred at a price that was within the numerical guidelines for erroneous transactions of any exchange or was the result of a significant systems disruption. In reviewing transactions resulting from significant systems disruptions, in addition to the price of the transactions, POSIT may also take into account the volume of transactions as compared to the normal volume of transactions for the relevant security as executed by POSIT. POSIT reserves the right to use its discretion to provide price accommodations in circumstances that are not clearly errors or erroneous transactions but where the circumstances are appropriate, such as minor systems latency, to make a price adjustment as an accommodation to an affected client(s). In these scenarios, the Firm performs an analysis to determine the appropriate price and any profit or loss as a result of the adjustment is incurred by VAL.

Below are descriptions of the Continuous Crossing Session, ~~the Agency Close Crossing Session,~~ and the Alert Crossing Session.

#### Continuous Crossing Session

~~During the Continuous Crossing Session, Subscribers may only enter orders that are Peg or IOC order types.~~

Beginning on July 12, 2021, VAL will make changes to the POSIT Continuous Crossing Session in terms of its manner of operations on a symbol by symbol basis. See Part III, Item 7a for more detail on the definitions of New Matcher and Current Matcher, and the corresponding migration schedule from the Current Matcher to the New Matcher.

#### New Matcher

POSIT will execute Peg and Day orders against eligible contra-side IOC, Day and Peg orders. For Peg and Day orders, priority is determined on a price, size, time basis. If a Subscriber modifies the terms of a previously transmitted order, the order will receive a new order time for matching purposes (i.e. the order will lose queue spot). The only exception is a reduction in order quantity which, absent any other changes to the terms of the order, will not update the order time

for matching purposes. Providers receive price improvement. In the case of an IOC order, the IOC order is always the removing order. In the case of two Peg and/or Day orders, the first in time is the providing order

~~Peg orders can be submitted to POSIT beginning at 8:00 a.m. and through the trading day until the market closes at 4:00 p.m. and are held in POSIT's order book until they are executed, cancelled or until they expire. When a Peg order is submitted to POSIT, the system scans for available liquidity to determine whether there is a contra side Peg order residing in the system. If there is no contra side Peg order in POSIT, the Peg order will continue to rest in POSIT until executed or cancelled and returned. Peg orders in POSIT will execute immediately with contra-side IOC orders, unless one of the orders' instructions make it ineligible for execution. Peg orders can be executed against contra side Peg orders and/or IOC orders; however, IOC orders can only be executed against Peg orders. POSIT cancels unexecuted Peg orders in accordance with the instructions of the submitting Subscriber, or by default at the close of regular trading in the market. If a Peg order expires without being fully or partially filled, the Subscriber submitting that order receives a "nothing done" report. IOC orders are immediately executed or immediately canceled upon receipt. For Subscribers' orders that partially executed during the Continuous Crossing Session, the residual shares will be cancelled back to the Subscriber after the close of trading.~~

~~POSIT only executes orders at the midpoint of the NBBO, the NBO or the NBB. In the first instance, POSIT will attempt to cross eligible orders at the midpoint of the NBBO. If midpoint pricing is unavailable, POSIT will then look to other matching opportunities at the NBB or NBO, as applicable.~~

Subscribers accessing POSIT directly can request that POSIT apply certain default instructions or attributes to the Subscriber's orders submitted to POSIT, as described in Part III, Item ~~7(a); 7a,~~ and Part III, Item 14a.

POSIT will execute crosses at prices within the permissible price bands established under the Limit Up – Limit Down Plan. POSIT is programmed to prevent executions outside of the Limit Up – Limit Down price bands.

