

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. 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;
 - iii. 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;
 - iv. whether an order type is eligible for routing to other Trading Centers;
 - v. the time-in-force instructions that can be used or not used with each order type;
 - vi. 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
 - vii. 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.

For ~~both~~ the Main ~~and Conditional~~ Sessions, MatchIt accepts Peg orders, Day orders and Immediate or Cancel ("IOC") orders. Peg and Day orders may cross with contra-side Peg orders, contra-side Day orders or with IOC orders. IOC orders may only cross with contra-side Peg orders or contra-side Day orders. These order types may be entered with other instructions that will be used by the matching algorithm to determine whether and how they will interact with other orders.

For the Conditional Session, MatchIt accepts Peg orders and IOC orders. Peg orders may cross with contra-side Peg orders or with IOC orders. IOC orders may only cross with contra-side Peg orders. These order types may be entered with other instructions that will be used by the matching algorithm to determine whether and how they will interact with other orders.

Priority in the MatchIt Main Session for all order types is price, then time. If a Subscriber 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.

Priority in the MatchIt Conditional Session for all order types is price, then size, then time. 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 both the Main Session and the Conditional 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 the order can pay the full spread. For example, 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 pay 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 can be specifieds for Peg orders in conjunction with the above referenced execution instruction. -a price above which a buy order and below which a sell order that the order will not be eligible for execution.~~

~~(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 or Limit Price instruction.~~

~~Day orders will default to Mid-Point peg if a peg instruction is not specified.~~

~~(23) 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. IOC orders can also include a Market, Mid-Point, Primary, or Limit Price instruction. IOC orders will default to Primary Peg if a peg instruction is not specified.~~

Other available Instructions and Designations for the Main and Conditional Sessions: The following instructions may be applied to the above order types unless otherwise indicated. These instructions may be implemented by transmitting specified values on the order or by requesting configurations that will apply particular instructions after receipt of the order:

- (i) **Minimum Execution Quantity ("MEQ"):** An MEQ instruction specifies the minimum number of shares that must be available for a contra side order to be eligible for execution.
- (ii) **Locked Market:** A Locked Market instruction 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.

- (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 MatchIt upon entry. Peg orders that would remove liquidity from MatchIt will be accepted by MatchIt and remain open but ineligible for execution until such a time as the order adds liquidity to MatchIt. 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.
- (iv) **Soft Dollar Instruction:** A Soft Dollar instruction will only allow riskless principal or agency crossing. To the extent that an order with a Soft Dollar instruction interacts with an order submitted by VCOMM, MatchIt will pass information on the execution message so that the market maker's systems transact with its underlying client according to FINRA's definition of "riskless principal," i.e., at the same price, as the execution received in MatchIt.
- (v) **Virtu Principal Opt Out:** VAL and VAL Affiliates may submit instructions on orders that prevent interactions with Virtu principal orders, as described in Part II, item 3(a). This instruction is not available to Direct Subscribers.
- (vi) **MatchIt Subscriber 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. MatchIt uses quantitative metrics to create one or more Liquidity Profiles for each MatchIt Subscriber. The metrics include execution performance relative to the market over different time horizons when removing liquidity from MatchIt. MatchIt makes discretionary decisions in assigning a Liquidity Profile to a new or previously uncategorized Subscribers. MatchIt will inform Subscribers about their own profile information upon request.
- (vii) **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.

Available Instructions and Designations for the Conditional Session Only: In addition to the instructions above, the following instructions may be placed on orders entered into the Conditional Session:

- (i) **Conditional Indicator:** Peg orders entered into the Conditional Session are by default designated as Conditional Orders. Conditional Orders are not firm and must respond affirmatively to an electronic message ("an invitation to Firm-Up") from the MatchIt Conditional 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 as IOC orders in response to invitations from the MatchIt Conditional Session and will carry instructions, including an Invitation ID and response size, that cannot be greater than the size specified in the invitation, which will allow for the order to be executed if eligible contra-side interest remains on the book upon receipt.
- (iii) **Response Time:** This instruction limits the time period that any contra side

Conditional Orders have to respond to an invitation to Firm-Up with a Firm-Up Response Order. When this instruction is present on an IOC order, the time period begins when MatchIt receives the IOC order. When this instruction is present on a Conditional Order, the time period begins when MatchIt receives a contra side IOC order or the last Conditional Order in a potential match. Firm-Up Response Orders received after the expiration of the Response Time will not be eligible for execution and will be cancelled by MatchIt.

- (iii) **Price Offset:** This instruction may be placed on Peg-Market and Peg Primary Conditional Orders and IOC Orders. The Price Offset must be expressed in positive or negative increments of \$0.01 for symbols priced above \$1.00 and positive or negative increments of \$0.0001 for symbols under \$1.00. The offset increases or decreases the price an order can pay in relation to the NBBO.
- (iv) **In-Bound Retail Designation:** VAL receives orders from other broker-dealers for execution by its market making business ("Retail Orders"). VAL may transmit an order to the Conditional Session that represents a Retail Order and will designate the order with an In-Bound Retail designation ("In- Bound Retail Orders") if the order is generated prior to exposing the retail interest to VAL's market making algorithms. Contra-side orders must be designated as eligible to interact with In-Bound Retail Orders. VAL exercises discretion with regard to whether to route In-Bound Retail orders to the Conditional Session and which contra-side orders are eligible to interact with In-Bound Retail Orders.
- (v) **In-Bound Retail Eligible:** VET may transmit algorithmic orders to the Conditional Session. VAL or a VAL Affiliate may transmit orders with a designation that specifies that the algorithmic order is eligible to interact with orders designated as In-Bound Retail Orders. VAL's decision to allow an order to be designated as In-Bound Retail Eligible will be entirely discretionary and determined by subjective criteria such as the breadth of the client relationship, commission rates, or other factors
- (vi) **In-Bound Retail Only:** This designation specifies that the algorithmic order is eligible to only interact with orders designated as In-Bound Retail Orders.