Subscribers can include MEQ instructions on their orders. In that event, POSIT will not execute the order in an amount less than such minimum quantity. ~~However, when~~ When the remaining quantity on the order is less than the MEQ instruction, POSIT will ~~not~~ automatically cancel back the remaining quantity of the order, ~~but will attempt to execute that unfilled portion in a single execution. Subscribers can also instruct that their orders only execute against a single contra that meets the MEQ instruction for their order, as described in Part III, Item 7(a). If Subscribers do not request this, POSIT's default behavior is to consolidate contra interest to meet a Subscriber's MEQ Instruction. Subscribers can request that POSIT always cancel remaining shares after an execution where the remaining quantity on the order is less than the MEQ, as described in Part III, Item 7a.~~

#### Current Matcher

During the Continuous Crossing Session, Subscribers may only enter orders that are Peg or IOC order types. Peg orders can be submitted to POSIT beginning at 8:00 a.m. and through the trading day until the market closes at 4:00 p.m. and are held in POSIT's order book until they are

executed, cancelled or until they expire. When a Peg order is submitted to POSIT, the system scans for available liquidity to determine whether there is a contra-side Peg order residing in the system. If there is no contra-side Peg order in POSIT, the Peg order will continue to rest in POSIT until executed or cancelled and returned. Peg orders in POSIT will execute immediately with contra-side IOC orders, unless one of the orders' instructions make it ineligible for execution. Peg orders can be executed against contra-side Peg orders and/or IOC orders; however, IOC orders can only be executed against Peg orders. POSIT cancels unexecuted Peg orders in accordance with the instructions of the submitting Subscriber, or by default at the close of regular trading in the market. If a Peg order expires without being fully or partially filled, the Subscriber submitting that order receives a "nothing done" report. IOC orders are immediately executed or immediately canceled upon receipt. For Subscribers' orders that partially executed during the Continuous Crossing Session, the residual shares will be cancelled back to the Subscriber after the close of trading. POSIT only executes orders at the midpoint of the NBBO, the NBO or the NBB. In the first instance, POSIT will attempt to cross eligible orders at the midpoint of the NBBO. If midpoint pricing is unavailable, POSIT will then look to other matching opportunities at the NBB or NBO, as applicable.

Subscribers accessing POSIT directly can request that POSIT apply certain default instructions or attributes to the Subscriber's orders submitted to POSIT, as described in Part III, Item 7(a), and Part III, Item 14a. POSIT will execute crosses at prices within the permissible price bands established under the Limit Up - Limit Down Plan. POSIT is programmed to prevent executions outside of the Limit Up - Limit Down price bands. Subscribers can include MEQ instructions on their orders. In that event, POSIT will not execute the order in an amount less than such minimum quantity. However, when the remaining quantity on the order is less than the MEQ instruction, POSIT will not automatically cancel back the remaining quantity of the order, but will attempt to execute that unfilled portion in a single execution. Subscribers can also instruct that their orders only execute against a single contra that meets the MEQ instruction for their order, as described in Part III, Item 7(a). If Subscribers do not request this, POSIT's default behavior is to consolidate contra interest to meet a Subscriber's MEQ Instruction. Subscribers can request that POSIT always cancel remaining shares after an execution where the remaining quantity on the order is less than the MEQ, as described in Part III, Item 7a.

Where multiple resting orders have a MEQ instruction specified by the Subscriber, POSIT can alter the pro-rata formula to allow an execution when one might otherwise not occur:

\* In that circumstance pro-rata reallocation ratio is 80/20. -This means that if an order is getting 1000 shares as per initial pro-rata calculation, 80% (800 shares) will be allocated, and 20% (200 shares) can be used to satisfy the minimum shares of other, larger orders with a minimum quantity size. -In certain instances, the reallocation will result on one resting order being filled with all of the eligible shares and the other order(s) receiving no allocation.

\* There is a threshold above which the 80/20 rule applies. Orders with pro-rata allocations equal to or less than 200 shares are not guaranteed any allocation.

If multiple orders do not meet their MEQ instructions in the initial allocation, order size priority is used as a tie-breaker to allocate additional shares to satisfy MEQ instructions.

Please see Attachment 11(c) for illustrative examples.

Alert Crossing Session~~-conform~~

VAL offers a conditional messaging system known as Alert. Alert is an anonymous Conditional Order matching application that exists outside of the POSIT matching engine. Please see Part III, Item 9a for a description of Alert.

Agency Close Crossing Session

~~Subscribers can instruct the Firm to enter an order into the Agency Close Crossing Session via a FIX tag. The Agency Close Crossing Session only accepts Market orders. POSIT will reject Limit orders. Only buy and sell orders are accepted; short sell orders will be rejected. POSIT will only accept orders for the Agency Close Crossing Session between 3:50:01pm—4:00pm EST. Orders sent outside of this time frame will be rejected. The closing price for each security will be the closing price disseminated to POSIT from the primary exchange data feed. Subscribers will receive indicative fills ahead of the close as soon as there is a match. Portions of the Agency Close Crossing orders that have not yet been indicatively matched may be cancelled at any time up to 4:00PM EST. POSIT will reject orders submitted to the Agency Close Crossing Session if the security is halted or paused at the time of submission. If a cross cannot be consummated because a security is halted or paused or the primary closing price for the security is not published by the primary exchange for any reason, POSIT will cancel any indicative fills and return the unfilled portion of the affected orders.~~

All sessions

**Locked and Crossed Markets:** POSIT does not execute in a crossed market, but will execute in a locked market. Subscribers have the option of not executing in a locked market at the session level~~, or via a fix tag.~~

**Price Protection:** There are no Price Protection mechanisms.

**Short Sales:** Subscribers are required to mark short sale orders as “sell short” or “sell short exempt”. POSIT does not execute short sell orders at the bid price in securities subject to a Reg SHO Rule 201 price restriction.

Item 13: Segmentation; Notice

- a. Are orders and trading interest in the NMS Stock ATS segmented into categories, classifications, tiers, or levels (e.g., segmented by type of participant, order size, duration, source, or nature of trading activity)?

☒ Yes ☐ No

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If yes, explain the segmentation procedures, including (i) a description for how orders and trading interest are segmented; (ii) identify and describe any categories, classification, tiers, or levels and the types of orders and trading interest that are included in each; (iii) provide a summary of the parameters for each segmented category and length of time each segmented category is in effect; (iv) any procedures for overriding a determination of segmented category; and (v) how segmentation can affect order interaction.

#### Continuous Crossing Session

VAL segments Direct Subscribers into three distinct Liquidity Profiles based upon all of their filled orders. Direct Subscribers may enter instructions that when present on orders will prevent interaction with orders from Subscribers who fall into specified Liquidity Profiles. VAL scores and segments Direct Subscribers at the POSIT Moniker level. The POSIT Moniker is an internal subscriber identifier. A Direct Subscriber can have one or more POSIT Monikers. Direct Subscribers with more than one POSIT Moniker have custom order attributes, as described in Part III, Item 7a, at the session level for each POSIT Moniker. VAL scores and segments its own POSIT Monikers. VAL does not score and segment Indirect Subscribers. To the extent that VAL, its Affiliates or Direct Subscriber's transmit the orders of multiple Indirect Subscribers through a single POSIT Moniker, the Liquidity Profile will be the composite of all of the Indirect Subscribers. An exception is that VAL permits Direct Subscribers to have different order flows scored independently based upon a Segment ID FIX tag. The Current POSIT FIX Specification Document provides Direct Subscribers the ability to use up to four Segment IDs labeled Segment 1, Segment 2, Segment 3 and Segment 4.

VAL uses a scoring methodology to determine a Subscriber's Liquidity Profiles that is derived from the price move of a stock from the midpoint price at the time of fill to a weighted average of individual midpoint prices of durations that range from 10 minutes to 60 minutes after the time of fill, divided by the stock's spread (a "mark out"). Liquidity Profiles are generated monthly, based on the prior 3 months of trading activity. There is no de minimis volume rule in the Liquidity Profile generation.

VAL creates Liquidity Profiles by sorting Subscribers by their mark-out score. The three Liquidity Profile tiers are called Move Towards, Neutral, and Move Away, where Direct Subscribers in the Move Towards segment generally produce negative markouts for the contra where the stock price moves towards the contra (the stock price for buy orders move lower, sell orders move higher), while subscribers in the Move Away segment generally produce positive markouts for the contra where the stock price moves away from the contra (the stock price for buy orders move higher, sell orders move lower). After sorting Subscribers markout scores from most negative to most positive, the Liquidity Profiles are constructed such that approximately 20% of the share volume of the most negative markout Subscribers are placed into the Move Towards category, 60% of the share volume is placed in the Neutral category, 20% of the share volume of the most positive markout Subscribers are placed in the Move Away category. The percentages are approximations. Based on the mix of Subscribers' share volume, they may not perfectly fit into a Segment such that the percentages are exact. VAL will use its discretion in these circumstances and typically will elect to include more Subscribers in a higher Segment. Subscribers that submit orders in POSIT can elect to prevent either the Move Towards or Move Away segments from interacting with their orders on an order by order basis via FIX tag or at a session level. VAL uses its own discretion to place new Subscribers into one of the three