- b. Are the terms and conditions for each order type and attribute the same for all Subscribers and the Broker-Dealer Operator?

☐ Yes

☒ No

If no, identify and explain any differences.

The Virtu Principal Opt Out and Soft Dollar Instruction are only available on orders transmitted by VAL and VAL Affiliate algorithms. The Conditional Crossing Session and Conditional Session Order Types are only available to VAL and VAL Affiliates.

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.

MatchIt is an electronic crossing system that does not display orders and executes all orders at or within the NBBO as determined by VAL's Market Data Systems. MatchIt consists of two crossing sessions, the Main Session and the Conditional Session which operate independently of each other. VAL business units, VAL Affiliates and Direct Subscribers enter or direct the entry of orders into the Main Session. The Main Session employs a price, time priority crossing methodology. VAL business units and VAL Affiliates enter orders and conditional interests into the Conditional Session. The Conditional Session employs a price, size, time priority crossing methodology. All NMS securities listed on a national securities exchange are eligible for trading in MatchIt, except MatchIt does not make Virtu Financial, Inc., symbol VIRT, available for trading, and may, in its sole discretion, stop trading certain symbols from time to time 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.

- b. Are the means and facilities required to be identified in Item 11(a) the same for all Subscribers and the Broker-Dealer Operator?

☒ ☐ Yes

☐ ☐ No

If no, identify and explain any differences.

- 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.

Main Session: MatchIt 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, 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. For IOC orders priority is based on a first in time basis.

Removers 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 second in time is the removing order.

For the Main Session, MatchIt makes risk configuration options available to Direct Subscribers. These are Max Order Size and Max Order Notional, Max Order Notional and Max Daily Value. MatchIt will reject Direct Subscribers orders once the Subscribers requested thresholds are reached.

Conditional Session: The MatchIt Conditional Session accepts Conditional Orders and IOC orders. Conditional Orders rest in the Conditional Session but are not firm or executable. MatchIt will send an invitation to Firm-Up to the algorithm that entered a Conditional Order when a potential matching opportunity exists. When multiple Conditional Orders are present the invitation

to Firm-Up will be transmitted to one Conditional Order based on price, size, time, priority. For an execution to occur, the algorithm that has entered a Conditional Order and received an invitation to Firm-Up must respond to the invitation by transmitting an automated Firm-Up Response Order.

MatchIt will transmit an invitation to Firm-Up that contains the number of shares that are potentially available for execution and a response time within which the Firm-Up order must be received for an execution to occur. The response time will be in a range of single digit to hundreds of milliseconds. The algorithm receiving an invitation to Firm-Up may then respond by sending a Firm-Up Response Order that references the invitation and matches the attributes of the invitation in terms of symbol, side and quantity. A Firm-Up Response order may be transmitted with a quantity less than the invited quantity. An execution will occur to the extent that Firm-Up Response Orders are received by MatchIt within the designated response time.

IOC orders may only be executed against contra-side Firm-Up Response Orders. A Firm-Up Response Order to buy and a Firm-Up Response Order to sell may be executed against one another. Firm-Up Response Orders will only interact with the specific contra-side orders that caused MatchIt to transmit the invitation to Firm-Up.

MatchIt will send invite messages to systems that have transmitted eligible Conditional Orders based upon price, size, and time priority when multiple Conditional Orders are present. IOC orders interact based on time priority. MatchIt will utilize any limit price, Peg and Peg Offset instructions when determining price. IOC Orders and Firm-Up Response Orders that result from Conditional Orders that cause an invitation sequence to begin are considered removal orders and receive price improvement, i.e. resting orders pay any additional portion of the spread to the extent the price or peg instructions of the contra side orders overlap.

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. For IOC orders priority is based on a first in time basis.

In the case of an IOC order matching against a Conditional Order, the Conditional Order is always the liquidity adding order. In the case of Conditional Orders, the first in time is the liquidity adding order. For adders that have entered short sell Market Peg order instructions in securities subject to a Reg SHO Rule 201 price restriction, the adding order will receive a de minimis amount of price improvement of \$0.0001, such that the execution price is compliant with the Reg SHO price restriction. However, if the order has a price restriction that would prevent it from receiving an execution above the NBB then no execution will occur.

Both Sessions:

Locked and Crossed Markets: MatchIt 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 on an order by order basis.

Errors and Accommodations: MatchIt 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 MatchIt 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, MatchIt may also take into account the volume of transactions as compared to the normal volume of transactions for the relevant security as executed by MatchIt. MatchIt 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 effected client(s).

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”. For adders that have entered short sell Market Peg order instructions in securities subject to a Reg SHO Rule 201 price restriction, the adding order will receive a de minimis amount of price improvement of \$0.0001, such that the execution price is compliant with the Reg SHO price restriction, unless the amount of price improvement would exceed any limit price placed on the order.

- d. Are the established, non-discretionary rules and procedures required to be identified in Item 11(c) the same for all Subscribers and the Broker-Dealer Operator?

☐ ☐ Yes

☒ ☒ No

If no, identify and explain any differences.

The Conditional Crossing Session is only available to VAL and VAL Affiliates. Direct Subscribers are not able to transmit orders to this crossing session.

The Soft Dollar Instruction and Virtu Principal Opt Out are not available to Direct Subscribers.