Segments described above. Segment selection for new Subscribers is based on VAL's subjective judgment of the trading and investment process employed by the new Subscriber. For new Subscribers that have no prior history trading in POSIT, Segment selection is based on the type of firm, as well as the expected characteristics of the order flow, as specified by the new Subscriber. For new Subscribers that have a history trading in POSIT (for example, a current Subscriber that wants to set up a new POSIT moniker), Segment selection is based on the type of firm, the expected characteristics of the order flow (as specified by the new Subscriber), as well as the Segment placement of other POSIT Monikers associated with the same underlying Subscriber. VAL reserves the right to move a Subscriber's liquidity profile bucket intra-month if that Subscriber's mark outs during the month deviate widely from expected or prior trading activity.

Liquidity Profiles only apply to order interaction in the Continuous Crossing Session and have no influence on order interaction in the Alert Crossing Session.

#### Alert Crossing Session

Alert has two types of participants: Human Participants and Electronic Participants. See Part III, Item 9a for more detail.

- b. If yes to Item 13(a), is the segmentation of orders and trading interest the same for all Subscribers and the Broker-Dealer Operator?

Yes ☒ No ☐

If no, identify and explain any differences.

- d. If yes to Item 13(a), does the NMS Stock ATS disclose to any Person the designated segmented category, classification, tier, or level of orders and trading interest?

Yes ☒ No ☐

If yes, provide a summary of the content of the disclosure, when and how the disclosure is communicated, who receives it, and whether and how such designation can be contested.

Upon request, POSIT will disclose to a Subscriber their own profile information. This communication is provided either verbally or through email to the party that originally requested the information. Liquidity Profile designations cannot be contested.

- e. If yes to Item 13(d), are the disclosures required to be identified in 13(d) the same for all Subscribers and the Broker-Dealer Operator?

Yes ☒ No ☐

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If no, identify and explain any differences.

Item 14: Counter-Party Selection

- a. Can orders or trading interest be designated to interact or not interact with certain orders or trading interest in the NMS Stock ATS (e.g., designated to execute against a specific Subscriber's orders or trading interest or prevent a Subscriber's order from executing against itself)?

Yes ☐ No ☐

If yes, explain the counter-party selection procedures, including how counterparties can be selected, and whether the designations affect the interaction and priority of trading interest in the ATS.

POSIT:

~~Contra Participant Specific Blocking: Subscribers can request to block interaction with specific Subscribers within POSIT. Upon request, execution performance reports can be provided to Subscribers on their order flow, grouped by contra Subscriber, time in force, and peg instruction. Metrics included in the execution performance reports can include, but is not limited to, shares executed, average trade size, and stock price movement after the time of fill (mark outs). Contra Subscribers are anonymized in the execution performance reports. Upon receiving this information, a Subscriber can request which anonymized contra Subscribers to block interaction against, either in totality, or can specify specific contra Subscriber blocking by time in force and/or peg instructions. Once a Subscriber specifies a contra Subscriber block, that block will remain in effect until the Subscriber requests for that block to be removed. Subscribers can request Contra Participant Specific Blocking through their salesperson, who enter a ticket to make the request. Virtu Principal Opt Out: Direct and Indirect Subscribers may request to have their orders not interact with Virtu principal orders. See Part III, Item 7a which lists order instructions including this instruction.~~

POSIT Liquidity Profile Interaction: All Direct Subscribers have the option to block either the Move Towards or Move Away segments for a single order, as described in Part III, Item 13. Direct Subscribers cannot block both the Move Towards and Move Away segments for a single order. Direct Subscribers cannot block the Neutral segment. VAL programs its algorithms to use blocking when analysis suggests it may improve execution outcomes. VAL implements the logic of the algorithms such that decisions are made on specific child orders in specific circumstances. Indirect Subscribers cannot make decisions to block based on Liquidity Profiles. Direct subscribers can send instructions designating which Liquidity Profiles to interact with on an order by order basis via a FIX tag, or set a default at the session level. These Profiles are only created for the Continuous Crossing Session and only effect counterparty interaction in the Continuous Crossing Session. See Part III, Item 7a, which lists order instructions including this instruction.

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Self-Match Prevention: Direct Subscribers may provide instructions that will prevent orders from crossing if the resulting cross may result in a transaction with no change in beneficial ownership, as described in Part III, Item 7a. Subscribers can request Self-Match Prevention through their salesperson, who enter a ticket to make the request. Thereafter, an entry is made in a configuration file which takes effect in most cases on the next business day, but could take effect either the same day or greater than the next business day, depending upon the time of day the request is submitted. Further, Subscribers are able to block interaction against certain Virtu MPIDs. -See Part II, Item 3a for further detail.

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~~Liquidity Guard: Liquidity Guard is an automated means where VAL prevents certain IOC and Peg orders from interacting with resting Peg orders. Stocks that are subject to the interaction restrictions of Liquidity Guard are those that have a historical bid offer spread that is greater than or equal to \$0.03 per share or a trailing 21 day average daily volume that is less than or equal to 3 million shares. Liquidity Guard uses inputs including a stock's trailing intraday bid offer spread, historical bid offer spread, and volatility, to compute price bands where executions can take place on a security basis. If a potential match of an incoming IOC or Peg order against a resting Peg order would occur at a price outside of the computed price bands for a particular stock, then the IOC or Peg order would be blocked from interacting against the resting Peg order. All Subscribers are subject to Liquidity Guard, but a Subscriber may elect to opt out of having their Peg orders subject to Liquidity Guard. Subscribers can request to opt out of Liquidity Guard through their sales person, who enter a ticket to make the request. Thereafter, an entry is made in a configuration file which takes effect in most cases on the next business day, but could take effect either the same day or greater than the next business day, depending upon the time of day the request is submitted. Subscribers are not provided with any information on when Liquidity Guard effected the interaction of their orders. Liquidity Guard is not employed in Alert.~~

Self Match Prevention: Subscribers may provide instructions that will prevent orders from crossing if the resulting cross may result in a transaction with no change in beneficial ownership. Other Order Attributes: Direct Subscribers can place other attributes on orders that could limit an order's ability to interact with certain contra side interest. These additional attributes include: Minimum Execution Quantity, Do Not Execute In A Locked Market, and Add Only. See Part III, Item 7a for more detail.

~~Subscribers can request Self-Match Prevention through their salesperson, who enter a ticket to make the request. Thereafter, an entry is made in a configuration file which takes effect in most cases on the next business day, but could take effect either the same day or greater than the next business day, depending upon the time of day the request is submitted.~~

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~~Further, Subscribers are able to block interaction against certain Virtu MPIDs. See the response to Part II, Item 3b for further detail.~~

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Alert:

Participant Type Blocking: Electronic Participants can request to block interaction against Human Participants via a FIX tag, on an individual order basis. Human Participants can request to block interaction against Electronic Participants. This blocking instruction is supported at the session level.

Participant and Symbol Specific Blocking: Alert Sales and Coverage personnel can block certain participants in whole or at a symbol level. Alert Sales and Coverage personnel apply participant blocks in whole, or at a symbol level, on an intraday basis if a participant is having a technical issue. For example, if an Alert participant was duping messages repeatedly then the Alert Sales and Coverage personnel could introduce a temporary block until the issue was resolved. Alert Sales and Coverage personnel can lift this block once the participant verifies the technical issue has been resolved. Symbol level blocks are also applied on an automated basis between an Electronic Participant and a Human Participant, as well as between two Electronic Participants. If within a two-minute span, for a given symbol, three consecutive invitations to Firm Up between the two participants result in no trades, a one minute block will be applied between the two participants in the given symbol. After the one-minute blocking period, the block between the two participants will automatically be lifted in the given symbol. The three-minute time span begins at the time of when the first invitation is sent. Symbol level blocks do not carry over into the next trading day. Please see Part III, Item 9(a) for more detail on the POSIT Alert Conditional Order process.

Self-Match Prevention: Subscribers may provide instructions that will prevent orders from crossing if the resulting cross may result in a transaction with no change in beneficial ownership.

Item 17: Closing

- a. Are there any differences between how orders and trading interest are treated on the NMS Stock ATS during the close and how orders and trading interest are treated during regular trading hours?

Yes ☐ No ☒

If yes, identify and explain the differences as compared to the information provided in the relevant Part III Items of this form.

~~As noted above in response to Part III, Item 10(a), Subscribers can route orders to POSIT to participate in the Continuous Crossing Session (i.e., during regular trading hours), the Alert Crossing Session (i.e., during regular trading hours), or to participate in the Agency Close Crossing Session (i.e., during the last 10 minutes of trading). Orders routed to the Agency Close Crossing Session are benchmarked to the closing price for the security on the primary market, subject to primary market price availability. See Part III, Item 11(e), for more detail on the Agency Close Session.~~

Item 20: Suspension of Trading

- a. Explain any procedures for suspending or stopping trading on the NMS Stock ATS, including the suspension of trading in individual NMS stocks.

VAL has controls and systems in place to suspend trading on a symbol, Subscriber, or POSIT basis. As described below, these controls enable VAL to stop trading activity to meet regulatory

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requirements and address any issues impacting the quality of executions within POSIT for, among other reasons, approaching Regulation ATS Fair Access and Regulation SCI volume thresholds.

POSIT honors trading halts and/or trading pauses that are announced pursuant to the Limit Up ~~---~~ Limit Down Plan and the Market Wide Circuit Breakers by automatically blocking trade execution upon notice of a trading halt. Specifically, during a regulatory halt for a security, POSIT will (1) accept Day or Peg orders in the security, but not execute trades, and (2) accept IOC orders in the security but immediately cancel them back to the Subscriber. Subscribers have the ability to cancel or modify day orders during a trading halt. Furthermore, VAL retains discretion to suspend trading in a given security at any time for any reason, and can accept, reject, or cancel Subscriber orders.

POSIT will not execute orders if the NBBO is crossed.

POSIT will reject orders in certain NMS Stocks, including any symbols on POSIT's restricted list or symbols for which POSIT seeks to remain below certain volume thresholds. In those circumstances POSIT will provide clients with notice of the symbol(s) that will be unavailable by posting information on the POSIT page on the Virtu Financial, Inc. website (<http://www.virtu.com>).

~~With respect to the Agency Close Crossing Session, POSIT will reject orders if the security is halted or paused at the time of submission. If cross cannot be consummated during the Agency Close Crossing Session because a security is halted or the primary closing price for the security is not published by the primary exchange for any reason, POSIT will cancel any indicative fills and return the unfilled portion of the affected orders.~~

Item 23: Market Data

- a. Identify the sources of market data used by the NMS Stock ATS (e.g., proprietary feed from a national securities exchange, feed from the securities information processor ("SIP")), and how the ATS uses market data from these sources to provide the services that it offers, including how the ATS uses market data to determine the NBBO and protected quotes, and display, price, prioritize, execute, and remove orders and trading interest on the ATS.

POSIT employs a proprietary market data system that uses direct market data feeds from exchanges to determine the NBBO. POSIT utilizes this proprietary system to price, prioritize, and match orders in the POSIT Continuous, ~~POSIT Alert~~, and POSIT Agency CloseAlert Crossing Sessions, in compliance with regulations, including Reg NMS and Reg SHO.

SIP data is used as a backup feed, and is used in place of a direct feed from a particular exchange if that exchange is experiencing a technical issue. Switching to the SIP data feed is done via an automated process that compares direct feed data to SIP data. Additionally, Core Operations have the ability to switch to the SIP data feed on a discretionary basis. Switching back to direct feed data from the SIP data feed is done purely on a discretionary basis, and is performed by the Core Operations team once this team has confirmed that direct feed data in question is correct. The SIP data feed is also used for regulatory items, including limit up/limit down bands, trading halts, and Reg SHO designations.

~~With respect to trades executed as a result of an Agency Close Crossing Session match, the closing price for each security will be the closing price disseminated to POSIT from the primary exchange data feed.~~